

# KSS SEATING SYSTEM

CHILD/JUNIOR SIZES: 10R, 12R, 14R, 16R

ADULT SIZES: 16T, 18T, 20T

STORM JR. TRANSPORT READY OPTION (TRRO) 12R, 14R, 16R



## Assembly, Installation, and Operating Instructions

### SPECIAL NOTES

WHEELCHAIR TIE-DOWN RESTRAINTS AND SEAT RESTRAINTS Invacare recommends that wheelchair users NOT be transported in vehicles of any kind while in wheelchairs. 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.

AS REGARDS RESTRAINTS - SEAT POSITIONING STRAPS - IT IS THE OBLIGATION OF THE DME DEALER, THERAPISTS AND OTHER HEALTH CARE PROFESSIONALS TO DETERMINE IF A SEAT POSITIONING STRAP IS REQUIRED TO ENSURE THE SAFE OPERATION OF THIS EQUIPMENT BY THE USER. SERIOUS INJURY CAN OCCUR IN THE EVENT OF A FALL FROM A WHEELCHAIR.

### SAFETY SUMMARY

#### WARNING

DO NOT install this equipment without first reading and understanding this instruction sheet. If you are unable to understand the WARNINGS, CAUTIONS and INSTRUCTIONS, contact a health-care professional, dealer or technical personnel before attempting to install this equipment - otherwise, injury or damage may occur.

Ensure that the seat is fixed to the wheelchair. A loose seat may lead to potentially dangerous situations with positioning devices.

It is strongly recommended that the lap belt be strapped across the hip area with an angle of 45° to the seating surface. Angles less than 45° make it easier for the user to slip under the belt if it is improperly tightened.

NOTE: The KSS seating system is defined as a seating system which includes the following:

FEATURES	CHILD/JUNIOR 10R, 12R, 14R, 16R	ADULT 16T,18T 20T	STORM Jr. (TRRO) 12R, 14R 16R
Curved Back	Standard	Standard	Standard
Ulti-Mate Base	Standard	Standard	Standard
Neck Support	Standard	Standard	Standard
Lateral Supports:			
Fixed	Standard	Standard	Standard
Swingaway	Optional	Optional	Optional
Growth Bracket:			
90° Angle	Standard	N/A	Standard
Adj. Angle	Optional	Optional	N/A
Lap Belt	Standard	Standard	Standard
Twist Release			
Cane Clamp	Standard	Standard	Standard
Quick Release			
Rail Clamp	Standard	Standard	Standard
Abductor	Optional	Optional	Optional
Shoulder Support	Optional	Optional	Optional

### ATTACHING/ADJUSTING THE FIXED GROWTH BRACKET

NOTE: This procedure only applies the Child/Junior Sizes. All other procedures are applicable to both the Child/Junior and Adult Sizes.

#### Attaching the Growth Bracket

NOTE: Additional mounting hooks and mounting screws are supplied for the Ulti-Mate Seat and Curved Back. This additional hardware is taking the place of the growth bracket.

1. Remove the curved back, Ulti-Mate Base, and growth bracket from their respective packages.
2. Unzip center panel of the back cover, exposing the six (6) T-nutted mounting holes.

NOTE: Make sure the growth bracket is positioned correctly. The flat portion of the growth bracket provides depth adjustment for the Ulti-Mate Base. The angled portion of the growth bracket provides height adjustment for the Curved Back. See **FIGURE 1**.

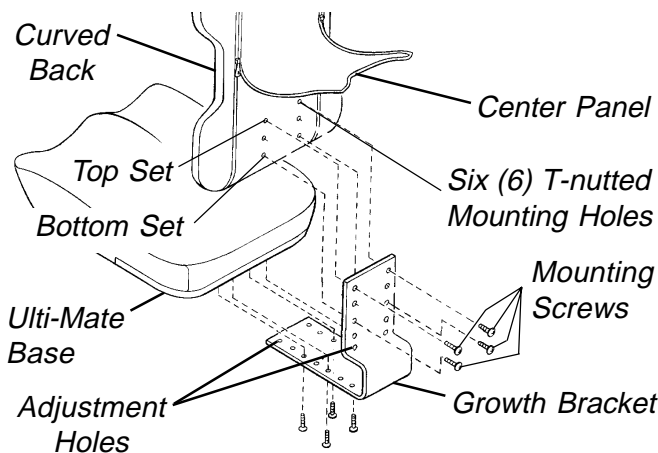
3. Install four (4) of the mounting screws through the holes in the growth bracket and into the back shell. Securely tighten.

*NOTE: On the back, the standard attachment points are the top and bottom sets of holes. Refer to the **ATTACHMENT POINTS** chart in this instruction sheet for optional attachment points.*

4. Install four (4) of the mounting screws through the holes in the growth bracket and into the underside of the Ulti-Mate Base. Securely tighten.

*NOTE: On the seat, the standard attachment points are the front and back sets of holes. Refer to the **ATTACHMENT POINTS** chart in this instruction sheet for optional attachment points.*

5. If adjustment is required, refer to **ADJUSTING THE GROWTH BRACKET** in this instruction sheet. Otherwise, continue on with **ATTACHING/ADJUSTING THE LATERAL SUPPORTS** in this instruction sheet.



*NOTE: Your Growth Bracket may have SLOTS instead of Adjustment Holes.*

**FIGURE 1 - ATTACHING/ADJUSTING THE FIXED GROWTH BRACKET-CHILD/JUNIOR SIZES**

### **Adjusting the Growth Bracket (FIGURE 1)**

*NOTE: The growth bracket provides up to a 3-inch depth adjustment and up to a 3-inch height adjustment.*

#### **ADJUSTING THE BACK HEIGHT.**

1. If necessary, unzip center panel of the back cover.
2. Remove the four (4) mounting screws that secure the growth bracket to the back.
3. Adjust the back up or down until the desired mounting position is obtained.
4. Reinstall the four (4) mounting screws through the growth bracket and into the back shell. Securely tighten. Refer to the **ATTACHMENT POINTS** chart in this instruction sheet for standard and optional attachment points.
5. If all attachments and adjustments are complete, zip center panel of back cover closed.

### **ADJUSTING THE ULTI-MATE BASE DEPTH.**

1. Remove the four (4) mounting screws that secure the growth bracket to the Ulti-Mate Base.
2. Adjust the seat forward or back until the desired mounting position is obtained.
3. Reinstall the four (4) mounting screws through the growth bracket and into the seat. Securely tighten. Refer to the **ATTACHMENT POINTS** chart in this instruction sheet for standard and optional attachment points.

### **ATTACHING / ADJUSTING THE ADJUSTABLE ANGLE GROWTH BRACKET (FIGURE 2)**

#### **ATTACHING THE ADJUSTABLE ANGLE GROWTH BRACKET**

*NOTE: The growth bracket attaches to the child/junior sized curved back ONLY.*

1. Remove the adjustable angle growth bracket and attaching hardware from the packaging.
2. Unzip the center panel of the back cover, exposing the six (6) T-nutted mounting holes.

*NOTE: Make sure that the growth bracket is positioned correctly. The flat portion of the adjustable angle growth bracket provides depth adjustment for the Ulti-mate base. The angled portion of the adjustable angle growth bracket height adjustment for the curved back (FIGURE 1).*

3. Install four (4) of the mounting screws through the slots in the adjustable angle growth bracket and into the underside of the Ulti-mate base. Securely tighten.

*NOTE: On the Ulti-mate base, the standard attachment points are the front and rear four (4) holes. Refer to the **ATTACHMENT POINTS** in this instruction sheet for optional attachment points.*

4. Install two (2) of the mounting screws through the slots on the adjustable angle growth bracket and into the back shell. Securely tighten.

*NOTE: On the curved back, the standard attachment points are the MIDDLE set of holes. Refer to the **ATTACHMENT POINTS** in this instruction sheet for optional attachment points.*

5. If adjustment is required, refer to **ADJUSTING THE GROWTH BRACKET** in this instruction sheet.

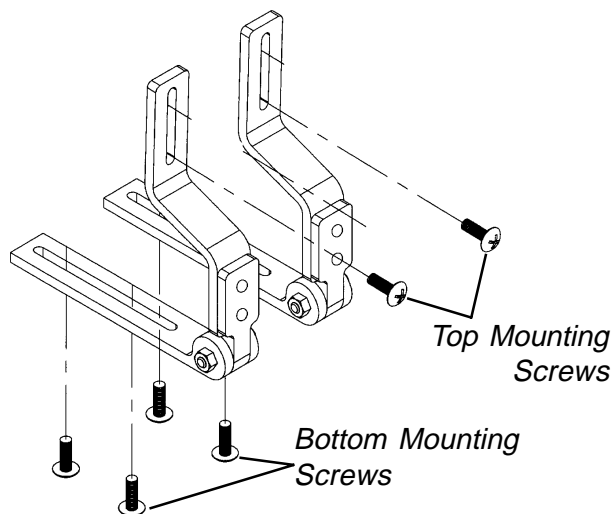
#### **ADJUSTING THE GROWTH BRACKET ADJUSTING THE BACK HEIGHT.**

1. If necessary, unzip center panel of the back cover.

- Loosen the two (2) mounting screws that secure the growth bracket to the back.
- Adjust the back up or down until the desired mounting position is obtained.
- Securely tighten the two (2) mounting screws.
- If more adjustment is needed, the adjustment screws can be completely removed, and the bracket set to a NEW T-nutted hole location. Refer to the **ATTACHMENT POINTS** in this instruction sheet for optional attachment points.
- Zip center panel of back cover closed.

#### ADJUSTING THE ULTI-MATE BASE DEPTH.

- If necessary, unzip center panel of the back cover.
- Loosen the four (4) mounting screws that secure the growth bracket to the Ulti-Mate Base.
- Adjust the seat forward or back until the desired mounting position is obtained.
- Securely tighten the two (2) mounting screws.
- If more adjustment is needed, the adjustment screws can be completely removed, and the bracket set to a NEW T-nutted hole location. Refer to the **ATTACHMENT POINTS** in this instruction sheet for optional attachment points.
- Zip center panel of back cover closed.

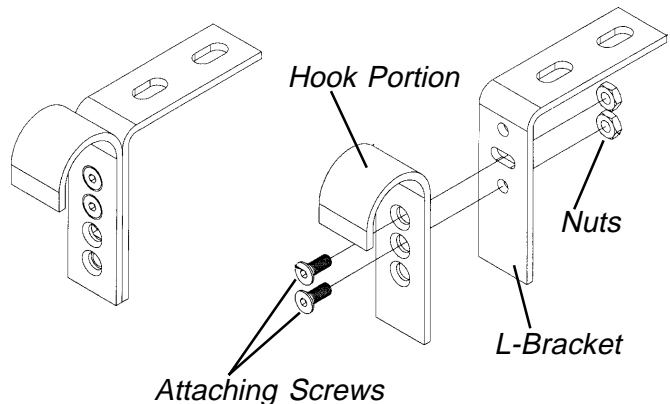


**FIGURE 2 - ATTACHING / ADJUSTING THE ADJUSTABLE ANGLE GROWTH BRACKET**

#### ADJUSTING THE ANGLE OF THE BACK (FIGURE 3)

*NOTE: The adjustable angle growth bracket is infinitely angle adjustable. The back-to-seat angle is set by the location of the mounting points for the back in relation to the base and by changing the hole positions of the adjustable angle back hooks.*

- Remove the two (2) attaching screws and nuts on the adjustable angle back hooks.
- Recline the back to the desired angle.
- Align one (1) round hole and one (1) slotted hole on the back L-bracket with two (2) of the holes on the hook portion.
- Reinstall the two (2) screws and nuts and securely tighten.



**FIGURE 3 - ADJUSTING THE ANGLE OF THE BACK**

#### ATTACHING/ADJUSTING THE LATERAL SUPPORTS (FIGURE 4)

##### Attaching

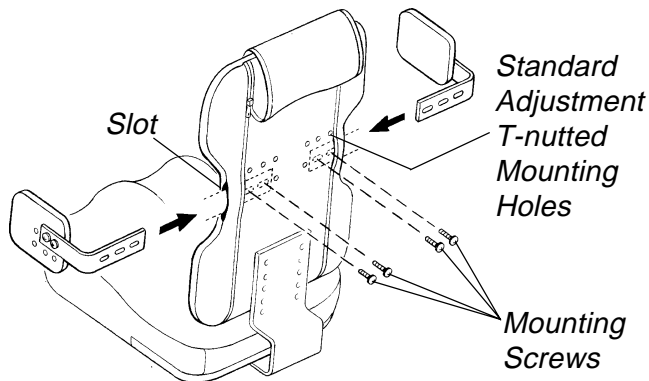
- Remove lateral support and mounting hardware from packaging.
- Feed lateral support bracket through the slots provided in the back cover.
- Attach lateral support bracket to back shell as shown in **FIGURE 2** with the two (2) mounting screws provided. Repeat for opposite side.
- If adjustment is required, refer to **ADJUSTING THE LATERAL SUPPORTS** in this instruction sheet. If so equipped continue with **USING THE SWING-AWAY LATERAL SUPPORTS**.

##### Adjusting

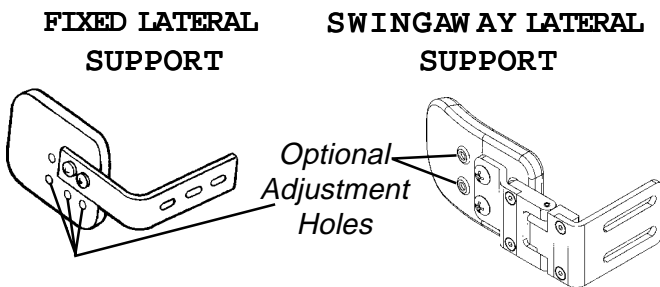
*NOTE: Lateral supports provide adjustment up to 2-inches for height; 2-inches for width, and 1-inch for depth.*

##### STANDARD ADJUSTMENTS.

*NOTE: There are additional mounting holes located on the back shell to provide width and height adjustment for a more comfortable fit. Only the child/junior size is shown for clarity. Refer to the **ATTACHMENT POINTS** chart in this instruction sheet for standard and optional attachment points.*



**NOTE:** Your Growth Bracket may have SLOTS instead of Adjustment Holes.



**FIGURE 4 - ATTACHING/ADJUSTING THE LATERAL SUPPORTS**

1. If necessary, unzip the center panel of back cover.
2. For minimal width adjustment, loosen the mounting screws and slide support bracket in or out and retighten mounting screws.
3. For further width and/or height adjustment, remove the two (2) mounting screws.
4. Place the lateral support in the desired mounting position.
5. Reinsert the two (2) mounting screws. Securely tighten.
6. If all attachments and adjustments are complete, zip center panel of back cover closed.

**OPTIONAL ADJUSTMENT (FIGURE 4).**

1. **Fixed lateral supports** have height and depth adjustment holes on the outside of the padded portion of the lateral support. Follow **STEPS 3-5** in **STANDARD ADJUSTMENTS** in this section of the instruction sheet. Repeat for opposite lateral support.

**SWINGAWAY LATERAL SUPPORTS**

**Bracket Adjustment**

1. Unzip center panel of back cover.
2. For width adjustment, loosen the mounting screws and slide the support bracket in or out and retighten the mounting screws.

3. For height adjustment on adult sizes, remove the two (2) mounting screws.
4. Raise or lower the lateral support and align the slots with the back holes in the desired mounting positions.
5. Reinsert the two (2) mounting screws and securely retighten.
6. Zip center panel of back cover closed.

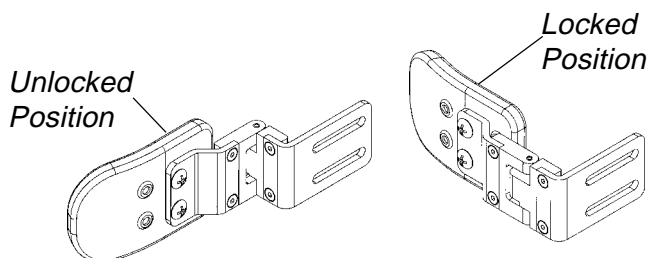
**Pad Adjustment**

1. Unzip the hideaway cover and pull the cover partially off the pad to expose the mounting screws.
2. Remove the two (2) pad mounting screws.
3. Reposition the pad depth to the desired position.
4. Reinsert the two (2) mounting screws and securely tighten.
5. Zip the hideaway cover over the pad.

**USING THE SWINGAWAY LATERAL SUPPORTS (FIGURE 5)**

**NOTE:** The swingaway lateral supports were designed for ease in removing the individual from the KSS seating system.

1. Lift up on the lateral support and push outward, away from the wheelchair.
2. To lock lateral support in place, pull back inward until lateral support snaps in place.



**FIGURE 5 - USING THE SWINGAWAY LATERAL SUPPORTS**

**ATTACHING/ADJUSTING THE MOUNTING HOOKS (FIGURE 6)**

**Attaching the Mounting Hooks CHILD/JUNIOR SIZES.**

1. Remove four (4) mounting hooks from packaging.
2. Slide one (1) hook through the slot provided in the back cover. Attach to the upper corner, on either side of the back, with two (2) of the mounting screws provided. Repeat for opposite side.
3. Attach one (1) mounting hook to the front corner, on either side of the seat, with two (2) of the mounting screws provided. Repeat for opposite side.

## ADULT SIZES.

1. Remove eight (8) mounting hooks from the packaging.
2. Slide one (1) hook through the slot provided in the back cover. Attach to the upper corner, on either side of the back, with two (2) of the mounting screws provided. Repeat for opposite side.
3. Slide one (1) hook through the slot provided in the back cover. Attach to the lower corner, on either side of the back, with two (2) of the mounting screws provided. Repeat for procedure for opposite side.
4. Attach one (1) mounting hook to the front corner, on either side of the seat, with two (2) of the mounting screws provided. Repeat for opposite side.
5. Attach one (1) mounting hook to the back corner, on either side of the seat, with two (2) of the mounting screws provided. Repeat for opposite side.

## Adjusting the Mounting Hooks

*NOTE: Refer to the ATTACHMENT POINTS chart in this instruction sheet for adjustment locations.*

1. If necessary, unzip the back cover.
2. **CHILD/JUNIOR AND ADULT SIZES** - For minimal width adjustment, loosen the mounting screws and adjust the hooks in or out and retighten the mounting screws.
3. **ADULT SIZE ONLY** - If further adjustment is needed:
  - a. Remove the mounting screws that secure the mounting hooks to the back/seat.
  - b. Adjust the mounting hooks to desired mounting position.
  - c. Reinsert the mounting screws. Securely tighten.
4. **TRANSPORT OPTION** - For seat adjustment, loosen the mounting screws and adjust the hooks back and forth.

*NOTE: Some configurations for seat depth changes may require REVERSING seat mounting hooks.*

For back adjustment, loosen the mounting screws and adjust the hooks side-to-side. Retighten the mounting screws.

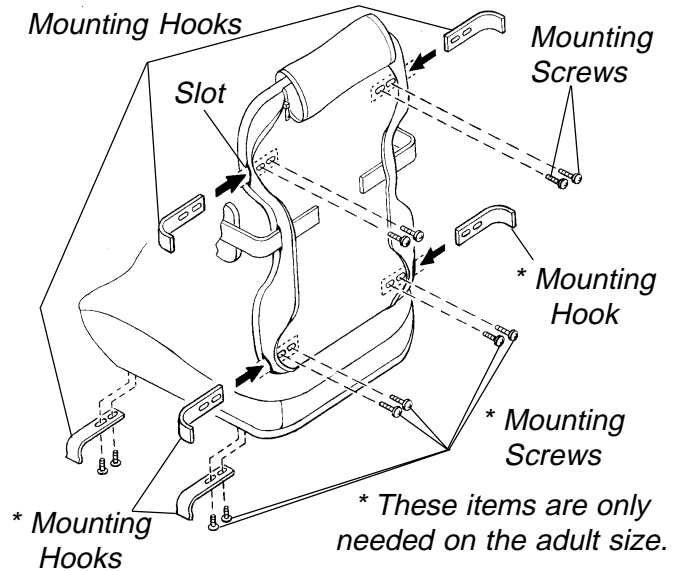
### WARNING

Ensure the seating system mounting brackets are correctly positioned and clamps are securely engaged. Failure to do so may result in serious bodily injury.

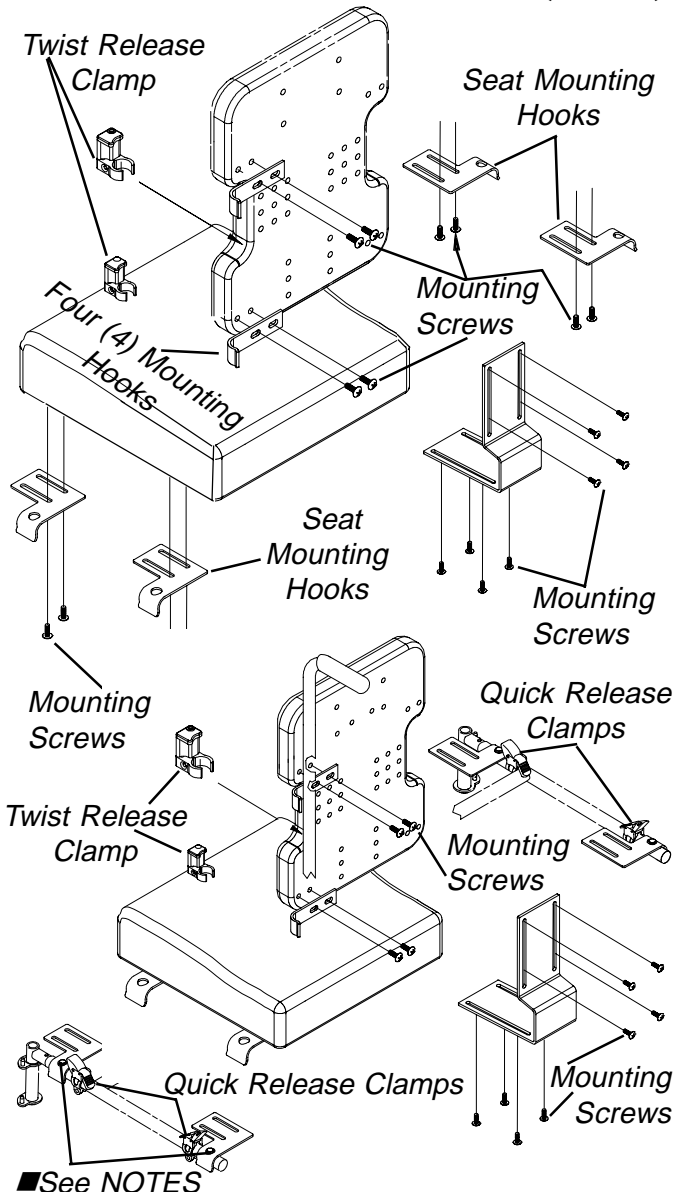
5. If all attachments and adjustments are complete, zip the back cover closed.

■NOTE: For 12 and 14-inch seat depth ALL four (4) mounting holes will be used.

■NOTE: For 16-inch seat depth the FRONT two (2) mounting holes will be used.



## TRANSPORT READY OPTION (TRRO)



**FIGURE 6 - ATTACHING/ADJUSTING THE MOUNTING HOOKS**

## ATTACHING/ADJUSTING THE NECK SUPPORT (FIGURE 7)

### Attaching the Neck Support

#### CURVED BACK.

1. Remove neck support bracket from packaging.
2. Unzip back cover on both sides of center panel.
3. Lift center panel.

*NOTE: If a NEW neck support is used on an EXISTING Curved Back than the adapter plate and support bracket MUST be used.*

*NOTE: If a NEW neck support is used on a NEW Curved Back than the support bracket can be used WITHOUT the adapter plate.*

4. **Perform Steps 4a. and 4b. or 4c.:**
  - a. Secure neck adapter plate to the back shell with the four (4) mounting screws provided (If applicable).
  - b. Then secure the neck support bracket to the neck adapter plate using the two (2) mounting screws provided.
  - c. Secure the vertical neck post to the back shell using the two (2) mounting screws provided.
5. Close center panel with the vertical neck post exposed through the slot provided in upholstery.
6. Zip the back cover closed.
7. Insert horizontal post into vertical post and secure with thumbscrew knob.
8. Insert vertical post into neck support bracket.
9. Secure with a thumbscrew knob or adjustable lever.
10. Insert detent pin into through both walls of vertical post (Transport Ready Option [TRRO]).
11. If adjustment is required, refer to **ADJUSTING THE NECK SUPPORT** in this instruction sheet.

#### ULTI-MATE AIR BACK.

*NOTE: The standard attachment points are where the eyelets are located in the upholstery.*

1. If there are no eyelets, pierce a hole pattern in the fabric, that resembles the pattern found on the neck support bracket. Ensure the pattern is aligned with the T-nutted holes found on the back shell.

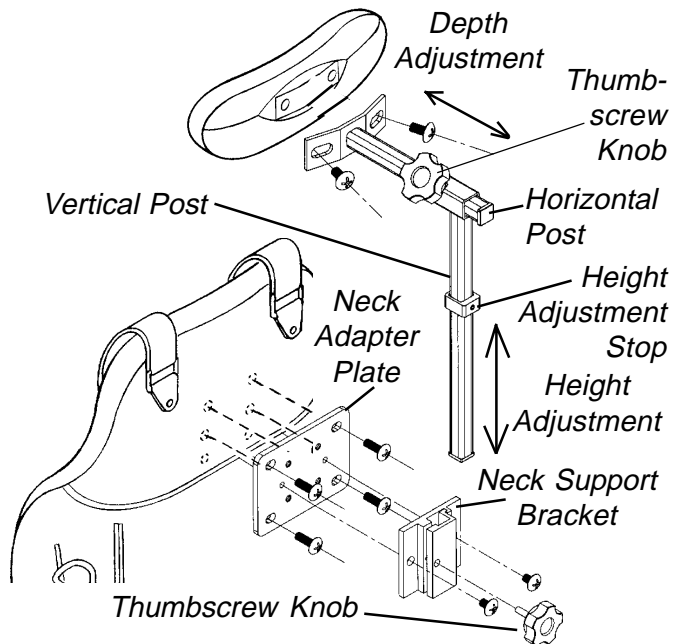
*NOTE: The cover may need to be removed to get a more precise location of the T-nutted holes before piercing the hole pattern in the fabric.*

*NOTE: There is an extra set of T-nutted holes found on the back shell for optional height adjustment. To make these holes accessible, pierce a hole in the fabric aligned with the T-nutted hole in the back shell. Repeat for opposite hole.*

*NOTE: If a NEW neck support is used on an EXISTING Curved Back than the adapter plate and support bracket MUST be used.*

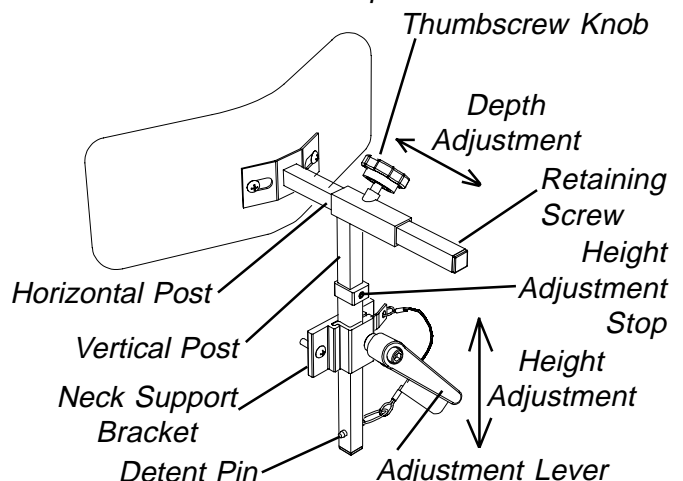
*NOTE: If a NEW neck support is used on a NEW Curved Back than the support bracket can be used WITHOUT the adapter plate.*

2. Secure neck adapter plate to the back shell with the four (4) long mounting screws provided.
3. Attach neck support bracket to the adapter plate using the two (2) short mounting screws provided.
4. Insert horizontal post into vertical post and secure with thumbscrew.
5. If adjustment is required, refer to **ADJUSTING THE NECK SUPPORT** in this instruction sheet.



*NOTE: Only the curved back is shown for clarity. The neck support on the Ulti-mate Air Back adjusts in the same manner.*

*NOTE: Ensure that the retaining screw is located in the end of the horizontal post.*



*NOTE: Neck Adapter Plate NOT shown.*

**FIGURE 7 - ADJUSTING THE NECK SUPPORT**

## ADJUSTING THE NECK SUPPORT

### Curved Back and Ulti-Mate Air Back

1. **Height Adjustment** - Loosen the thumbscrew knob or adjustment lever on the neck support bracket. Loosen the height adjustment stop setscrew. Adjust the neck support to the desired height and retighten the thumbscrew knob or adjustment lever. Slide height adjustment stop to the top of the support bracket and retighten setscrew.

Insert detent pin into through both walls of vertical post (Transport Ready Option [TRRO]).

*NOTE: The height adjustment stop allows the neck support to be removed for transfers, then reinstalled back to the exact height set by the location of the height adjustment stop.*

2. **Depth Adjustment** - Loosen the thumbscrew knob on the horizontal post, adjust the neck support to the desired depth and retighten the thumbscrew knob.

*NOTE: On the Ulti-Mate Air Back further adjustment can be obtained by utilizing the extra set of T-nutted holes in the back shell. Refer to **ATTACHING THE NECK SUPPORT** in this instruction sheet.*

## ATTACHING/ADJUSTING THE HEIGHT/REVERSING THE PAD/USING THE FLIP DOWN ABDUCTOR (FIGURE 8)

### Attaching the Flip Down Abductor (FIGURE 8-DETAIL "A")

*NOTE: Refer to the **ATTACHMENT POINTS** chart in this instruction sheet for attachment location.*

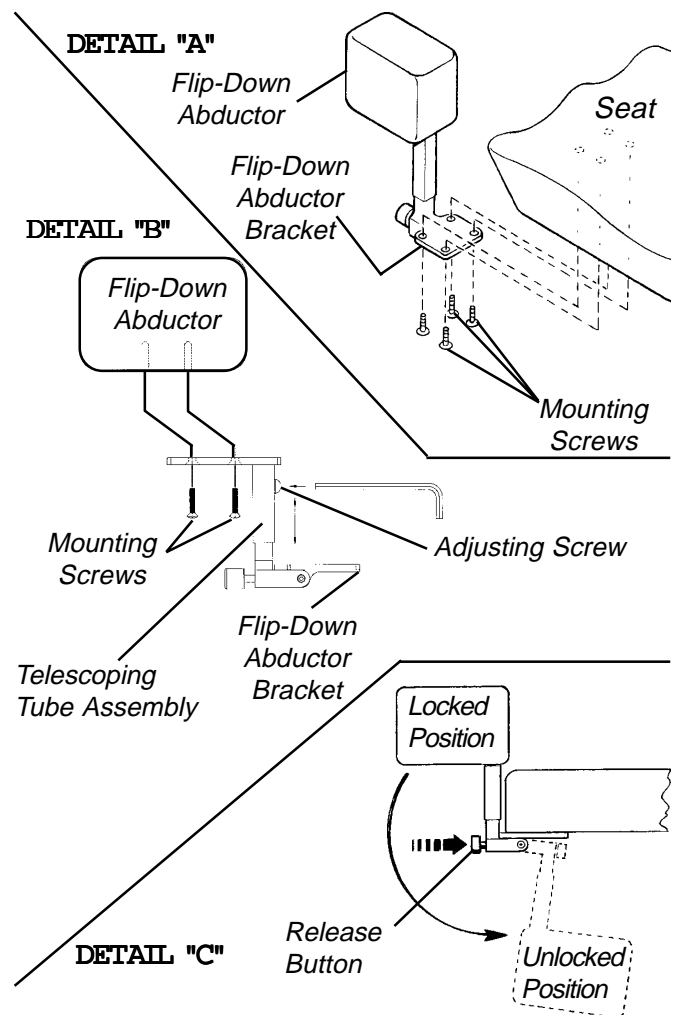
1. Remove the flip down abductor and attaching hardware from packaging.
2. Attach the flip down abductor bracket to the underside of the seat with the four (4) mounting screws provided.
3. To remove the flip down abductor reverse **STEP 2**.

### Adjusting the Height of the Flip Down Abductor (FIGURE 8-DETAIL "B")

1. To unlock and flip down abductor, press release button (FIGURE 8-DETAIL "C").
2. Using a socket key, loosen the adjustment screw on the vertical portion of the mounting bracket.
3. Adjust the flip down abductor to the desired height.
4. Securely tighten the adjustment screw and then check pad height.
5. Repeat **Steps 1 through 4** until proper height is obtained.

### Reversing the Cushion of the Flip Down Abductor (FIGURE 8-DETAIL "B")

1. To unlock and flip down abductor, press release button (FIGURE 8-DETAIL "C").
2. Using a socket key, remove the adjustment screw and washer on the vertical portion of the mounting bracket.
3. Completely remove the top tube from the telescoping tube assembly.
4. Rotate top portion 180°.
5. Reinstall top tube portion.
6. Follow **STEPS 4-5** in **ADJUSTING THE FLIP DOWN ABDUCTOR**.



**FIGURE 8 - ATTACHING/ADJUSTING THE HEIGHT/REVERSING THE CUSHION/USING THE FLIP DOWN ABDUCTOR**

### Using the Flip-Down Abductor (FIGURE 8-DETAIL "C")

1. To unlock and flip down press release button.
2. To lock in place pull up on abductor until an audible click is heard.

# ATTACHING/USING THE LAP BELT (FIGURES 9 AND 10)

## Attaching the Lap Belt

### WARNING

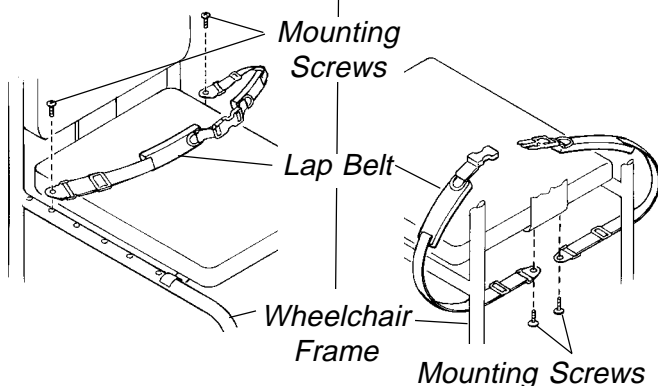
It is strongly recommended that the lap belt be strapped across the hip area with an angle of 45° to the seating surface. Angles less than 45° make it easier for the user to slip under the belt if it is improperly tightened.

1. The lap belt can be anchored in one (1) of the two (2) possible locations:
  - a. In one (1) of the T-nutted holes located on the underside of the seat.
  - b. In one (1) of the holes in the side frame of the wheelchair.

*NOTE: DO NOT reposition the lap belt mounting location from the factory installation on the TRANSPORT READY OPTION (TRRO).*

*NOTE: The most desirable location for the mounting screws will be determined by the size of the client involved and the angle achieved by trying the various attachment points with the client seated comfortably in the wheelchair.*

### FRAME ATTACHMENT SEAT ATTACHMENT



Lap Belt (Acceptable lap belt angle is 45°)

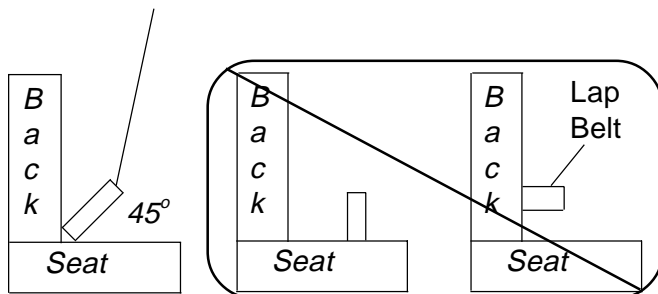


FIGURE 9 - ATTACHING THE LAP BELT

2. Determine the most suitable attachment point. Put the padded side of the belt toward the seating surface.
3. Align the hole located at the anchor end of the belt with the chosen attachment point and insert one (1) of the mounting screws provided. **HAND TIGHTEN ONLY.** Repeat for opposite side.

## Using the Lap Belt

### WARNING

Ensure that the seat is fixed to the wheelchair. A loose seat may lead to potentially dangerous situations with positioning devices.

It is strongly recommended that the lap belt be strapped across the hip area with an angle of 45° to the seating surface. Angles less than 45° make it easier for the user to slip under the belt if it is improperly tightened.

*NOTE: Stabilize from the ground up. A stable base (seat) and footrest are the first steps to a stable pelvis. Also, the user should be lightly clothed for the initial adjustment.*

*NOTE: A belt angle of 45° will usually provide the best stability and positioning. The belt will apply its pressure directly to the hips, usually allowing more force to be applied without discomfort.*

1. Adjust the slide, located at each end of the belt, to fit the client with proper tension.
2. The plastic D-rings, located at the front of the belt, can be pulled or released to conveniently tighten the belt to provide extra tension if needed or loosen the belt to allow for bulky clothing, etc.

*NOTE: When all final adjustments have been made and the client is comfortable with the fit of the lap belt, any excess lengths of material can be cut off, keeping in mind the potential future growth of the client. The cut end can be melted slightly to prevent fraying.*

*NOTE: Only the Child/Junior lap belt is shown for clarity.*

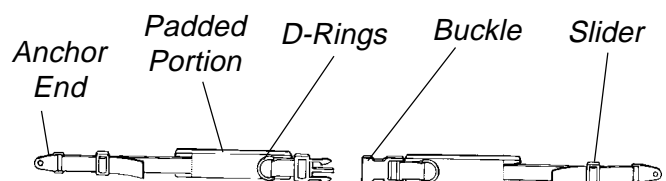


FIGURE 10 - USING THE LAP BELT



## POSITIONING/ADJUSTING THE KSS SEATING SYSTEM IN THE WHEELCHAIR

With the individual positioned in the KSS seating system:

1. Check that the width and height of the system is fitted properly to the individual using the system. If adjustment is needed, refer to **ADJUSTING THE GROWTH BRACKET** in this instruction sheet.
2. Check to make sure the neck support is properly positioned, with the correct height and depth, for the individual using the system. If adjustment is needed, refer to **ADJUSTING THE NECK SUPPORT** in this instruction sheet.
3. Check to make sure the lateral supports are properly positioned, with the correct width and height, for the individual using the system. If adjustment is needed, refer to **ADJUSTING THE LATERAL SUPPORTS** in this instruction sheet.
4. Check to make sure the flip-down abductor is securely tightened.
5. Check to make sure the lap belt is securely fastened. Is the lap belt uncomfortably compressing the abdomen when properly tightened? You can mount the anchor points further forward to increase the belt angle. If adjustment is necessary, refer to **ATTACHING/USING THE LAP BELT** in this instruction sheet.

## SECURING THE KSS SEATING SYSTEM TO THE WHEELCHAIR FRAME

The following recommendations are made for the safe installation and use of mounting hardware on seating systems:

### SAFETY SUMMARY

#### GENERAL WARNING

Ensure that the seat and back of the seating system are fixed to the wheelchair. A loose seat or back may lead to potentially dangerous situations with positioning devices.

Ensure that ALL hardware is tight at ALL times.

#### INSTALLATION WARNING

DO NOT install twist, quick, and fixed release clamps in any other locations than specified in this instruction sheet - otherwise, the seating system will not be secured properly to the wheelchair and bodily injury may occur.

## HARDWARE REFERENCE CHART

*NOTE: This chart is a general guideline for recommended mounting hardware.*

### Hardware Clamps

	With Growth Bracket	With Out Growth Bracket
<b>BACK</b>	Twist Release (SEE FIGURE 11)	Twist Release Fixed Release (SEE FIGURE 13)
<b>SEAT</b>	Quick Release (SEE FIGURE 12)	Quick Release Fixed Release (SEE FIGURE 14)

## PROCEDURE 1 - INSTALLING CLAMPS ON SEATING SYSTEMS WITH A GROWTH BRACKET

### Twist Release Clamps For Back (FIGURE 11)

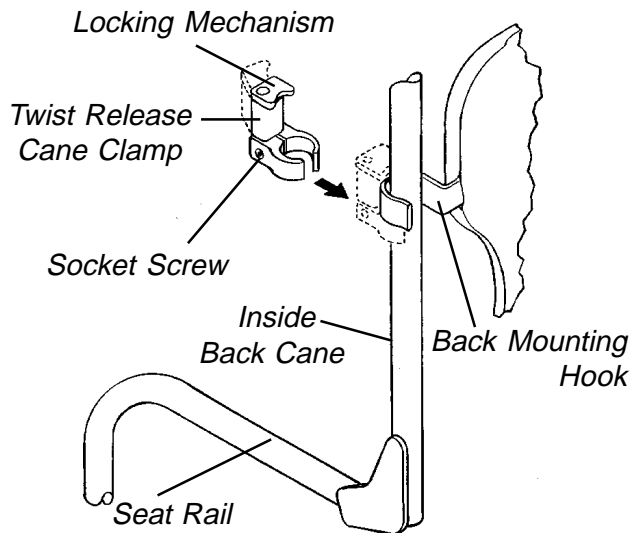
*NOTE: Refer to **INSTALLATION WARNING** in the **SAFETY SUMMARY** before proceeding.*

1. Make sure that the back mounting hooks are flush against the back canes.
2. Loosen the socket screw that opens the twist release clamp.

*NOTE: There is a right and left twist release clamp. Make sure when installing that the socket screw adjustment is on the outside of the wheelchair frame.*

*NOTE: FOR TRANSPORT READY OPTION (TRRO) - There is a right and left twist release clamp. Make sure when installing that the socket screw adjustment is on the INSIDE of the wheelchair frame.*

3. Install the open end of the twist release clamp below the back mounting hook so that the locking mechanism rests on top of the back mounting hook.
4. Loosely tighten the socket screw.
5. Repeat **STEPS 1- 4** for the other side.
6. Make sure both twist release clamps are flush against the back mounting hooks and that the locking mechanism rests on top of the back mounting hooks.
7. Torque socket screw to 75 - inch pounds.



**NOTE:** For **TRANSPORT READY OPTION (TRRO)** Twist Release Cane Clamp is **REVERSED**.

**FIGURE 11- TWIST RELEASE CLAMPS FOR BACK**

8. Once twist release mounting clamps are secured, do one (1) of following:
  - A. Refer to **QUICK RELEASE CLAMPS FOR SEAT** in **PROCEDURE 1** of this instruction sheet.
  - B. Refer to **USING CLAMPS** in this instruction sheet.

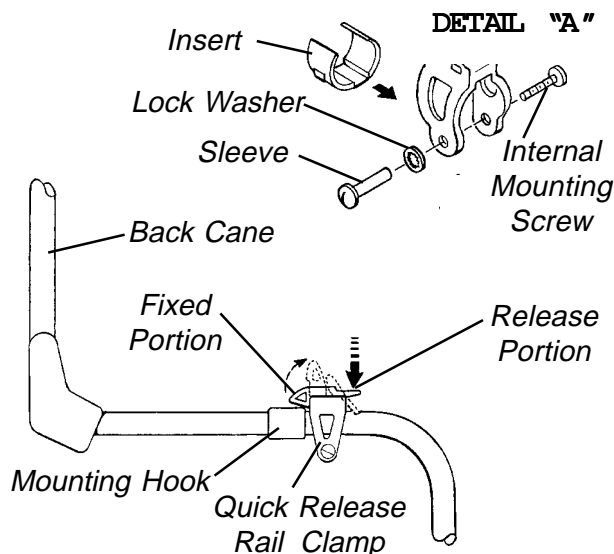
### **Quick Release Clamps For Seat (FIGURE 12)**

**NOTE:** Refer to **INSTALLATION WARNING** in the **SAFETY SUMMARY** before proceeding.

**NOTE:** The quick release clamps are designed to fit either 1-inch rail tubing or, with insert provided, 7/8-inch rail tubing.

1. Remove the sleeve, lock washer, and internal threaded mounting screw from the quick release clamp (**DETAIL "A"**).
2. Place the quick release clamp on the seat rail.
3. If quick release clamp is not tightly fitted around seat rail tubing, install insert provided as shown in **DETAIL "A"**.
4. Install the quick release clamp onto the seat rail so that the fixed portion is flush against and rests on top of the mounting hook and the release portion is between the front riggings and the mounting hook.
5. Reinstall the sleeve, lock washer, and internal mounting screw into the quick release rail clamp and torque to 75 - inch pounds.
6. Repeat **STEPS 1- 5** for other side.

7. Once quick release mounting clamps are secured, do one (1) of following:
  - A. Refer to **TWIST RELEASE CLAMPS FOR BACK** in **PROCEDURE 1** of this instruction sheet.
  - B. Refer to **USING CLAMPS** in this instruction sheet.



**FIGURE 12- QUICK RELEASE CLAMPS FOR SEAT**

## **PROCEDURE 2 - INSTALLING CLAMPS ON SEATING SYSTEMS WITHOUT A GROWTH BRACKET**

### **Twist Release Clamps For Back (FIGURE 11)**

**NOTE:** Refer to **INSTALLATION WARNING** in the **SAFETY SUMMARY** before proceeding.

1. Make sure that the back mounting hooks are flush against the back canes.
2. Loosen the socket screw that opens the twist release clamp.

**NOTE:** There is a right and left twist release clamp. Make sure when installing that the socket screw adjustment is on the outside of the wheelchair frame.

3. Install the open end of the twist release clamp below the back mounting hook so that the locking mechanism rests on top of the mounting hook.
4. Loosely tighten the socket screw.
5. Repeat **STEPS 1- 4** for the other side.
6. Make sure both twist release clamps are flush against the back mounting hooks and that the locking mechanism rests on top of the back mounting hooks.

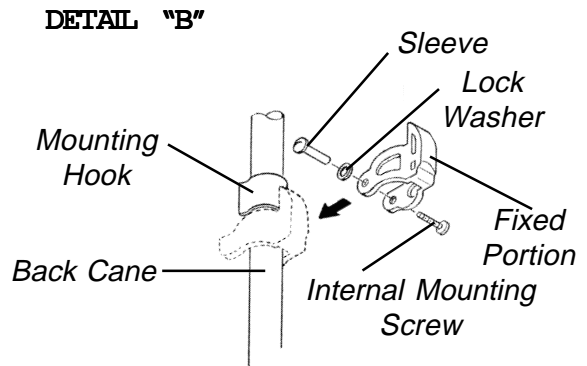
7. Torque socket screw to 75 - inch pounds.
8. Once twist release mounting clamps are secured, do one (1) of following:
  - A. Refer to **FIXED RELEASE CLAMPS FOR BACK** in **PROCEDURE 2** of this instruction sheet.
  - B. Refer to **USING CLAMPS** in this instruction sheet.

**Fixed Release Clamps For Back (FIGURE 13)**

*NOTE: Refer to **INSTALLATION WARNING** in the **SAFETY SUMMARY** before proceeding.*

*NOTE: The fixed release rail/cane clamps are designed to fit either 1-inch rail tubing or, with insert provided, 7/8-inch rail tubing.*

1. Remove the mounting screw, lock washer, and internal threaded mounting screw from the fixed release clamps (**DETAIL "B"**).
2. Place the fixed release clamp on the back cane.
3. If fixed release clamp is not tightly fitted around back cane tubing, install insert provided as shown in **DETAIL "A"**.
4. Install the fixed release clamp onto the back rail so that the fixed portion is flush against and rests on top of the mounting hook and is located between the seat rail and the bottom of the mounting hook.
5. Reinstall the mounting screw, lock washer, and internal mounting screw into the fixed release rail/cane clamp and torque to 75 - inch pounds.
6. Repeat **STEPS 1 - 5** for other side.
7. Once fixed release mounting clamps are secured, do one (1) of following:
  - A. Refer to **QUICK RELEASE CLAMPS FOR SEAT** in **PROCEDURE 2** of this instruction sheet.
  - B. Refer to **USING CLAMPS** in this instruction sheet.



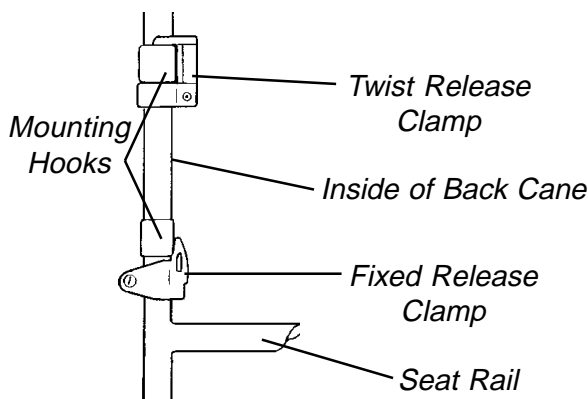
**FIGURE 13- FIXED RELEASE CLAMPS FOR BACK**

**Quick Release Clamps For Seat (FIGURE 14)**

*NOTE: Refer to **INSTALLATION WARNING** in the **SAFETY SUMMARY** before proceeding.*

*NOTE: The quick release and fixed release clamps are designed to fit either 1-inch rail tubing or, with insert provided, 7/8-inch rail tubing.*

1. Remove the sleeve, lock washer, and internal threaded mounting screw from the quick release clamp (**DETAIL "C"**).
2. Place the quick release clamp on the seat rail.
3. If quick release clamp is not tightly fitted around seat rail tubing, install insert provided as shown in **DETAIL "C"**.
4. Install the quick release clamp onto the seat rail so that the fixed portion is flush against and rests on top of the mounting hook and the release portion is between the front riggings and the mounting hook.
5. Reinstall the sleeve, lock washer, and internal mounting screw into the quick release clamp and torque to 75 - inch pounds.
6. Repeat **STEPS 1- 5** for other side.
7. Once quick release mounting clamps are secured, do one (1) of following:
  - A. Refer to **FIXED RELEASE CLAMPS FOR SEAT** in **PROCEDURE 2** of this instruction sheet.
  - B. Refer to **USING CLAMPS** in this instruction sheet.



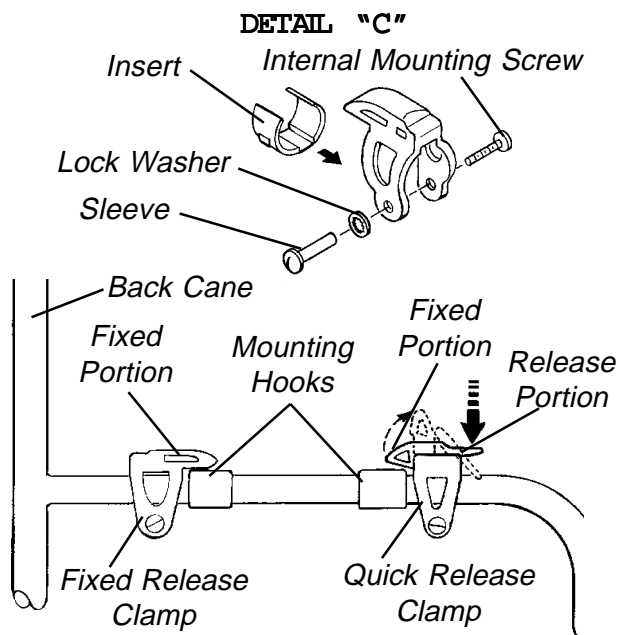
**FIGURE 13- FIXED RELEASE CLAMPS FOR BACK**

## Fixed Release Clamps For Seat (FIGURE 14)

*NOTE: Refer to **INSTALLATION WARNING** in the **SAFETY SUMMARY** before proceeding.*

*NOTE: The quick release and fixed release clamps are designed to fit either 1-inch rail tubing or, with insert provided, 7/8-inch rail tubing.*

1. Remove the sleeve, lock washer, and internal threaded mounting screw from the fixed release clamp (**DETAIL "C"**).
2. Place the fixed release clamp on the seat rail.
3. If fixed release clamp is not tightly fitted around seat rail tubing, install insert provided as shown in **DETAIL "C"**.
4. Install the fixed release clamp onto the back rail so that the fixed portion is flush against and rests on top of the mounting hook and is located between the seat rail and the bottom of the mounting hook.
5. Reinstall the sleeve, lock washer, and internal mounting screw into the fixed release clamp and torque to 75 - inch pounds.
6. Repeat **STEPS 1-5** for other side.
7. Once fixed release mounting clamps are secured, do one (1) of following:
  - A. Refer to **QUICK RELEASE CLAMPS FOR SEAT** in **PROCEDURE 2** of this instruction sheet.
  - B. Refer to **USING CLAMPS** in this instruction sheet.



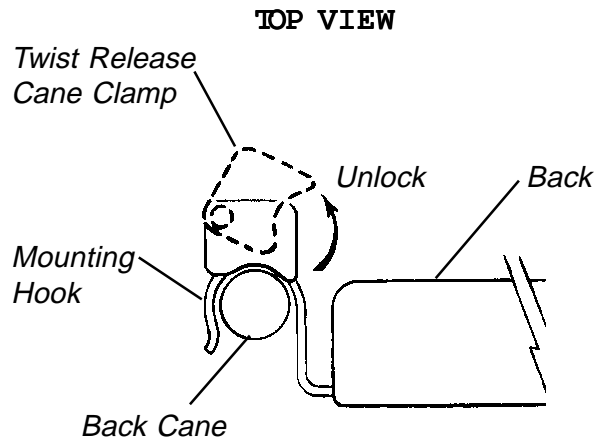
*NOTE: For TRANSPORT READY OPTION (TRRO) use ONLY Quick Release Clamps on Seat Rails.*

**FIGURE 14 - QUICK RELEASE AND FIXED RELEASE CLAMPS FOR SEAT**

## USING CLAMPS

### Twist Release (FIGURE 15)

1. To unlock the cane clamp, twist away from the back cane.
2. To lock the cane clamp, twist in toward the back.

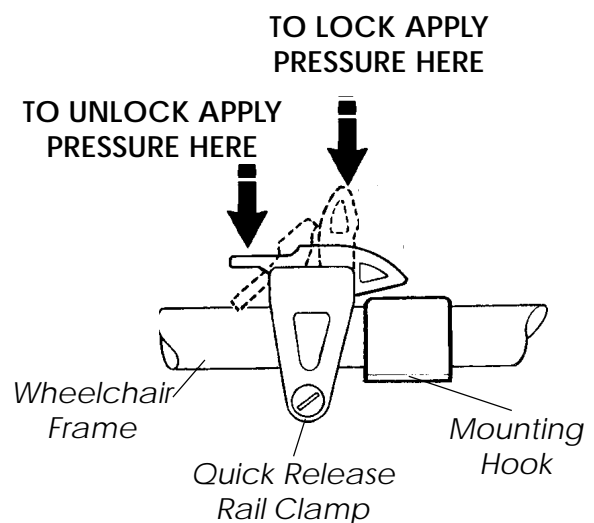


*NOTE: For TRANSPORT READY OPTION (TRRO) Twist Release Cane Clamp is REVERSED.*

**FIGURE 15 - USING CLAMPS - TWIST RELEASE**

### Quick Release (FIGURE 16)

1. To unlock, push down on the release tab of the quick release rail clamps.
2. To lock, push down on the thumb-like feature of the quick release rail clamps.



**FIGURE 16 - USING CLAMPS - QUICK RELEASE**

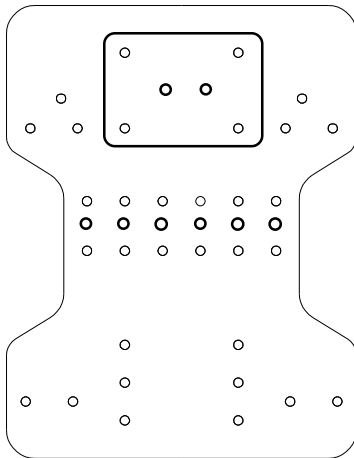
# ATTACHMENT POINTS FOR CURVED BACK

**CHILD/JUNIOR SIZE**

**ADULT SIZE**

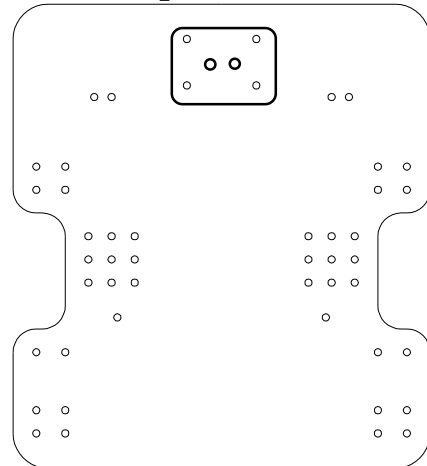
**N  
E  
C  
K  
S  
U  
P  
P  
O  
R  
T**

**Top of Back**



**Bottom of Back**

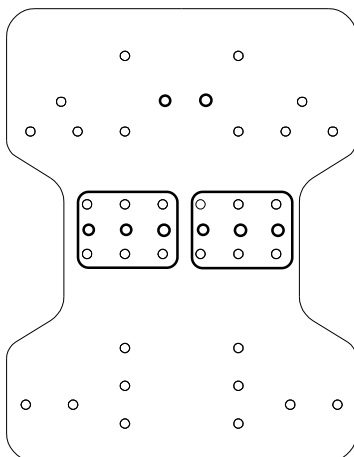
**Top of Back**



**Bottom of Back**

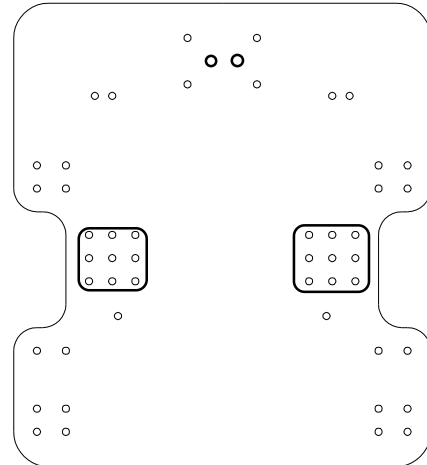
**L  
A  
T  
E  
R  
A  
L  
S  
U  
P  
P  
O  
R  
T**

**Top of Back**



**Bottom of Back**

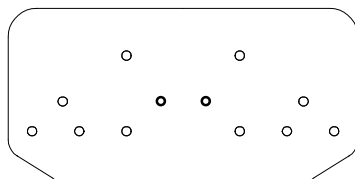
**Top of Back**



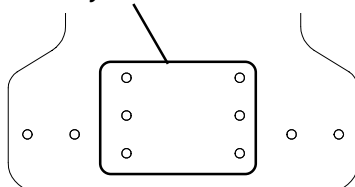
**Bottom of Back**

**G  
R  
O  
W  
T  
H  
B  
R  
A  
C  
K  
E  
T**

**Top of Back**



Two (2) Mounting screws on each side.  
Any combination.



**Bottom of Back**

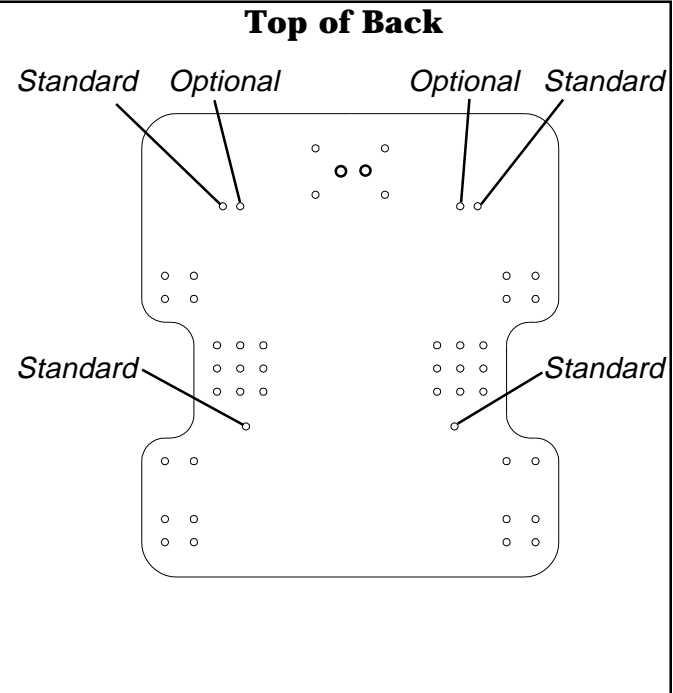
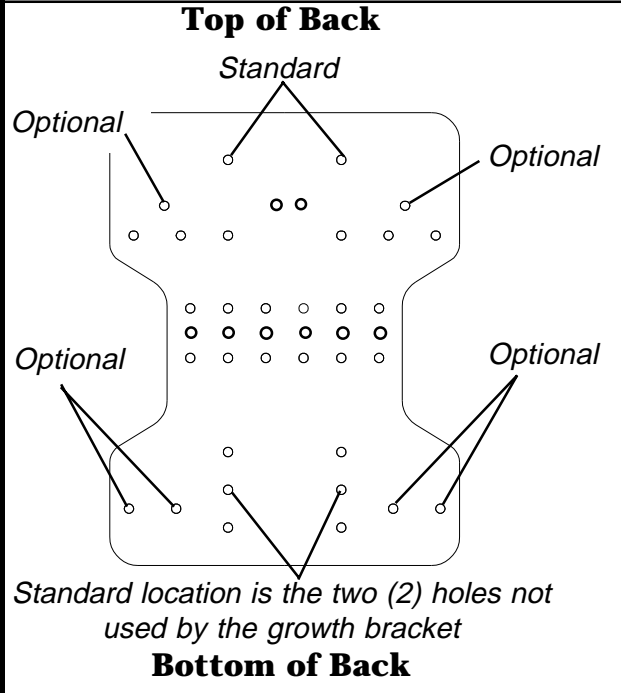
***The Adult Size does not require a Growth Bracket. Extra mounting hooks and mounting screws will be supplied for the Curved Back and Ulti-Mate Base***

# ATTACHMENT POINTS FOR CURVED BACK (Continued)

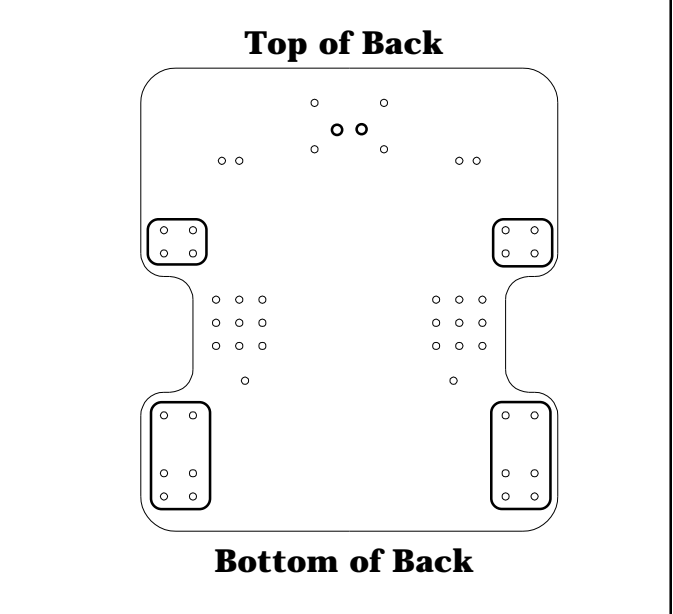
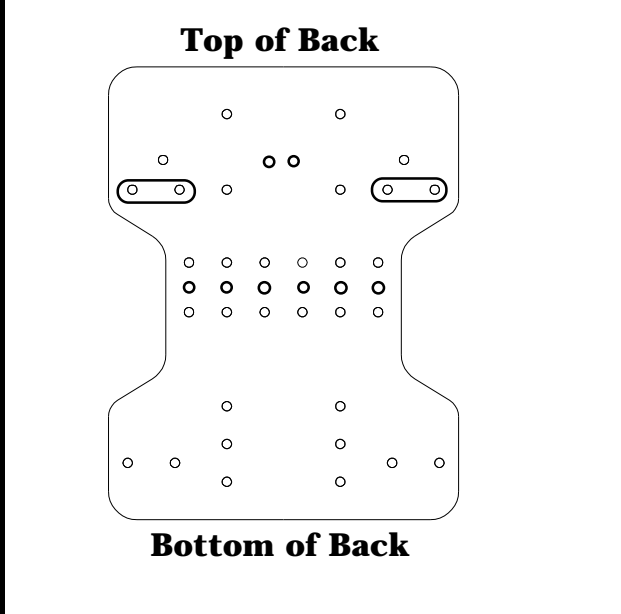
**CHILD/JUNIOR SIZE**

**ADULT SIZE**

**S  
H  
O  
U  
L  
D  
E  
R  
S  
U  
P  
P  
O  
R  
T**



**M  
O  
U  
N  
T  
I  
N  
G  
H  
O  
O  
K  
S**



# ATTACHMENT POINTS FOR ULTI-MATE BASE

**CHILD/JUNIOR SIZE**

**ADULT SIZE**

**G  
R  
O  
W  
T  
H  
B  
R  
A  
C  
K  
E  
T**

**Front of Seat**

*Two (2) Mounting screws on each side.  
Any combination.*

**Rear of Seat**

*The Adult Size does not require a Growth Bracket. Extra mounting hooks and mounting screws will be supplied for the Ulti-Mate Base*

**L  
A  
P  
B  
E  
L  
T**

**Front of Seat**

*Standard location is the two (2) holes not used by the growth bracket)*

**Rear of Seat**

*Lap Belt  
(Optional)*

**Front of Seat**

*Use either of the holes not being use by the mounting hooks.*

**Rear of Seat**

**A  
B  
D  
U  
C  
T  
O  
R**

**Front of Seat**

**Rear of Seat**

**Front of Seat**

**Rear of Seat**

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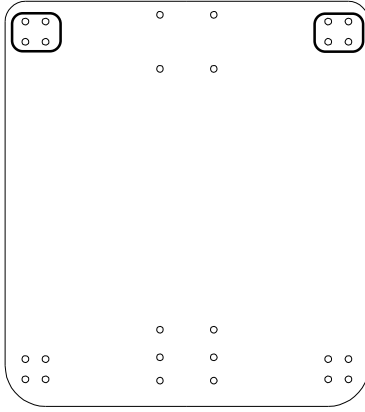
# ATTACHMENT POINTS FOR ULTI-MATE BASE (Continued)

**CHILD/JUNIOR SIZE**

**ADULT SIZE**

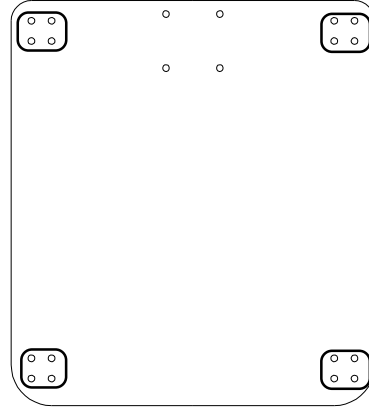
**M  
O  
U  
N  
T  
I  
N  
G  
H  
O  
O  
K  
S**

**Front of Seat**



**Rear of Seat**

**Front of Seat**

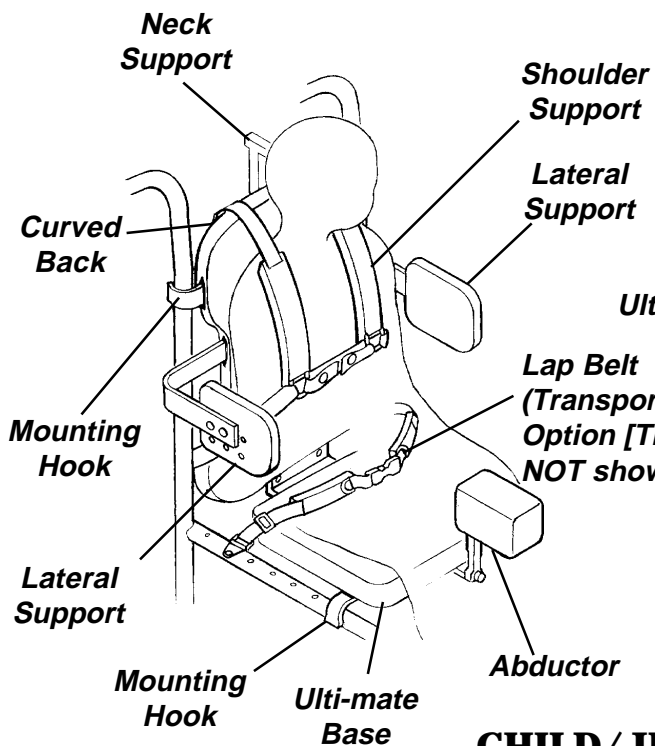


**Rear of Seat**

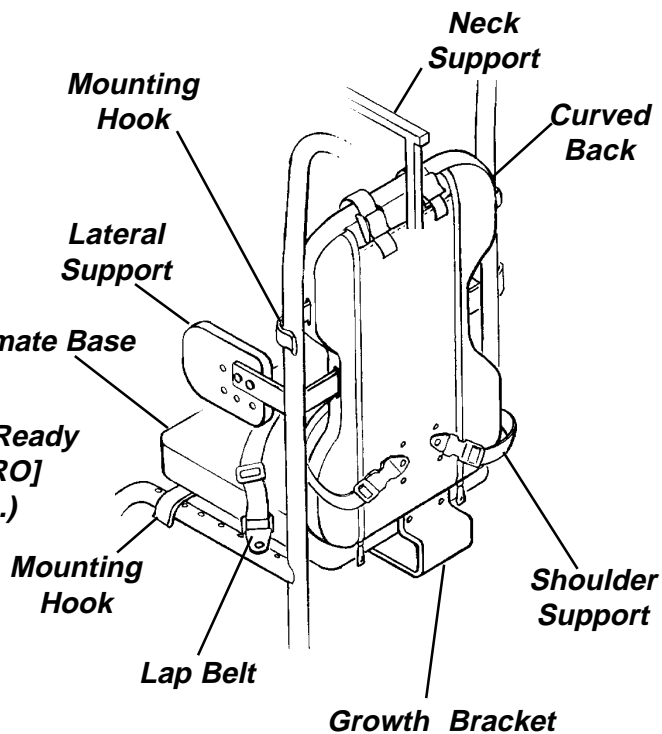


# KSS SYSTEM FEATURES

## FRONT VIEW

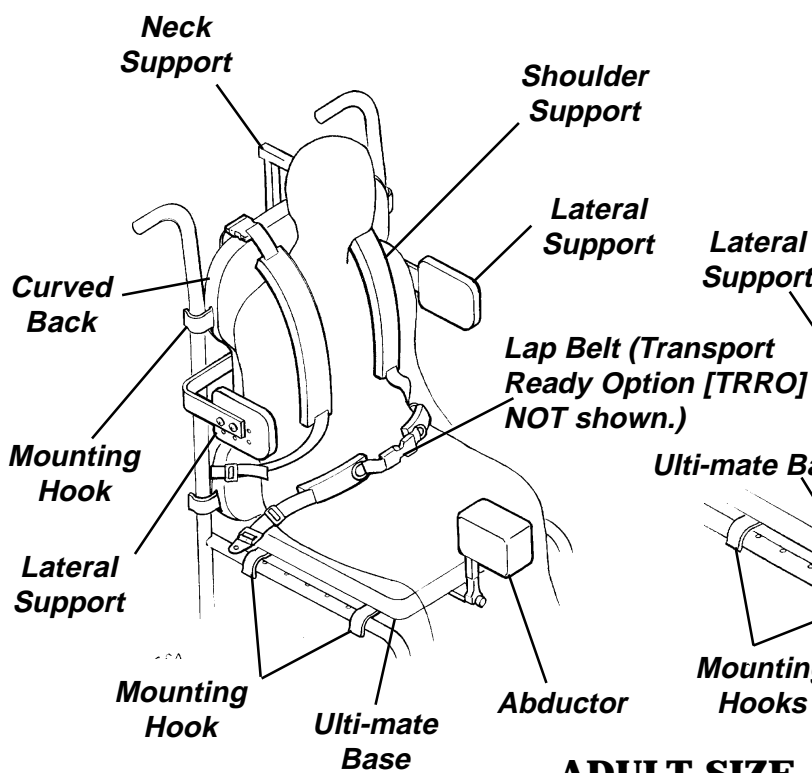


## BACK VIEW

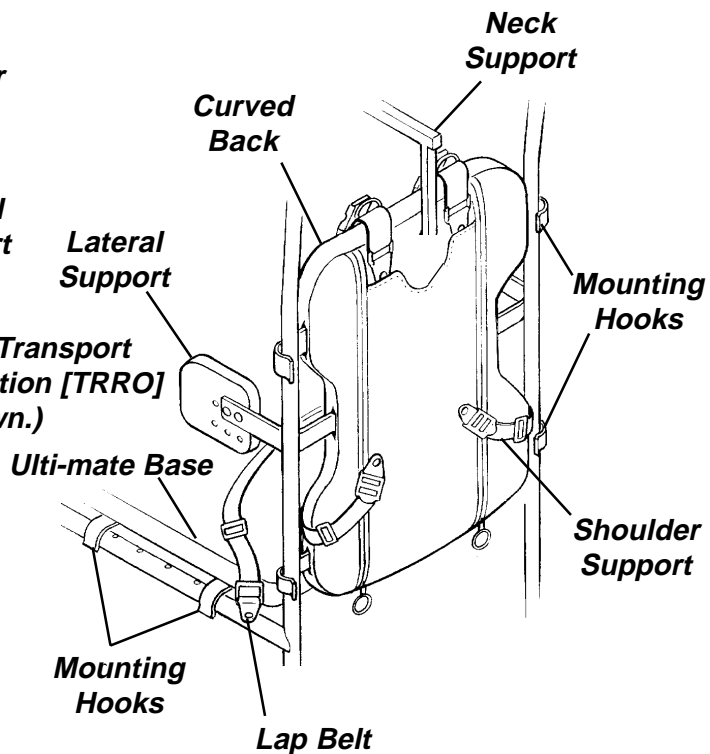


## CHILD/JUNIOR SIZE

## FRONT VIEW



## BACK VIEW



## ADULT SIZE

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## **WASHING INSTRUCTIONS - COVERS**

### **Outer Cover**

1. Can be machine washed and dried.
2. DO NOT use bleach.
3. We DO NOT recommend machine washing or drying for colored NEOPRENE child cushion covers.

*NOTE: We recommend cleaning the cover on a regular basis.*

### **Inner Cover (If applicable)**

1. Hand wash with a damp cloth.
2. We DO NOT recommend machine washing or drying.

### **Neoprene Cover**

1. Hand Wash in luke warm water (80°F) in mild detergent.
2. Drip dry in sun.
3. No bleach or toluene.
4. NOT recommended for machine drying.

**PARTS LIST - CHILD/JUNIOR AND ADULT ONLY  
(NOT FOR TRANSPORT READY OPTION [TRRO])**

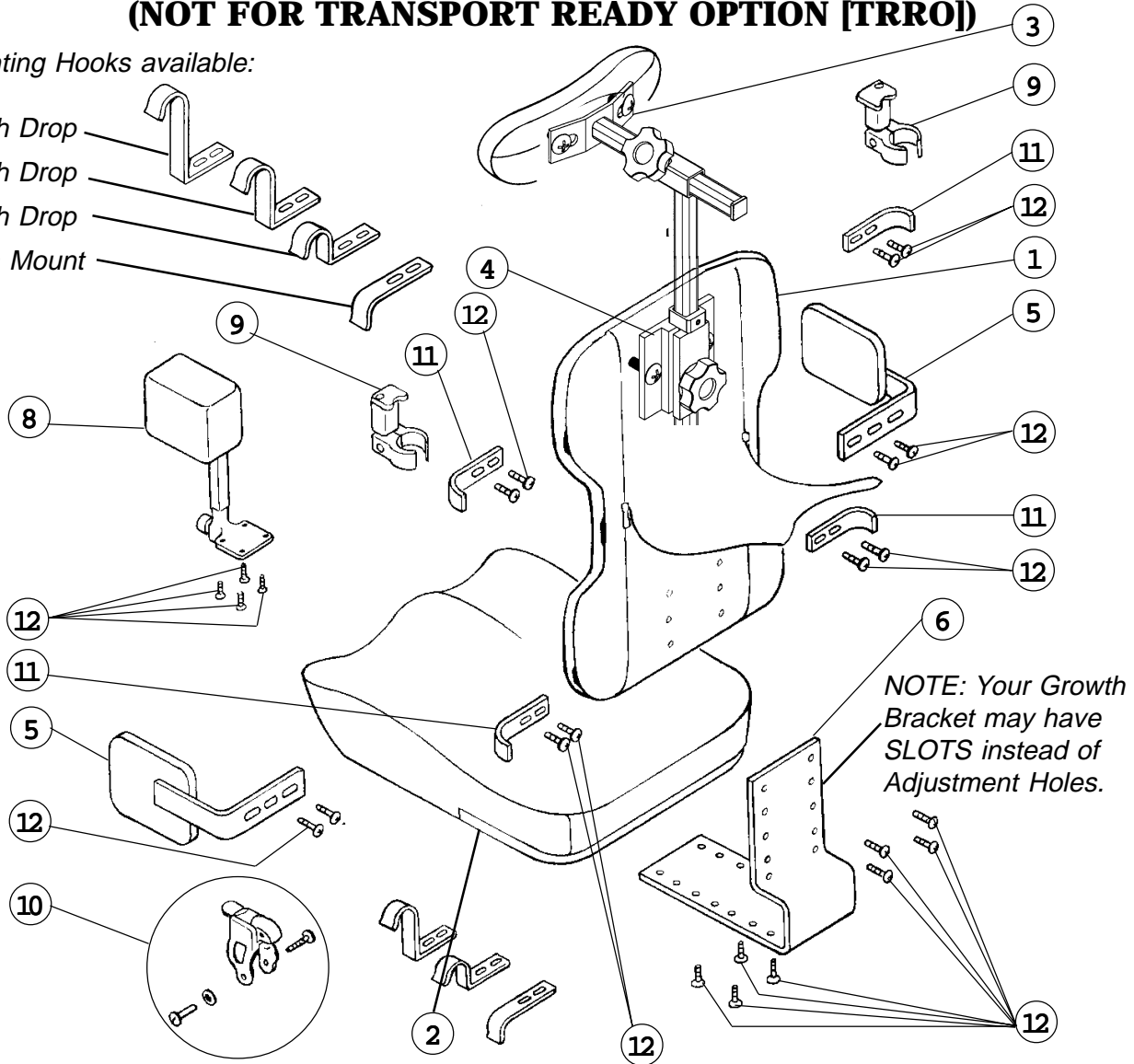
Mounting Hooks available:

3-Inch Drop

2-Inch Drop

1-Inch Drop

Flush Mount



**PARTS LIST**

ITEM	DESCRIPTION	QUANTITY	
		CHILD/JUNIOR	ADULT
1	CURVED BACK	1	1
2	SEAT	1	1
3	NECK SUPPORT ASSEMBLY	1	1
4	NECK SUPPORT BRACKET	1	1
5	LATERAL SUPPORT	2	2
6	GROWTH BRACKET	1	N/A
7	LAP BELT*	1	1
8	ABDUCTOR	1	1
9	TWIST RELEASE CANE CLAMP ASSEMBLY	2	2
10	QUICK RELEASE RAIL CLAMP ASSEMBLY	2	4
11	MOUNTING HOOKS**	4	8
12	MOUNTING SCREWS	INCL	INCL

\* Lap belt not shown

\*\* Mounting hooks available for the seat are: flush mount, 1-inch drop, 2-inch drop, and 3-inch drop

Mounting hooks available for the back are: flush mount, 1-inch recess, 2-inch recess, and 3-inch recess

## LIMITED WARRANTY

PLEASE NOTE: THE WARRANTY BELOW HAS BEEN DRAFTED TO COMPLY WITH FEDERAL LAW APPLICABLE TO PRODUCTS MANUFACTURED AFTER JULY 4, 1975.

This warranty is extended only to the original purchaser/user of our products.

This warranty gives you specific legal rights and you may also have other legal rights which vary from state to state.

Invacare warrants its product to be free from defects in materials and workmanship for the period of two (2) years of use by original purchaser. All covers are warranted for 90 days only. If within such warranty period any such product shall be proven to be defective, such product shall be repaired or replaced, at Invacare's option. This warranty does not include any labor or shipping charges incurred in replacement part installation or repair of any such product. Invacare's sole obligation and your exclusive remedy under this warranty shall be limited to such repair and/or replacement.

For warranty service, please contact the dealer from whom you purchased your Invacare product. In the event you do not receive satisfactory warranty service, please write directly to Invacare at the address on the next page. Provide dealer's name, address, model number, date of purchase, indicate nature of the defect and, if the product is serialized, indicate the serial number.

Invacare Corporation will issue a return authorization. The defective unit or parts must be returned for warranty inspection using the serial number, when applicable, as identification within thirty (30) days of return authorization date. DO NOT return products to our factory without our prior consent. C.O.D. shipments will be refused; please prepay shipping charges.

**LIMITATIONS AND EXCLUSIONS:** *THE WARRANTY SHALL NOT APPLY TO PROBLEMS ARISING FROM NORMAL WEAR OR FAILURE TO ADHERE TO THE ENCLOSED INSTRUCTIONS.* IN ADDITION, THE FOREGOING WARRANTY SHALL NOT APPLY TO SERIAL NUMBERED PRODUCTS IF THE SERIAL NUMBER HAS BEEN REMOVED OR DEFACED; PRODUCTS SUBJECTED TO NEGLIGENCE, ACCIDENT, IMPROPER OPERATION, MAINTENANCE OR STORAGE; OR PRODUCTS MODIFIED WITHOUT INVACARE'S EXPRESS WRITTEN CONSENT INCLUDING, BUT NOT LIMITED TO: MODIFICATION THROUGH THE USE OF UNAUTHORIZED PARTS OR ATTACHMENTS; PRODUCTS DAMAGED BY REASON OF REPAIRS MADE TO ANY COMPONENT WITHOUT THE SPECIFIC CONSENT OF INVACARE; PRODUCTS DAMAGED BY CIRCUMSTANCES BEYOND INVACARE'S CONTROL; PRODUCTS REPAIRED BY ANYONE OTHER THAN AN AUTHORIZED INVACARE DEALER, SUCH EVALUATION SHALL BE SOLELY DETERMINED BY INVACARE.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS WARRANTIES, IF ANY, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

IT SHALL NOT EXTEND BEYOND THE DURATION OF THE EXPRESSED WARRANTY PROVIDED HEREIN AND THE REMEDY FOR VIOLATIONS OF ANY IMPLIED WARRANTY SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT PURSUANT TO THE TERMS CONTAINED HEREIN. INVACARE SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES WHATSOEVER.

THIS WARRANTY SHALL BE EXTENDED TO COMPLY WITH STATE/PROVINCIAL LAWS AND REQUIREMENTS.



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