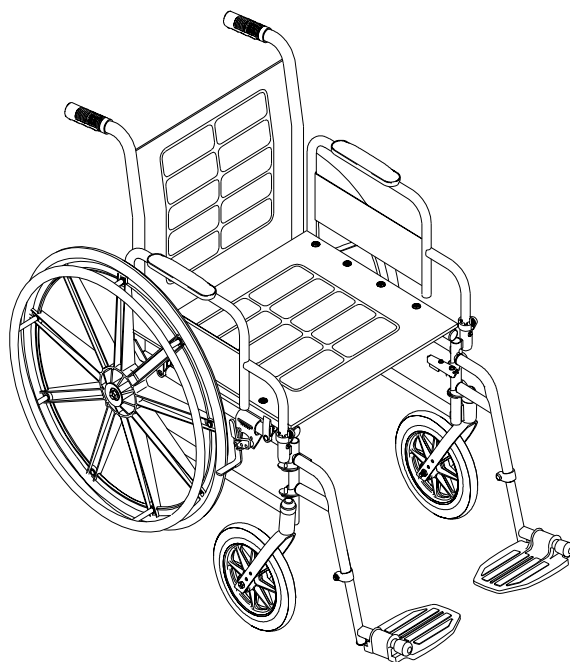


***Tracer<sup>®</sup> SX***  
***Tracer<sup>®</sup> SX Recliner***  
***Tracer<sup>®</sup> Titan***  
***Tracer<sup>®</sup> DLX***



**DEALER:** THIS MANUAL MUST BE GIVEN TO THE USER OF THE WHEELCHAIR.

**USER:** BEFORE USING THIS WHEELCHAIR, READ THIS MANUAL AND SAVE FOR FUTURE REFERENCE.



**Yes, you can.™**

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**WARNING**

**DO NOT OPERATE THIS EQUIPMENT WITHOUT FIRST READING AND UNDERSTANDING THIS MANUAL. IF YOU ARE UNABLE TO UNDERSTAND THE WARNINGS, CAUTIONS, AND INSTRUCTIONS, CONTACT A HEALTHCARE PROFESSIONAL, DEALER OR TECHNICAL PERSONNEL IF APPLICABLE BEFORE ATTEMPTING TO USE THIS EQUIPMENT - OTHERWISE INJURY OR DAMAGE MAY RESULT.**

**SAVE THESE INSTRUCTIONS**

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## SPECIAL NOTES

WARNING/CAUTION notices as used in this manual apply to hazards or unsafe practices which could result in personal injury or property damage.

### NOTICE

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

#### WHEELCHAIR USER

As a manufacturer of wheelchairs, Invacare endeavors to supply a wide variety of wheelchairs to meet many needs of the end user. However, final selection of the type of wheelchair to be used by an individual rests solely with the user and his/her healthcare professional capable of making such a selection.

#### WHEELCHAIR TIE-DOWN RESTRAINTS AND SEAT POSITIONING STRAPS

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 HEALTHCARE PROFESSIONALS TO DETERMINE IF A SEATPOSITIONING 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

## OPERATING INFORMATION

### WARNING

Unless otherwise noted, all service and adjustments should be performed while the wheelchair is unoccupied.

After ANY adjustments, repair or service and BEFORE use, make sure all attaching hardware is tightened securely - otherwise injury or damage may result.

To determine and establish your particular safety limits, practice bending, reaching and transferring activities in several combinations in the presence of a qualified health care professional BEFORE attempting active use of the wheelchair.

DO NOT attempt to reach objects if you have to move forward in the seat.

DO NOT attempt to reach objects if you have to pick them up from the floor by reaching down between your knees.

DO NOT lean over the top of the back upholstery to reach objects from behind as this may cause the wheelchair to tip over.

DO NOT shift your weight or sitting position toward the direction you are reaching as the wheelchair may tip over.

DO NOT tilt the wheelchair without assistance.

DO NOT use an escalator to move a wheelchair between floors. Serious bodily injury may occur.

DO NOT attempt to stop a moving wheelchair with the wheel locks. WHEEL LOCKS ARE NOT BRAKES.

Before attempting to transfer in or out of the wheelchair, every precaution should be taken to reduce the gap distance. Turn both casters toward the object you are transferring onto. When transferring to and from the wheelchair, ALWAYS ENGAGE BOTH WHEEL LOCKS.

DO NOT operate on roads, streets or highways.

DO NOT climb, go up or down ramps or traverse slopes greater than 9°.

DO NOT attempt to move up or down an incline with a water, ice or oil film.

DO NOT attempt to ride over curbs or obstacles. Doing so may cause your wheelchair to tip over and cause bodily harm or damage to the wheelchair.

DO NOT use unauthorized parts, accessories, or adapters other than those authorized by Invacare.

DO NOT attempt to lift a wheelchair by lifting on 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.

DO NOT stand on the frame of the wheelchair.

**NON-RECLINERS ONLY:** Anti-tippers MUST BE attached at all times. Inasmuch as the anti-tippers are an option on this wheelchair (You may order with or without the anti-tippers), Invacare strongly recommends ordering the anti-tippers as an additional safeguard for the wheelchair user.

Anti-tippers MUST be fully engaged. Ensure that the release button of the anti-tipper fully protrudes out of the hole on the bottom of the wheelchair frame.

Ensure both anti-tippers are adjusted to the same height.

When changing the seat-to-floor height, the height of the anti-tippers must be adjusted as well.

DO NOT use the footplate as a platform when getting in or out of the wheelchair.

**ALWAYS** wear your SEAT POSITIONING STRAP. Inasmuch as the SEAT POSITIONING STRAP is an option on this wheelchair (You may order with or without the SEAT POSITIONING STRAP), Invacare strongly recommends ordering the SEAT POSITIONING STRAP as an additional safeguard for the wheelchair user.

**SAFETY SUMMARY (CONTINUED)**

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**OPERATING INFORMATION**

**WARNING**

**TIRE PRESSURE**

DO NOT use your wheelchair unless it has the proper tire pressure (p.s.i.). DO NOT overinflate the tires. Failure to follow these suggestions may cause the tire to explode and cause bodily harm. Recommended tire pressure is listed on the side of the tire.

Replacement of a pneumatic tire or tube **MUST** be performed by a qualified technician.

**WEIGHT TRAINING**

Invacare **DOES NOT** recommend the use of its wheelchairs as a weight training apparatus. Invacare wheelchairs have **NOT** been designed or tested as a seat for any kind of weight training. If occupant uses said wheelchair as a weight training apparatus, Invacare shall **NOT** be liable for bodily injury and the warranty is void.

**WEIGHT LIMITATION**

The Tracer DLX / SX / SX RECLINER / TITAN wheelchairs have a weight limitation of 250 lbs.

**TRACER RECLINER ONLY:**

**WARNING**

**ALWAYS** make sure that the wheelchair is stable **BEFORE** using the recliner.

Anti-tippers **MUST BE** attached at all times.

**ALWAYS** engage both wheel locks while reclining or inclining (reverse recline) the wheelchair.

Make sure detent pin of the spreader bar is completely extended through the hole in the handle **BEFORE** using the wheelchair.

Make sure both back canes are at the same angle **BEFORE** releasing the handles of the recline mechanisms.

Mount the rear wheels in the Rear Wheel Offset Bracket **ONLY**. **NEVER** reposition the rear wheels to the forward position, stability of the wheelchair will decrease.

**TO HEALTHCARE PROFESSIONALS/ASSISTANTS:**

The Tracer SX Recliner wheelchair **MUST** be operated by a healthcare professional or assistant when in **ANY** reclined position.

Make sure the patient is properly positioned in the wheelchair before reclining or inclining (reverse recline) to maintain maximum stability and safety.

When returning the occupant of the wheelchair to the full upright position, more body strength will be required for approximately the last twenty (20) degrees of incline (reverse recline). Make sure to use proper body mechanics (use your legs) or seek assistance if necessary to avoid injury.

Assistants **MUST** be prepared to support the weight of the occupant when reclining, or returning the occupant of the wheelchair to the full upright position.

# SAFETY/HANDLING OF WHEELCHAIRS

“Safety and Handling” of the wheelchair requires the close attention of the wheelchair user as well as the assistant. This manual points out the most common procedures and techniques involved in the safe operation and maintenance of the wheelchair. It is important to practice and master these safe techniques until you are comfortable in maneuvering around the frequently encountered architectural barriers.

Use this information only as a “basic” guide. The techniques that are discussed on the following pages have been used successfully by many.

Individual wheelchair users often develop skills to deal with daily living activities that may differ from those described in this manual. Invacare recognizes and encourages each individual to try what works best for him/her in overcoming architectural obstacles that they may encounter, however ALL WARNINGS and CAUTIONS given in this manual MUST be followed. Techniques in this manual are a starting point for the new wheelchair user and assistant with “safety” as the most important consideration for all.

## STABILITY AND BALANCE

### WARNING

**ALWAYS** wear your seat positioning strap. Inasmuch as the SEAT POSITIONING STRAP is an option on this wheelchair (You may order with or without the Seat Positioning Strap), Invacare strongly recommends ordering the Seat Positioning Strap as an additional safeguard for the wheelchair user.

To assure stability and proper operation of your wheelchair, you must at all times maintain proper balance. Your wheelchair has been designed to remain upright and stable during normal daily activities as long as you do not move beyond the center of gravity.

Virtually all activities which involve movement in the wheelchair have an effect on the center of gravity. Invacare recommends using seat/chest positioning straps for additional safety while involved in activities that shift your weight.

DO NOT lean forward out of the wheelchair any further than the length of the armrests. Make sure the casters are pointing in the forward position whenever you lean forward. This can be achieved by advancing the wheelchair and then reversing it in a straight line.

## COPING WITH EVERYDAY OBSTACLES

Coping with the irritation of everyday obstacles can be alleviated somewhat by learning how to manage your wheelchair. Keep in mind your center of gravity to maintain stability and balance.

## A NOTE TO WHEELCHAIR ASSISTANTS

When assistance to the wheelchair user is required, remember to use good body mechanics. Keep your back straight and bend your knees whenever tipping the wheelchair or traversing curbs, or other impediments.

### WARNING

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.

Also, be aware of detachable parts such as armrests or legrests. These must NEVER be used for hand-held or lifting supports, as they may be inadvertently released, resulting in possible injury to the user and/or assistant(s).

When learning a new assistance technique, have an experienced assistant help you before attempting it alone.

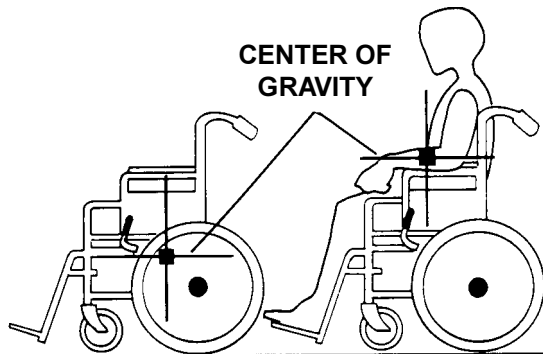
## PERCENTAGE OF WEIGHT DISTRIBUTION

### WARNING

DO NOT attempt to reach objects if you have to move forward in the seat or pick them up from the floor by reaching down between your knees.

Many activities require the wheelchair owner to reach, bend and transfer in and out of the wheelchair. These movements will cause a change to the normal balance, the center of gravity, and the weight distribution of the wheelchair. To determine and establish your particular safety limits, practice bending, reaching and transferring activities in several combinations in the presence of a qualified healthcare professional BEFORE attempting active use of the wheelchair.

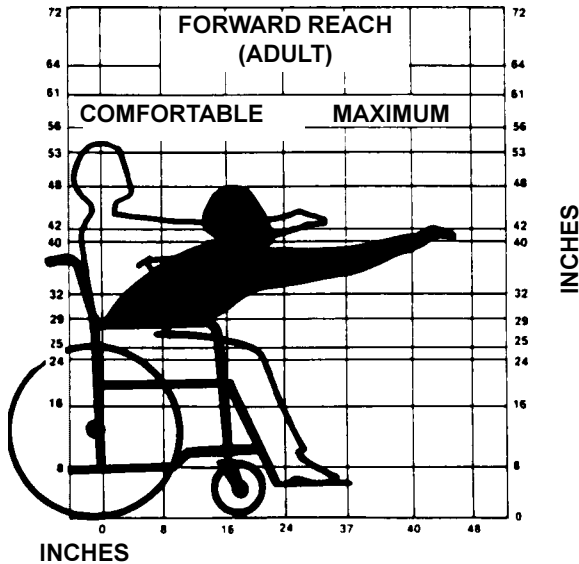
Proper positioning is essential for your safety. When reaching, leaning, or bending forward, it is important to use the front casters as a tool to maintain stability and balance.



Example	46%	54%	103 lbs.	130 lbs.
	<b>UNOCCUPIED</b>		<b>OCCUPIED</b>	

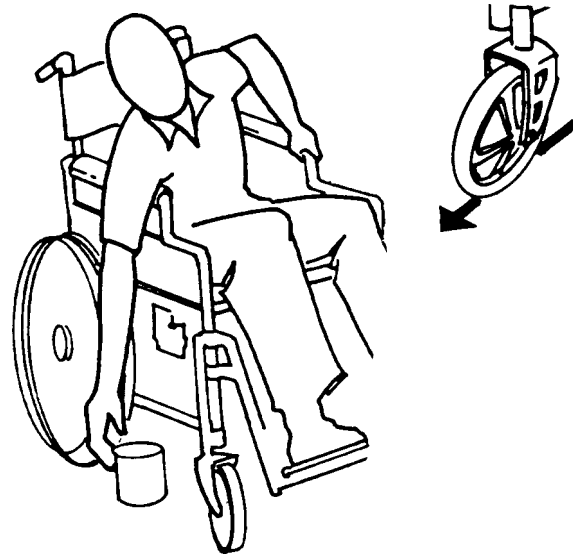
**FUNCTIONAL REACH FROM A WHEELCHAIR**

The approximate reach-limit values shown in the accompanying graph were derived on the basis of a sample of 91 male and 36 female wheelchair users. Note the difference between the maximum and the comfortable reach limits, a subjective but important consideration in design.



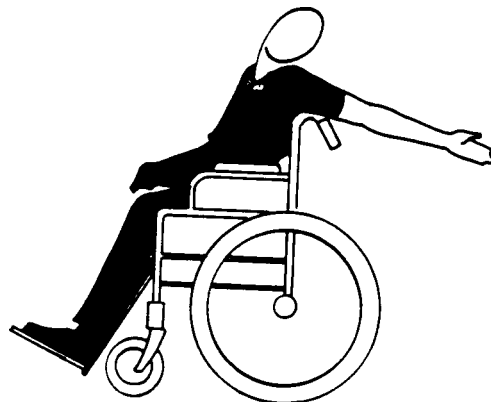
**REACHING, LEANING AND BENDING - FORWARD**

Position the front casters so that they are extended as far forward as possible and engage wheel locks. **DO NOT ATTEMPT TO REACH OBJECTS IF YOU HAVE TO MOVE FORWARD IN THE SEAT OR PICK THEM UP FROM THE FLOOR BY REACHING DOWN BETWEEN YOUR KNEES.**



**REACHING, LEANING - BACKWARDS**

**WARNING**  
**DO NOT** lean over the top of the back upholstery. This will change your center of gravity and may cause you to tip over.



Position wheelchair as close as possible to the desired object. Point front casters forward to create the longest possible wheelbase. Reach back only as far as your arm will extend without changing your sitting position.



**TIPPING****WARNING**

**DO NOT** tip the wheelchair without assistance.

When tipping the wheelchair, an assistant should grasp the back of the wheelchair on a non-removable (non-detachable) part. Inform the wheelchair occupant before tipping the wheelchair and remind him/her to lean back. Be sure the occupant's feet and hands are clear of all wheels.

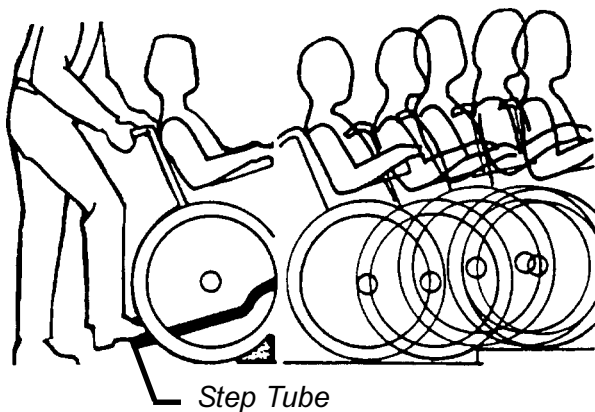
After mastering the techniques of tipping the wheelchair, use one (1) of the following methods to tackle curbs, short stairs, etc.

**Tipping - Curbs: Method 1 - Wheelchair with Step Tubes**

Apply a continuous downward motion until the balance point is achieved and the front casters clear the curb. At this point, the assistant will feel a difference in the weight distribution.

**WARNING**

When lowering the front casters of the wheelchair, **DO NOT** let the wheelchair drop the last few inches to the ground. This could result in injury to the occupant and/or damage to the wheelchair.



METHOD 1 - WHEELCHAIR WITH STEP TUBE

Roll the wheelchair forward and slowly lower the front of the wheelchair in one continuous movement onto the sidewalk. Do not let the wheelchair drop the last few inches to the ground. This could result in injury to the occupant. Push the wheelchair forward until the rear wheels roll up and over the curb.

**Tipping - Curbs: Method 1 - Wheelchair without Step Tubes**

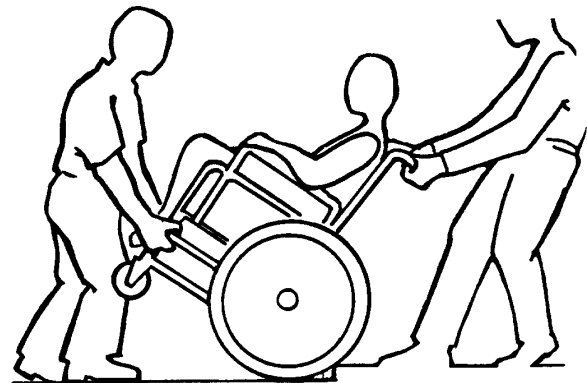
This method requires two (2) assistants. The second assistant should be positioned at the front of the wheelchair lifting upward on a non-removable (non-detachable) part of the wheelchair frame when lifting the wheelchair and stabilizing the wheelchair when the wheelchair is being lowered to the ground.

The first assistant should stand on the sidewalk and turn the wheelchair so that the rear wheels are against the curb. Turn the anti-tippers so the anti-tip wheels are pointing up. The wheelchair should be tilted back to the balance point and, in one continuous upward movement, the rear wheels should be pulled up and over the curb. **DO NOT** return the front casters to the ground until the wheelchair has been pulled backward far enough for the front casters to clear the edge of the curb.

**WARNING**

When lowering the front casters of the wheelchair, **DO NOT** let the wheelchair drop the last few inches to the ground. This could result in injury to the occupant and/or damage to the wheelchair.

Roll the wheelchair backward and **SLOWLY** lower the wheelchair in one continuous movement. **DO NOT** let the wheelchair drop the last few inches to the ground. This could result in injury to the occupant.



METHOD 2 - WHEELCHAIR WITHOUT STEP TUBE

**STAIRWAYS**

**WARNING**

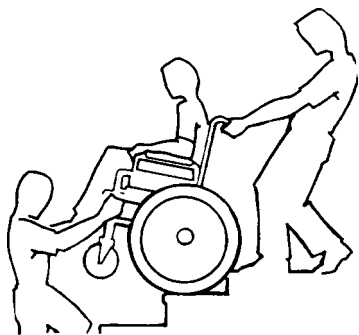
**ALWAYS** wear your seat positioning strap. Inasmuch as the SEAT POSITIONING STRAP is an option on this wheelchair (You may order with or without the Seat Positioning Strap), Invacare strongly recommends ordering the Seat Positioning Strap as an additional safeguard for the wheelchair user.

Do not attempt to lift a wheelchair by lifting on 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.

Extreme caution is advised when it is necessary to move an occupied wheelchair up or down the stairs. Invacare recommends using two (2) assistants and making thorough preparations. Make sure to use **ONLY** secure, non-detachable parts for hand-held supports.

**Follow this procedure for moving the wheelchair between floors when an elevator is NOT available:**

1. After the wheelchair has been tilted back to the balance point, one assistant (in the rear) backs the wheelchair up against the first step, while securely grasping a non-removable (non-detachable) part of the wheelchair for leverage.
2. The second assistant, with a firm hold on a non-detachable part of the framework, lifts the wheelchair up and over the stair and steadies the wheelchair as the first assistant places one (1) foot on the next stair and repeats **STEP 1**.
3. The wheelchair should not be lowered until the last stair has been negotiated and the wheelchair has been rolled away from the stairway.



**ESCALATORS? SORRY!**

**DO NOT** use an escalator to move a wheelchair between floors. Serious bodily injury may occur.

**TRANSFERRING TO AND FROM OTHER SEATS**

**WARNING**

**BEFORE** attempting to transfer in or out of the wheelchair, every precaution should be taken to reduce the gap distance. Turn both casters toward the object you are transferring onto. Also be certain the wheel locks are engaged to help prevent the wheels from moving.

**CAUTION**

When transferring, position yourself as far back as possible in the seat. This will help prevent broken screws, damaged upholstery and the possibility of the wheelchair tipping forward.

*NOTE: This activity may be performed independently provided you have adequate mobility and upper body strength.*



Position the wheelchair as close as possible along side the seat to which you are transferring, with the front casters pointing toward it. Engage wheel locks. Shift body weight into seat with transfer.

During independent transfer, little or no seat platform will be beneath you. Use a transfer board if at all possible.

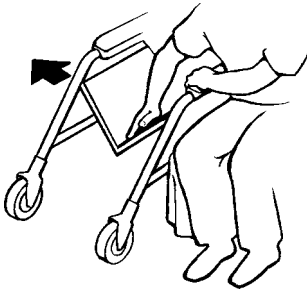
## FOLDING AND UNFOLDING THE WHEELCHAIR

### WARNING

Keep hands and fingers clear of moving parts to avoid injury.

### Opening

1. Open the wheelchair by grasping the push handle of the wheelchair closest to you.
2. Tilt the wheelchair towards you (**raising the opposite wheel and caster off the ground/floor**).
3. Push downward on the **TOP** of the seat rail closest to you where the seat upholstery is attached until the wheelchair is fully open.
4. Engage both wheel locks, open the footrest/legrest for clearance and transfer into the wheelchair. Refer to **TRANSFERRING TO AND FROM OTHER SEATS** in this section of the manual.

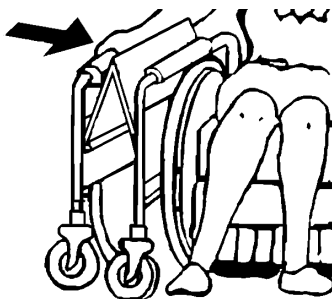


"HAMMOCK OR SLING SEAT" MODELS

### Closing

1. Swing footrest/legrest in locked position to the front of the wheelchair.
2. Pivot footplates upward to vertical position.
3. With both hands, grasp the middle of the seat upholstery at the front and back edge and lift up.

*NOTE: If wheelchair is equipped with carry straps, the wheelchair may be closed by pulling up on the straps.*



"HAMMOCK OR SLING SEAT" MODELS

### Recliner Models

#### FOLDING.

1. Push in detent pin on one side of spreader bar.
2. While holding spreader bar, pull out handle until the release pin is out of the handle of the back cane.
3. Drop the spreader bar to one side.
4. Lift up on the seat upholstery.
5. Lift up on the two (2) crossbraces.

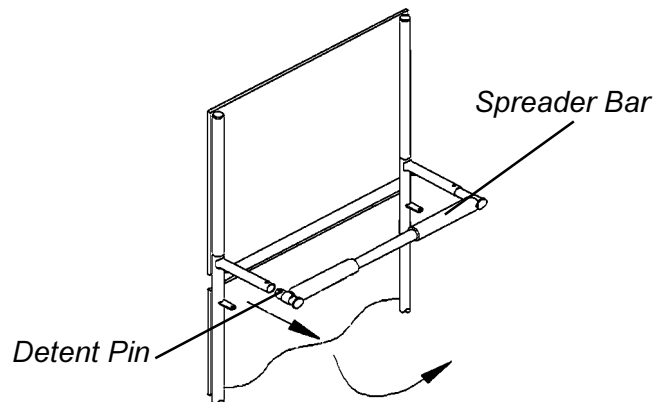
#### UNFOLDING.

1. Lift the wheelchair to one side.
2. Push down on the raised side of the wheelchair.

### WARNING

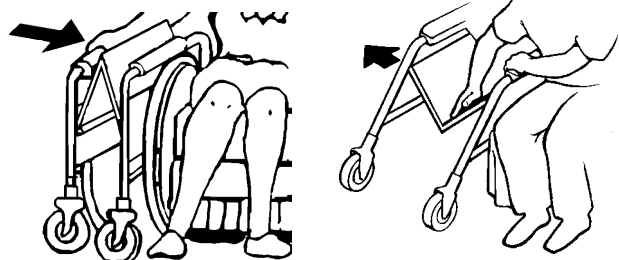
Make sure detent pin of the spreader bar is completely extended through the hole in the handle BEFORE using the wheelchair.

3. Push in detent pin on the handle of the spreader bar and insert into the handle of the back cane.
4. Engage both wheel locks, open the footrest/legrest for clearance and transfer into the wheelchair. Refer to **TRANSFERRING TO AND FROM OTHER SEATS** in this section of the manual.



#### FOLDING

#### UNFOLDING



RECLINER MODELS

**SPECIFICATIONS**

*NOTE: All specifications are approximate.*

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	<b>TITAN</b>	<b>TRACER SX</b>
<b>Overall Width:</b>	24-1/2 or 26-1/2-inches	22-1/2, 24-1/2, 26-1/2, 28-1/2, or 30-1/2-inches
<b>Overall Depth (w/o riggings) **: </b>	30-1/4-inches	30-1/4-inches
<b>Seat Width:</b>	16, 18 and 20-inches	14, 16, 18, 20 or 22-inches
<b>Seat Depth:</b>	16-inches	16 and 18-inches
<b>Seat-to-Floor **: </b>	Adult: 19-1/2-inches Hemi: 17-1/2-inches	Adult: 19-1/2-inches Hemi: 17-1/2-inches
<b>Back Height:</b>	15, 16, 17, 18, and 19-inches	16-inches (Fixed - Permanent)
<b>Arm Styles:</b>	Fixed - Desk / Full Length (Removable) Adjustable - Desk / Full Length (Removable)	Fixed, Desk/Full Length, Fixed/Adjustable Height
<b>Front Riggings:</b>	Swingaway and Removable Footrest and Elevating Legrest	Swingaway Footrests and Elevating Legrests
<b>Rear Axle:</b>	Permanent, 7/16-inch Diameter	Permanent (Standard) and Quick-Release
<b>Rear Wheels:</b>	20, 22 and 24-inch Composite; Urethane, Pneumatic or Pneumatic-Flat Free Insert - (24-inch Composite Urethane Standard)	20, 22 and 24-inch Composite; Urethane, Pneumatic or Pneumatic-Flat Free Insert - (24-inch Composite Urethane Standard)
<b>Handrims:</b>	Composite (Standard) and Chrome Plated Steel	Composite (Standard) and Chrome Plated Steel
<b>Wheel Locks:</b>	High Mount	High Mount
<b>Caster Size:</b>	6 x 1-inch Urethane, 8 x 1-1/4-inch Urethane (Standard), 8 x 1-1/4 Pneumatic or Pneumatic Flat Free Insert	6 x 1-inch Urethane, 8 x 1-inch Urethane (Standard), 8 x 1-inch Solid Rubber and 8 x 1-1/4-inch Pneumatic or Pneumatic-Flat Free Insert, 8 x 1-3/4-inch Semi Pneumatic
<b>Upholstery:</b>	Black Nylon	Expanded Vinyl, various colors
<b>Frame Colors:</b>	Chrome	Chrome
<b>Weight *:</b>	33 lbs.	35-1/2 lbs.
<b>Shipping Weight *:</b>	43 lbs.	45 lbs.

**SX RECLINER ONLY**

*NOTE: Information below is applies to the Tracer SX Recliner only. Refer to Tracer SX for complete specifications.*

<b>Overall Width</b>	<b>Overall Depth (w/o riggings)</b>	<b>Seat-to-Floor</b>	<b>Back Height</b>	<b>Rear Axle</b>	<b>Weight (approx.)*</b>	<b>Shipping Weight (approx.)*</b>
26-1/2-inches (for 18-inch width seat)	34-inches	Adult: 19-1/2-inches	23-inches (34-inches with Headrest)	Permanent	51 lbs.	61 lbs.

*\* Weights will vary depending on how wheelchair is equipped.*

*\*\* With 24-inch Rear Wheels*

# SPECIFICATIONS

NOTE: All specifications are approximate.

TRACER DLX	
<b>Overall Width:</b>	24-1/2 or 26-1/2-inches
<b>Overall Depth (w/o riggings) **::</b>	30-1/4-inches
<b>Seat Width:</b>	16 or 18-inches
<b>Seat Depth:</b>	16-inches
<b>Seat-to-Floor **::</b>	Adult: 19-1/2-inches Hemi: 17-1/2-inches
<b>Back Height:</b>	16-inches (Fixed - Permanent)
<b>Arm Styles:</b>	Fixed - Desk / Full Length Fixed/Adjustable Height
<b>Front Rigging:</b>	Swingaway and Elevating Legrest
<b>Rear Axle:</b>	Permanent (Standard) and Quick-Release
<b>Rear Wheels:</b>	20, 22 and 24-inch Composite; Urethane, Pneumatic or Pneumatic-Flat Free Insert - (24-inch Composite Urethane Standard)
<b>Handrims:</b>	Composite (Standard) and Chrome Plated Steel
<b>Wheel Locks:</b>	High Mount
<b>Caster Size:</b>	6 x 1-inch Urethane, 8 x 1-inch Solid Rubber (Standard) and 8 x 1-1/4-inch Pneumatic or Pneumatic-Flat Free Insert, 8 x 1-3/4-inch Semi Pneumatic
<b>Upholstery:</b>	Expanded Vinyl, various colors
<b>Frame Colors:</b>	Chrome
<b>Weight *:</b>	35-1/2 lbs.
<b>Shipping Weight *:</b>	45 lbs.

\* Weights will vary depending on how wheelchair is equipped.

\*\* With 24-inch Rear Wheels

# SAFETY INSPECTION CHECKLIST

*NOTE: Every six (6) months take your wheelchair to a qualified technician for a thorough inspection and servicing. Regular cleaning will reveal loose or worn parts and enhance the smooth operation of your wheelchair. To operate properly and safely, your wheelchair must be cared for just like any other vehicle. Routine maintenance will extend the life and efficiency of your wheelchair.*

Initial adjustments should be made to suit your personal body structure and preference. Thereafter follow these maintenance procedures:

ITEM	INITIALLY	INSPECT/ ADJUST WEEKLY	INSPECT/ ADJUST MONTHLY	INSPECT/ ADJUST PERIODICALLY
<b>GENERAL (TROUBLESHOOTING)</b> Wheelchair rolls straight (no excessive drag or pull to one side).	X			X
<b>FRAME AND CROSSBRACES</b> Inspect for loose or missing hardware. Inspect for bent frame or crossbraces.	X X			X X
<b>WHEEL LOCKS (PROCEDURE 6)</b> Do not interfere with tires when rolling. Pivot points free of wear and looseness. Wheel locks easy to engage.	X X X		X X	X
<b>RECLINER (PROCEDURE 8)</b> Inspect reclining mechanisms to ensure they are clean and work freely.	X			X
<b>SEAT AND BACK UPHOLSTERY (PROCEDURE 3)</b> Inspect for rips or sagging. Inspect for loose or broken hardware.	X X		X	X
<b>TIRES (PROCEDURES 4 and 5)</b> Inspect for flat spots and wear. If pneumatic tires, check for proper inflation. <b>CAUTION: As with any vehicle, the wheels and tires should be checked periodically for cracks and wear, and should be replaced.</b>	X X	X X		X
<b>REAR WHEELS (PROCEDURE 4)</b> No excessive side movement or binding when lifted and spun. If equipped, quick-release axles lock properly.	X X	X		X
<b>HANDRIMS (PROCEDURE 4)</b> Inspect for signs of rough edges or peeling.	X			X
<b>SPOKES</b> Inspect for cracked or broken spokes.	X	X		
<b>FRONT CASTER (PROCEDURE 5)</b> Inspect wheel/fork assembly for proper tension by spinning caster; caster should come to a gradual stop. Loosen/tighten locknut if wheel wobbles noticeably or binds to a stop. Wheel bearings are clean and free of moisture. <b>CAUTION: As with any vehicle, the wheels and tires should be checked periodically for cracks and wear, and should be replaced.</b>	X X X	X	X X	X X
<b>CLEANING</b> Clean upholstery and armrests.	X			X

# TROUBLESHOOTING

CHAIR VEERS RIGHT	CHAIR VEERS LEFT	SLUGGISH TURN OR PERFORMANCE	CASTERS FLUTTERS	SQUEAKS AND RATTLES	LOOSENESS IN CHAIR	CHAIR WHEELS	SOLUTIONS
X	X	X	X			X	If pneumatic, check tires for correct and equal pressure.
		X	X	X	X		Check for loose stem nuts and bolts.
X	X		X				Check that both casters contact the ground at the same time.

# MAINTENANCE

## MAINTENANCE SAFETY PRECAUTIONS

### WARNING

After ANY adjustments, repair or service and BEFORE use, make sure all attaching hardware is tightened securely - otherwise injury or damage may result.

### CAUTION

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

### WARNING

DO NOT use the wheelchair unless it has the proper tire pressure (p.s.i.). DO NOT overinflate the tires. Failure to follow these suggestions may cause the tire to explode and cause bodily harm. Recommended tire pressure is listed on the side wall of the tire.

## SUGGESTED MAINTENANCE PROCEDURES

1. Before using your wheelchair, make sure all nuts and bolts are tight. Check all parts for damage or wear and replace. Check all parts for proper adjustment.
2. Keep quick-release axles free of dirt and lint to ensure positive locking and proper operation. Refer to **ADJUSTING THE QUICK-RELEASE AXLE** in **PROCEDURE 4** of this manual.
3. If equipped, oil quick-release axles at least once (1) a month (3-in-1<sup>®</sup> oil or equivalent).

4. The wheels and tires should be checked periodically for cracks and wear, and should be replaced when necessary by your authorized dealer or by a qualified technician.
5. Periodically check handrims to ensure they are securely attached to the rear wheels. Refer to **REPLACING REAR WHEEL HANDRIM** in **PROCEDURE 4** of this manual.
6. Periodically adjust wheel locks in correlation to tire wear. Refer to **WHEEL LOCK ADJUSTMENT** in **PROCEDURE 6** of this manual.
7. Periodically check front caster and rear wheel hubs to make sure they are clean. Use a Teflon<sup>®</sup> lubricant if necessary.
8. Check Upholstery for sagging, rips or tears.

3-in-1 oil - Registered trademark of American Home Products Corporation.

Teflon - Registered trademark of E.I. Du Pont Nemours and Company.

**This Procedure includes the following:**  
 Swingaway Footrest Assembly Installation  
 Swingaway Footrest Height Adjustment  
 Heel Loop Replacement  
 Elevating Legrest Assembly Installation  
 Adjusting the Elevating Legrest Assembly

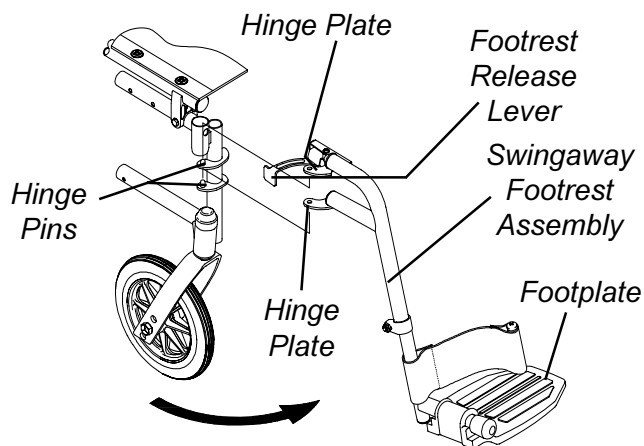
**WARNING**  
 After ANY adjustments, repair or service and BEFORE use, make sure all attaching hardware is tightened securely - otherwise injury or damage may result.

**SWINGAWAY FOOTREST ASSEMBLY INSTALLATION (FIGURE 1)**

1. Turn the swingaway footrest to the side (open footplate is perpendicular to wheelchair).
2. Place the hinge plates on the swingaway footrest onto the hinge pins on the wheelchair frame.
3. Push the swingaway 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 this procedure for the other footrest assembly.
5. To release the footrest, push the footrest release lever inward, rotate footrest outward.

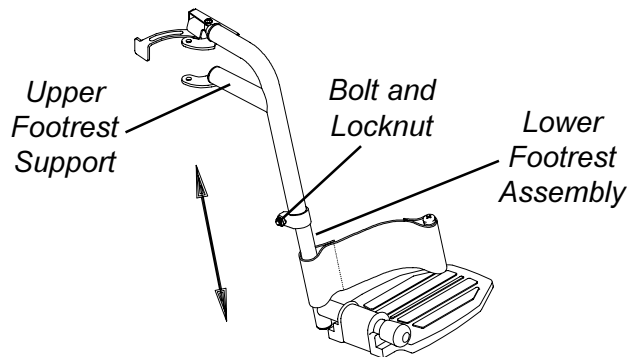


**FIGURE 1 - SWINGAWAY FOOTREST ASSEMBLY INSTALLATION**

**SWINGAWAY FOOTREST HEIGHT ADJUSTMENT (FIGURE 2)**

*NOTE: Release the footrest locking mechanism and lift the footrest off of the hinge pins. Lay the assembly on a flat surface to simplify this procedure.*

1. Loosen, but do not remove the bolt and locknut that secure the lower footrest assembly to the upper footrest support.
2. Reposition the lower footrest assembly to the desired height.
3. Securely tighten the bolt and locknut.
4. Repeat this procedure for the other footrest, if necessary.



**FIGURE 2 - SWINGAWAY FOOTREST HEIGHT ADJUSTMENT**

**HEEL LOOP REPLACEMENT (FIGURE 3)**

1. Loosen, but do not remove the bolt and locknut that secure the lower half of the footrest to the swingaway footrest assembly.
2. Remove the lower footrest assembly.
3. Remove the phillips screw, spacer and locknut that secure the heel loop to the footplate.
4. Remove heel loop from slide tube.
5. Replace heel loop.
6. Reverse **STEPS 1-5** to reassemble.

*NOTE: When securing the heel loop to the footrest assembly, tighten the phillips screw and locknut until the spacer is secure.*



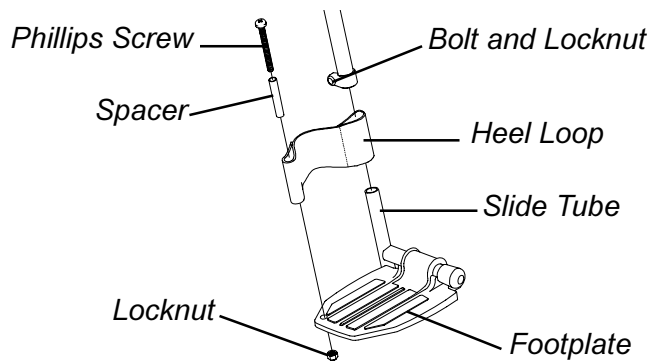


FIGURE 3 - HEEL LOOP REPLACEMENT

**ELEVATING LEGREST ASSEMBLY INSTALLATION (FIGURE 4)**

1. Place legrest assembly on the outside of the wheelchair and install the hinge plates onto the hinge pins on wheelchair frame (FIGURE 4).
2. Rotate legrest assembly toward the inside of the wheelchair until it locks in place (FIGURE 4).

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

3. Repeat this procedure for other legrest assembly.
4. After seated in wheelchair, adjust footrest to correct height by loosening the locknut and sliding the lower footrest assembly tube up or down until desired height is achieved.
5. Tighten locknut securely.

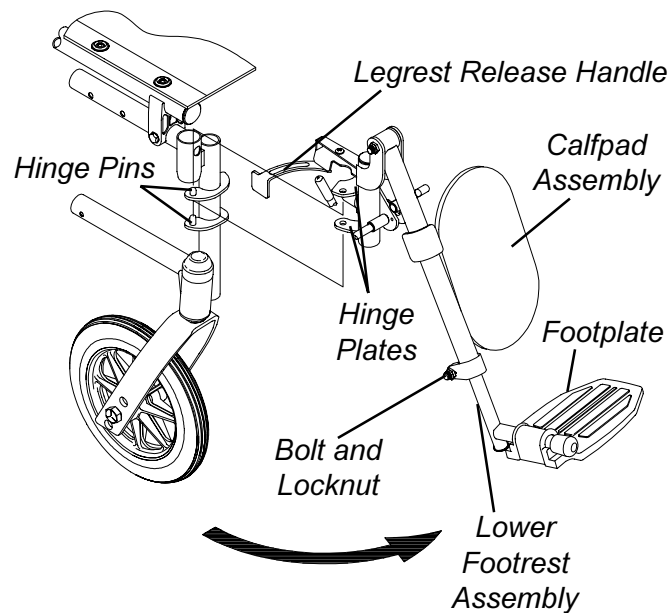


FIGURE 4 - ELEVATING LEGREST INSTALLATION

6. To release the legrest, push the legrest release handle toward the inside of the wheelchair (facing the front of the wheelchair) and swing the legrest assembly to the outside of the wheelchair.

**ADJUSTING THE ELEVATING LEGREST ASSEMBLY (FIGURE 5)**

1. To adjust the elevating legrest, raise legs until the desired height is obtained.
2. To reposition legrest to normal position, support leg with one (1) hand and push release lever downward with other hand.
3. To adjust the calfpad, turn pad towards the outside of the wheelchair.
4. Slide the calfpad up or down until the desired position is obtained.
5. To secure the calfpad, turn the calfpad towards the inside of the wheelchair.

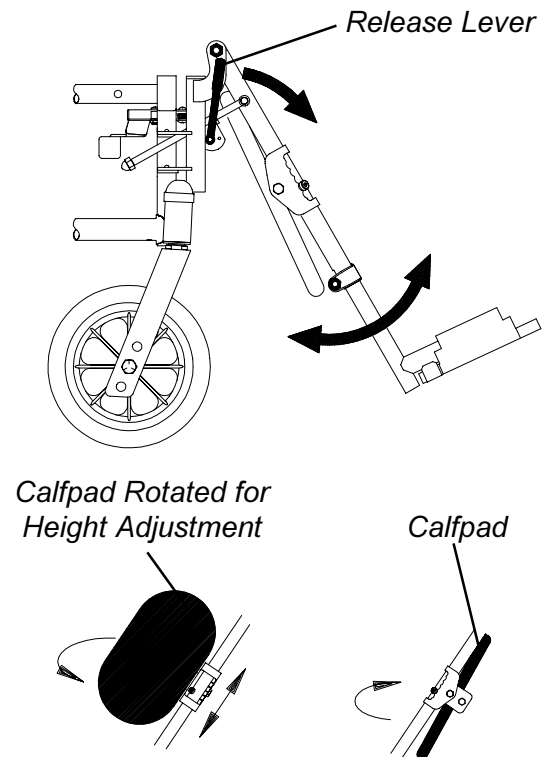


FIGURE 5 - ADJUSTING THE ELEVATING LEGREST ASSEMBLY

*This Procedure Includes the Following:*

**Adjusting Armrest Height - Adjustable Height Arms Only**

**Removing or Replacing Armrest**

**Using or Replacing Flip-back Armrest**

**WARNING**

After ANY adjustments, repair or service and BEFORE use, make sure all attaching hardware is tightened securely - otherwise injury or damage may result.

**ADJUSTING ARMREST HEIGHT - ADJUSTABLE HEIGHT ARMS ONLY**

**Wheelchairs Equipped With Height Adjustment Levers (FIGURE 1)**

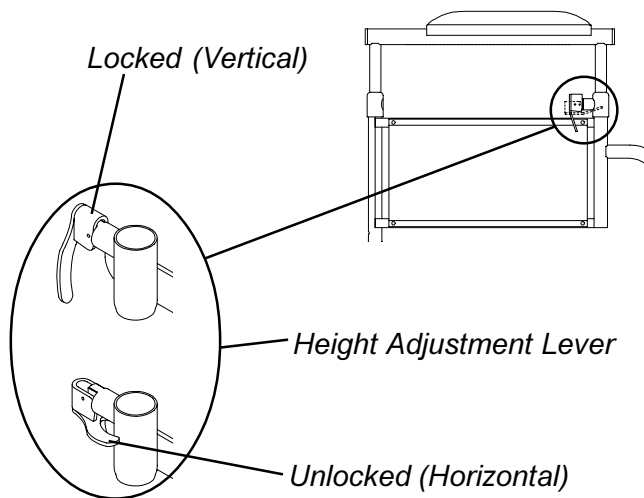
**WARNING**

Make sure the armrest is securely locked BEFORE using the wheelchair.

1. Unlock the armrest by flipping the height adjustment lever on the top front of the armrest to the **UP (HORIZONTAL)** position.
2. Adjust armrest to desired height.

*NOTE: Height adjustment lever MUST be in the unlocked position when placing armrest into the arm assembly.*

3. Lock the armrest by pressing the height adjustment lever into the **DOWN (VERTICAL)** position when the desired armrest height is achieved.



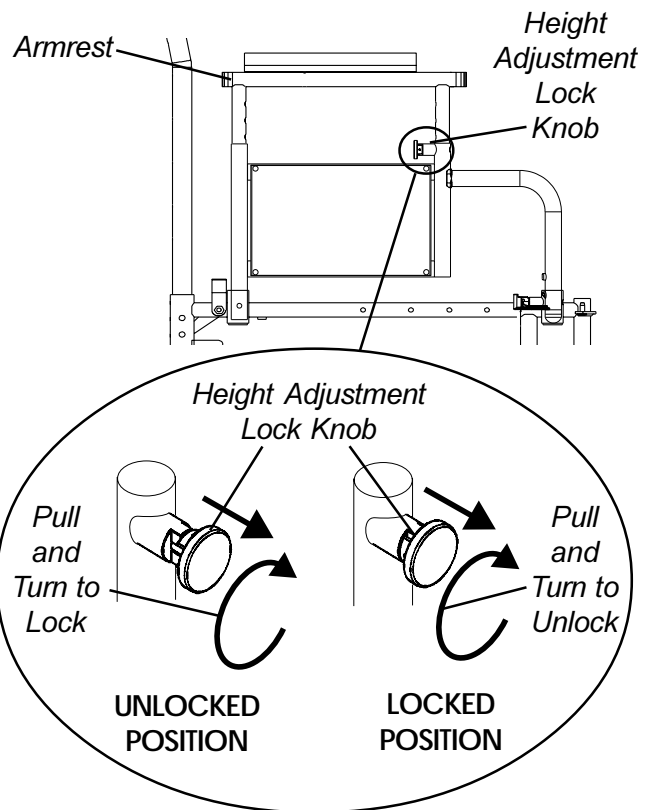
**FIGURE 1 - ADJUSTING ARMREST HEIGHT - ADJUSTABLE HEIGHT ARMS ONLY - WHEELCHAIRS EQUIPPED WITH HEIGHT ADJUSTMENT LEVERS**

**Wheelchairs Equipped With Height Adjustment Knobs (FIGURE 2)**

**WARNING**

Make sure the height adjustment knob is in the locked position before using the wheelchair.

1. Unlock the armrest by pulling the height adjustment knob on the front of the armrest and twisting it 1/4-turn into the **UNLOCKED** position (FIGURE 1).
2. Adjust armrest to one (1) of four (4) OR five (5) positions (depending on model type).
3. Lock the armrest by pulling the height adjustment knob on the rear of the armrest and twisting it 1/4-turn into the **LOCKED** position as in FIGURE 1.
4. Repeat STEPS 1-3 for other armrest.



**FIGURE 2 - ADJUSTING ARMREST HEIGHT - ADJUSTABLE HEIGHT ARMS ONLY - WHEELCHAIRS EQUIPPED WITH HEIGHT ADJUSTMENT KNOBS**

## REMOVING OR REPLACING ARMREST (FIGURE 2)

### WARNING

Make sure the armrest is securely locked BEFORE using the wheelchair.

1. Press in the armrest release button located on the armrest.
2. Remove the armrest from the arm sockets by pulling straight up.
3. Replace the armrest by reversing **STEPS 1-2**.

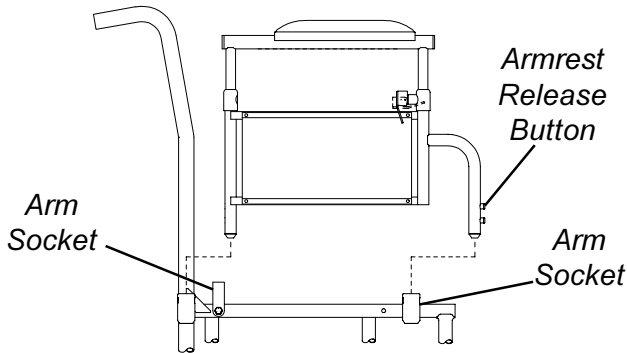


FIGURE 2 - REMOVING OR REPLACING ARMREST

## USING OR REPLACING FLIP-BACK ARMREST (FIGURE 3)

### WARNING

DO NOT operate or replace flip-back armrest when wheelchair is folded - otherwise injury or damage may result.

### Using

1. Press in armrest release button located on armrest front tube.
2. Rotate front of armrest UP, BACK and OUT of arm socket.
3. Reverse STEP 2 to replace armrest to DOWN position.
4. Ensure armrest is securely locked into arm socket and armrest release button locks into place BEFORE using.

### Replacing

1. Perform STEPS 1-2 above to flip the armrest back.
2. Remove hex head screw, washer, spacer and lock-nut securing the EXISTING armrest and insert to the wheelchair frame.
3. Remove the EXISTING armrest and insert from frame.
4. Position NEW insert into NEW rear armrest tube, aligning the mounting holes.
5. Insert the NEW hex head screw through the armrest mounting bracket, NEW washer, spacer and armrest rear tube with insert, as shown in FIGURE 3.

NOTE: Ensure the spacer sits flush against the armrest.

6. Install nut onto hex head screw. Torque to 55-60 in./lbs.
7. Rotate armrest DOWN and into the arm socket.
8. Ensure armrest is securely locked into arm socket and armrest release button locks into place BEFORE using.

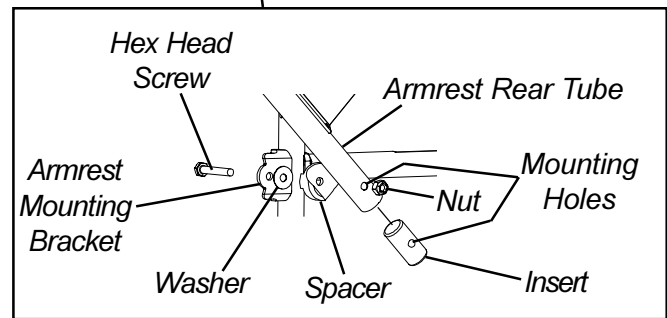
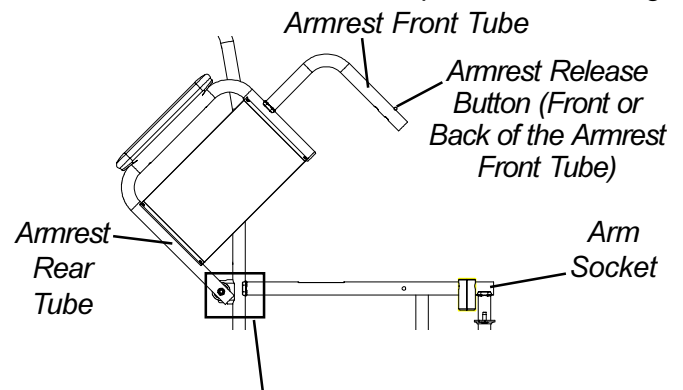


FIGURE 3 - USING OR REPLACING FLIP-BACK ARMREST

**This Procedure Includes the Following:**

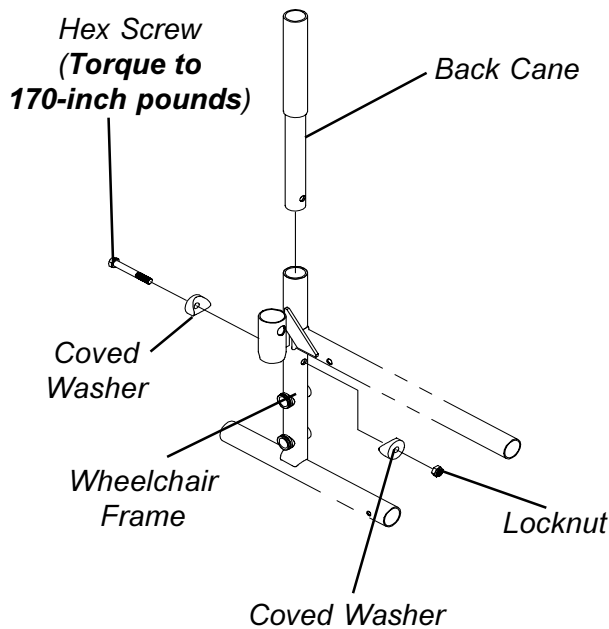
- Assembling The Back to the Wheelchair*
- Replacing the Slip-on Back Upholstery*
- Replacing the Screw-on Back Upholstery*
- Replacing Seat Upholstery*
- Adjusting Seat Depth*
- Adjusting Seat Width*

**WARNING**

After making adjustments, always make sure that parts are properly tightened **BEFORE** using the wheelchair.

**ASSEMBLING THE BACK CANE TO THE WHEELCHAIR (FIGURE 1)**

1. Remove the attaching hardware from the bottom of the back canes.
2. Insert the two (2) back canes into the two (2) mounting holes in the wheelchair frame.
3. Position the mounting hardware through the wheelchair frame and back canes as shown in **FIGURE 1**.
4. Securely tighten the attaching hardware. Torque to 170-inch pounds.



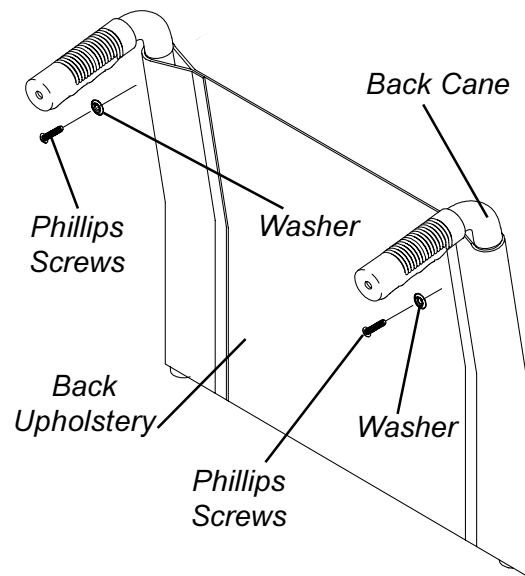
**FIGURE 1 - ASSEMBLING THE BACK CANE TO THE WHEELCHAIR**

**REPLACING THE SLIP-ON BACK UPHOLSTERY (FIGURE 2)**

1. Remove the two (2) phillips screws and washers that secure the existing back upholstery to the back canes.
2. Remove the screw, coved washers and locknut that secure one (1) back cane to the wheelchair frame.

*NOTE: It is necessary to remove only one (1) back cane to replace the back upholstery.*

3. Pull the loose back cane out of the existing back upholstery.
4. Pull the existing back upholstery up and over the mounted back cane.
5. Install the new back upholstery over the mounted back cane.
6. Slide the loose back cane through the new back upholstery.
7. Secure the back cane to the wheelchair frame with the hex screw, coved washers and locknut. Torque to 170-inch pounds.
8. Secure the new back upholstery to the back canes with the existing Phillips screws and washers.



**FIGURE 2 - REPLACING THE SLIP-ON BACK UPHOLSTERY**

**REPLACING SCREW-ON BACK UPHOLSTERY (FIGURE 3)**

1. Remove the phillips screws and washers that secure the existing back upholstery to the back canes.
2. Securely tighten the new back upholstery to the back canes with the phillips screws and washers.

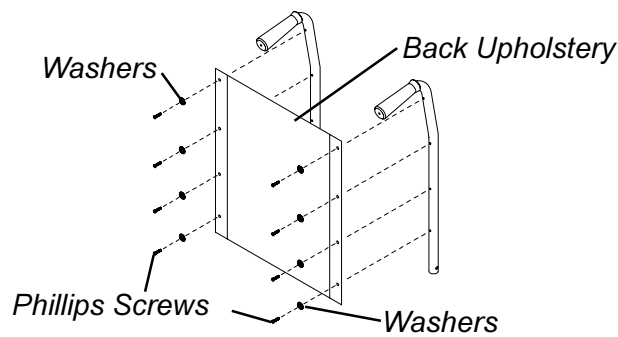


FIGURE 3 - REPLACING SCREW-ON BACK UPHOLSTERY

## REPLACING SEAT UPHOLSTERY (FIGURE 4)

1. Remove the eight (8) phillips screws and washers that secure the existing seat upholstery to the crossbraces.
2. Remove the existing seat upholstery from the crossbraces.
3. Ensure positioning of seat positioning strap (if used). Refer to **INSTALLING THE SEAT POSITIONING STRAP** in **PROCEDURE 9** of this manual.
4. Install new seat upholstery by reversing **STEPS 1-2**.

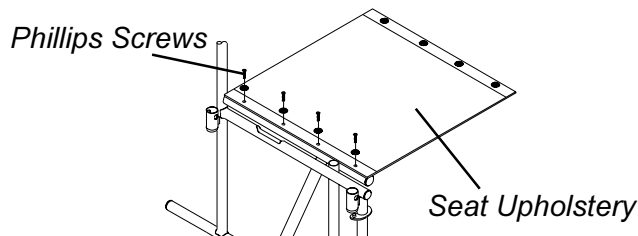


FIGURE 4 - REPLACING SEAT UPHOLSTERY

## ADJUSTING SEAT DEPTH (FIGURE 5)

1. Remove the existing seat upholstery from the wheelchair. Refer to **REPLACING THE SEAT UPHOLSTERY** in this section of the manual.

*NOTE: If adjusting the seat depth of the wheelchair, the seat upholstery MUST be changed as well.*

2. Remove the two (2) plug buttons from the ends of the crossbraces that are towards the front of the wheelchair.

*NOTE: The two (2) plug buttons will be used in the ends of the seat extensions.*

3. Install the two (2) seat extension tubes into the ends on the crossbraces. Line up the **second** mounting hole from the **rear** of the seat extension tube with the mounting hole in the crossbrace.
4. Install the two (2) seat extension spacers onto the two (2) seat extension tubes.

5. Install the new seat upholstery onto the wheelchair. Make sure to line up the mounting holes in the seat extension tubes and seat extension spacers with the new seat upholstery. Refer to **REPLACING THE SEAT UPHOLSTERY** in this section of the manual.
6. Install plug buttons into the ends of the seat extension spacers.

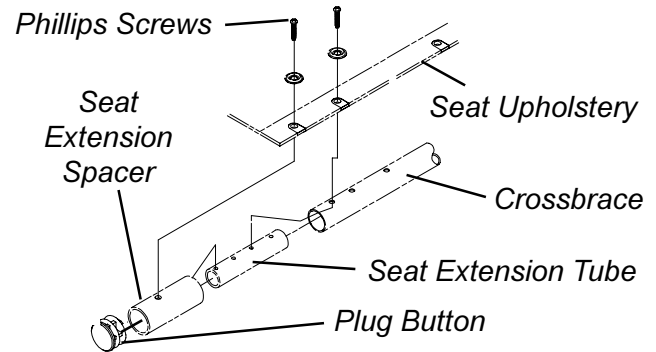


FIGURE 5 - ADJUSTING SEAT DEPTH

## ADJUSTING SEAT WIDTH (FIGURE 6)

### WARNING

Adjusting the seat width of the wheelchair **MUST** be performed by a qualified technician.

1. Remove the existing back and seat upholstery from the wheelchair. Refer to **REPLACING THE BACK UPHOLSTERY** and **REPLACING THE SEAT UPHOLSTERY** in this section of the manual.

*NOTE: If adjusting the seat width of the wheelchair, back and seat upholstery as well as the crossbraces MUST be replaced.*

2. Perform one (1) of the following:

### TRACER TITAN/SX/SX RECLINER/DLX (BUILT AFTER MARCH 13, 2000) -

- a. Remove the button head screws and locknuts that secure the two (2) pivot links to the cross-braces.
- b. Remove the four (4) phillips screws and locknuts that secure the insert tube to the lower wheelchair frame.
- c. Remove the inserts from the rear of the wheelchair.

*NOTE: If changing the seat width of the SX Recliner the spreader bar and headrest upholstery MUST be changed. The headrest pillow may need to be changed according to the chart below.*

### HEADREST PILLOW SEAT WIDTH RANGES

14-inches, 16-18-inches, 20-inches, or 22-inches

*NOTE: if the seat width required is within the range of the original headrest pillow, the original headrest pillow may still be used.*

**TRACER DLX (BUILT BEFORE MARCH 13, 2000) -**

*NOTE: There are no pivot links on the Tracer DLX.*

- a. Pull crossbrace assembly up and away from the main body of the wheelchair. Seat guides will stay attached to rear canes.
  - b. Remove upholstery screws.
  - c. Remove crossbraces from seat guides.
3. Remove the hardware that secures the two (2) existing crossbraces together (**FIGURE 6**).
  4. Perform one (1) of the following:

**TRACER TITAN/SX/SX RECLINER/DLX (BUILT AFTER MARCH 13, 2000) -**

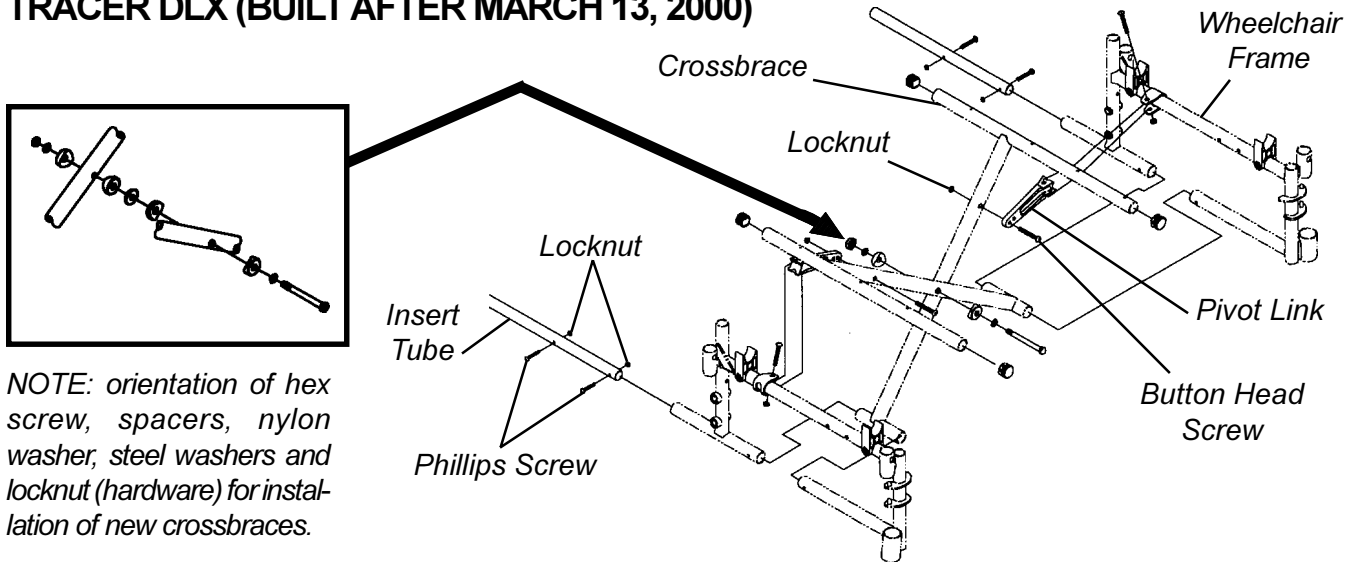
- a. Assemble the two (2) **NEW** crossbraces together. Refer to **FIGURE 6** for hardware orientation.

- b. Reinstall the button head screws and locknuts that secure the pivot links to the crossbraces.

**TRACER DLX (BUILT BEFORE MARCH 13, 2000) -**

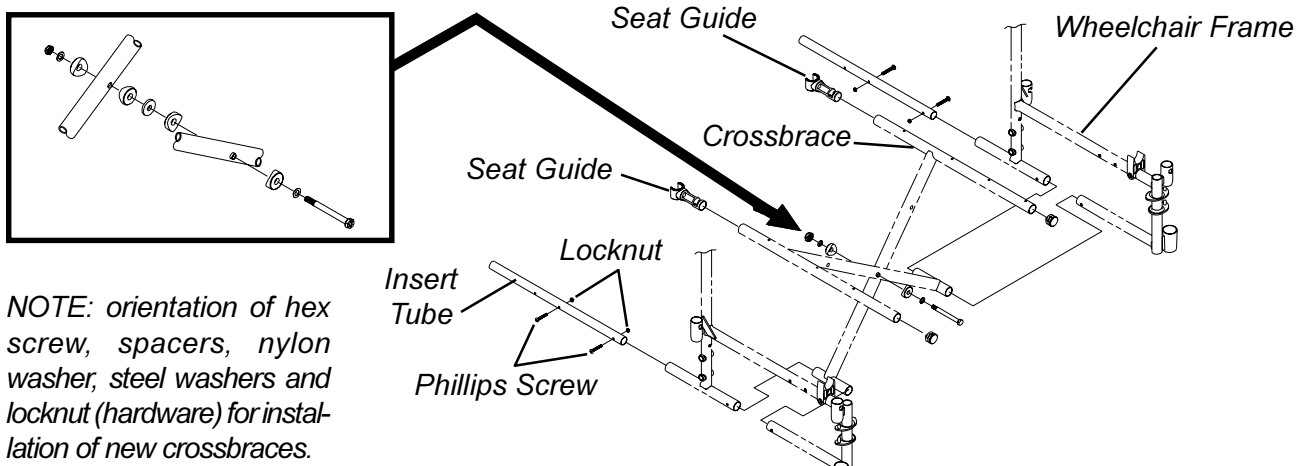
- a. Position the crossbraces onto the seat guide.
5. Slide insert tubes into the wheelchair frame.
  6. Align the holes in the insert tube with the holes in the wheelchair frame.
  7. Insert the phillips screws and tighten the locknuts securely.
  8. Install the **NEW** back and seat upholstery onto the wheelchair. Refer to **REPLACING THE BACK UPHOLSTERY** and **REPLACING THE SEAT UPHOLSTERY** in this section of the manual.

**TRACER TITAN, TRACER SX, TRACER SX RECLINER and TRACER DLX (BUILT AFTER MARCH 13, 2000)**



*NOTE: orientation of hex screw, spacers, nylon washer, steel washers and locknut (hardware) for installation of new crossbraces.*

**TRACER DLX (BUILT BEFORE MARCH 13, 2000)**



*NOTE: orientation of hex screw, spacers, nylon washer, steel washers and locknut (hardware) for installation of new crossbraces.*

**FIGURE 6 - ADJUSTING SEAT WIDTH**

**This Procedure Includes the Following:**

- Removing/Installing the Rear Wheels**
- Adjusting the Quick-Release Axle**
- Replacing Rear Wheel Handrim**
- Replacing/Repairing Rear Wheel Tire/Tube**

**WARNING**

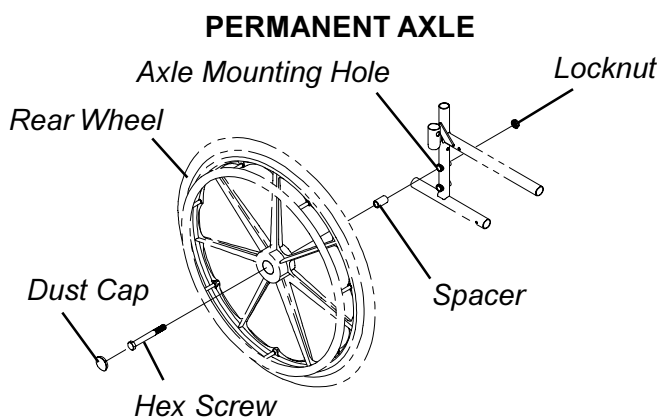
After ANY adjustments, repair or service and BEFORE use, make sure all attaching hardware is tightened securely - otherwise injury or damage may result.

### REMOVING/INSTALLING THE REAR WHEELS

*NOTE: Non-Recliner ONLY. For the SX RECLINER see REMOVING/INSTALLING THE REAR WHEELS in PROCEDURE 8 of this manual.*

#### Permanent Axles (FIGURE 1)

1. Remove the dust cap, hex screw, spacer and locknut that secure the rear wheel to the wheelchair.
2. Repeat **STEP 1** for the opposite rear wheel.
3. To reinstall the rear wheel(s) onto the wheelchair, reverse **STEPS 1-2**.
4. Adjust wheel locks. Refer to **WHEEL LOCK ADJUSTMENT** in **PROCEDURE 6** of this manual.



**FIGURE 1 - REMOVING/INSTALLING THE REAR WHEELS - PERMANENT AXLES**

#### Quick-Release Axles (FIGURE 2)

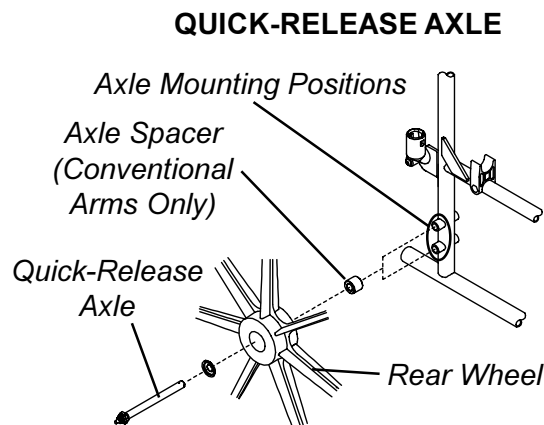
*NOTE: Quick Release Axles are available on Non-Recliner wheelchairs ONLY.*

1. Push in the tip of the quick-release axle (with wheel) and pull the axle out through the opening in the center of the rear wheel and axle spacer.
2. Push in the tip of the quick-release axle again and pull the axle out of the rear wheel.
3. Repeat **STEPS 1-2** for the opposite rear wheel.
4. To reinstall the rear wheel onto the wheelchair, reverse **STEPS 1-3**.

**WARNING**

Make sure the detent pin and locking pins of the quick-release axle are fully released BEFORE operating the wheelchair. The locking pins MUST be protruding past the inside of the rear wheel axle bushing for a positive lock. Keep locking pins clean. Invacare recommends inserting quick-release axles with the head end to the inside of the wheelchair to prevent accidental release during contact activities.

5. If the locking pins are not protruding past the inside of the axle bushing or there is too much movement of the rear wheel assembly in a back and forth position, refer to **ADJUSTING THE QUICK-RELEASE AXLE** in this section of the manual.

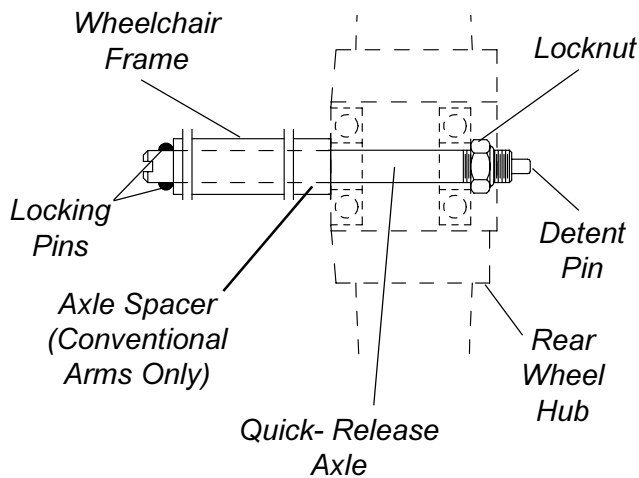


**FIGURE 2 - REMOVING/INSTALLING THE REAR WHEELS - QUICK-RELEASE AXLES**

**ADJUSTING THE QUICK-RELEASE AXLE (FIGURE 3)**

*NOTE: Quick Release Axles are available on Non-Recliner wheelchairs ONLY.*

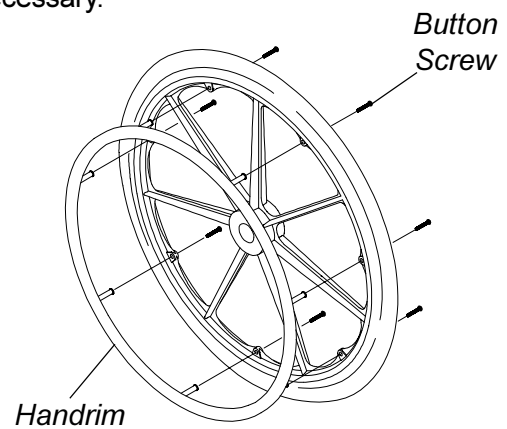
1. Remove rear wheel and quick-release axle from the wheelchair. Refer to **REMOVING/INSTALLING THE REAR WHEELS** in this section of the manual.
2. Depress detent pin in the quick-release axle and slide axle through the wheel hub.
3. Release detent pin ensuring that the locking pins are fully released.
4. Increase or decrease end play by adjusting the locknut on the end of the quick-release axle.
5. Reinstall rear wheel onto the wheelchair. Refer to **REMOVING/INSTALLING THE REAR WHEELS** in this section of the manual.



**FIGURE 3 - ADJUSTING THE QUICK-RELEASE AXLE**

**REPLACING REAR WHEEL HANDRIM (FIGURE 4)**

1. Remove the rear wheel from the wheelchair.
2. Remove the button screws and washers that secure the handrim to the rear wheel.
3. Remove the existing handrim.
4. Install the new handrim by reversing the above procedures.
5. Reinstall rear wheel to the wheelchair. Refer to **REMOVING/INSTALLING THE REAR WHEELS** in this section of the manual.
6. Repeat the procedure for the opposite rear wheel if necessary.



**FIGURE 4 - REPLACING REAR WHEEL HANDRIM**

**REPLACING/REPAIRING REAR WHEEL TIRE/TUBE**

<b>WARNING</b>
Replacement of rear wheel tire or tube <b>MUST</b> be performed by a qualified technician.
<b>CAUTION</b>
As with any vehicle, the wheels and tires should be checked periodically for cracks and wear, and should be replaced when necessary.

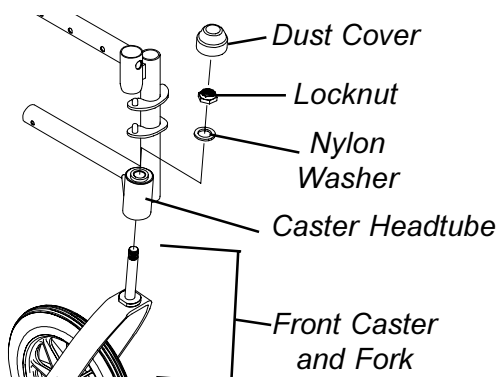


***This Procedure Includes the Following:***  
***Installing/Replacing Six or Eight-inch Front Casters and Forks***  
***Replacing/Repairing Front Caster Tire/Tube***  
***Front Caster Mounting Adjustments***

**WARNING**  
 After ANY adjustments, repair or service and BEFORE use, make sure all attaching hardware is tightened securely - otherwise injury or damage may result.

**INSTALLING/REPLACING SIX OR EIGHT-INCH FRONT CASTERS AND FORKS (FIGURE 1)**

1. Remove the dust cover.
2. Remove the locknut and nylon washer that secures the fork to the caster headtube.
3. Drop the front caster and fork out of the caster headtube.
4. Slide in the new front caster and fork.
5. Reassemble by reversing **STEPS 1-3**.
6. Repeat **STEPS 1-5** for the opposite front caster and fork .
7. To properly tighten caster journal system and guard against flutter, perform the following check:
  - a. Tip back of wheelchair to floor.
  - b. Pivot both forks and casters to top of their arc simultaneously.
  - c. Let casters drop to bottom of arc.
  - d. Adjust locknuts according to freedom of caster swing.
  - e. Repeat steps c-d until wheels swing once to one-side, then immediately rest in a downward position.



**FIGURE 1 - INSTALLING/REPLACING SIX OR EIGHT-INCH FRONT CASTERS AND FORKS**

8. Test wheelchair for maneuverability.
9. Readjust locknuts if necessary, and repeat **STEPS 7-8** until correct.
10. Snap dust cover over the locknut and stem.

**REPLACING/REPAIRING FRONT CASTER TIRE/TUBE**

**WARNING**  
 Replacement of front caster tire or tube **MUST** be performed by a qualified technician.

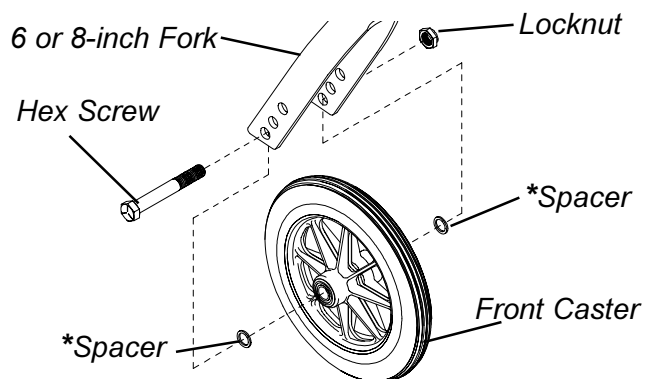
**CAUTION**  
 As with any vehicle, the wheels and tires should be checked periodically for cracks and wear, and should be replaced.

**FRONT CASTER MOUNTING ADJUSTMENTS (FIGURE 2)**

1. Remove the hex screw and locknut that secures the front caster to the fork.
2. Reposition the front caster on the fork to the determined mounting hole. Refer to **CHANGING SEAT-TO-FLOOR HEIGHT** in **PROCEDURE 7** of this manual to determine front caster mounting hole for caster size and seat-to-floor height.
3. Reinstall the spacers (**6-inch caster and fork ONLY**) and securely tighten with the existing hex screw and locknut.

**WARNING**  
 Make sure both front casters are positioned in the same mounting hole **BEFORE** using the wheelchair; otherwise injury can occur.

4. Repeat **STEPS 1-3** for the opposite front caster.



**\* Used with 6-inch Caster/Fork ONLY**

**FIGURE 2 - FRONT CASTER MOUNTING ADJUSTMENTS**

**This Procedure Includes the Following:**  
**Installing/Adjusting Anti-Tippers**  
**Wheel Lock Adjustment**

**WARNING**  
 After ANY adjustments, repair or service and BEFORE use, make sure all attaching hardware is tightened securely - otherwise injury or damage may result.

**INSTALLING/ADJUSTING THE ANTI-TIPPERS**

**WARNING**  
**NON-RECLINERS ONLY:** Inasmuch as the anti-tippers are an option on this wheelchair (You may order with or without the anti-tippers), Invacare strongly recommends ordering the anti-tippers as an additional safeguard for the wheelchair user.  
**RECLINERS ONLY:** Anti-tippers MUST BE attached at all times.  
 Anti-tippers MUST be fully engaged. Ensure that the release button of the anti-tipper fully protrudes out of the hole on the bottom of the wheelchair frame.  
 Ensure both anti-tippers are adjusted to the same height.

**Installing The Anti-tippers (FIGURES 1 & 2)**

*NOTE: To ensure the correct model anti-tipper is used refer to FIGURE 1. Measurements for NON-RECLINER anti-tippers are approximate and are taken with extension tube in TOP hole position. Measurements for RECLINER anti-tippers are approximate and are taken with extension tube in BOTTOM hole position.*

Chair	Anti-tipper Length	Anti-tipper Model
Tracer Titan, SX, DLX with 17 1/2 - 19 1/2 inch seat-to-floor height	12-inches	9758
Tracer Titan, SX, DLX with 15 1/2 - 17 1/2 inch seat-to-floor height	11 1/4-inches	9859
Chair	Anti-tipper Length	Anti-tipper Part Number
SX Recliner	13-1/2-inches	1088242

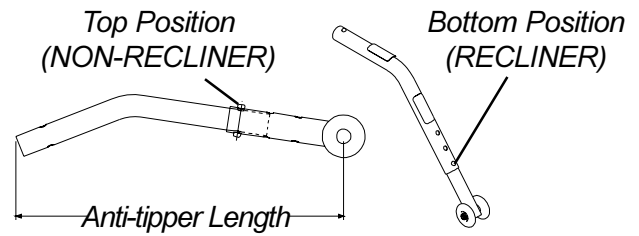


FIGURE 1 - ANTI-TIPPER LENGTH

1. Depress the release buttons and insert the anti-tippers with the anti-tipper wheels pointing toward the ground/floor into the wheelchair frame tubing as shown in FIGURE 2.
2. Ensure that the release button of the anti-tipper fully protrudes out of the hole in the bottom of the wheelchair frame tubing.
3. Adjust anti-tippers as necessary. Refer to **ADJUSTING THE ANTI-TIPPERS** in PROCEDURE 6 of this manual.

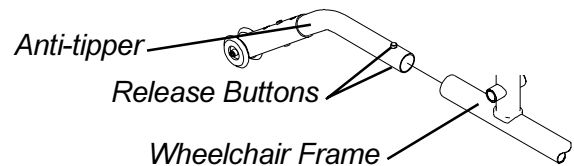


FIGURE 2 - INSTALLING THE ANTI-TIPPERS

**Adjusting The Anti-tippers (FIGURE 3)**

*NOTE: A 1-1/2 to 2-inch clearance between the bottom of the anti-tipper wheels and the ground/floor MUST be maintained at all times.*

1. Place wheelchair on a flat, level surface.
2. Press the release buttons near the wheeled portion of the anti-tipper and slide it up or down to achieve the 1-1/2 to 2-inch clearance (FIGURE 3).
3. Check to make sure that the release buttons are fully engaged in adjustment holes, and ensure both anti-tippers are adjusted to the same height.
4. Check to make sure that a 1-1/2 to 2-inch clearance between the bottom of the anti-tipper wheels and the ground/floor has been achieved BEFORE using the wheelchair.
5. Repeat **STEPS 1-3** until 1-1/2-2-inch clearance is achieved.

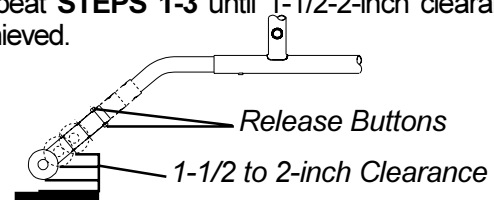


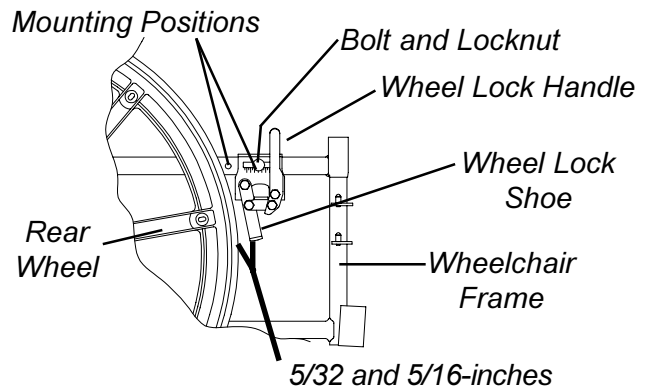
FIGURE 3 - ADJUSTING THE ANTI-TIPPERS

## WHEEL LOCK ADJUSTMENT (FIGURE 4)

*NOTE: Before adjusting or replacing the wheel lock assemblies, ensure that the tires are inflated to the recommended psi on the side wall of tire.*

1. Ensure the wheel lock is in the open (unlocked) position.
2. Loosen the bolt and locknut that secure the wheel lock assembly to the wheelchair frame.
3. Adjust the position of wheel lock until the measurement between the rear wheel and the wheel lock shoe is between 5/32 and 5/16-inches.
4. Securely tighten the bolt and locknut.
5. Engage wheel lock and push against the wheelchair and determine if wheel lock engages the wheel lock shoe enough to hold the wheelchair.
6. Repeat the above procedures until the wheel lock holds the wheelchair.
7. Repeat **STEPS 1-6** for the opposite wheel lock.

8. If 5/32 and 5/16-inches measurement can not be achieved, remove the bolt and locknut that secure the wheel lock to the wheelchair and mount the wheel lock in one (1) of two (2) mounting positions.
9. Repeat **STEPS 1-7** until the wheel lock holds the wheelchair.



**FIGURE 4 - WHEEL LOCK ADJUSTMENT**

**This Procedure Includes the Following:**  
**Changing Seat-To-Floor Height**

**WARNING**  
 After ANY adjustments, repair or service and BEFORE use, make sure all attaching hardware is tightened securely - otherwise injury or damage may result.

**CHANGING SEAT-TO-FLOOR HEIGHT (FIGURE 1 AND 2)**

**WARNING**  
 When changing the seat-to-floor height, the height of the anti-tippers must be adjusted as well.

*NOTE: Invacare recommends that the following procedure be performed by an authorized dealer or qualified technician.*

1. Remove the rear wheels from the wheelchair. (ADULT/HEMI FRAME STYLE): Refer to REMOVING/INSTALLING THE REAR WHEELS in PROCEDURE 4 (RECLINER FRAME STYLE): Refer to REMOVING/INSTALLING THE REAR WHEELS in PROCEDURE 8 of this manual.

2. Remove the front casters from the wheelchair. Refer to FRONT CASTER MOUNTING ADJUSTMENTS in PROCEDURE 5 of this manual.
3. Refer to the charts of front caster/fork and rear wheel sizes, to determine mounting positions for obtainable seat-to-floor heights (FIGURE 1 for ADULT/HEMI FRAME STYLE or FIGURE 2 for RECLINER FRAME STYLE).
4. Reinstall the front casters onto the wheelchair. Refer to FRONT CASTER MOUNTING ADJUSTMENTS in PROCEDURE 5 of this manual.
5. Reinstall the rear wheels onto the wheelchair. (ADULT/HEMI FRAME STYLE): Refer to REMOVING/INSTALLING THE REAR WHEELS in PROCEDURE 4 (RECLINER FRAME STYLE): Refer to REMOVING/INSTALLING THE REAR WHEELS in PROCEDURE 8 of this manual.
6. Adjust Anti-tippers according to NEW seat-to-floor height. Refer to ADJUSTING THE ANTI-TIPPERS in PROCEDURE 6 of this manual.

**ADULT/HEMI FRAME STYLE**

**\*6-INCH FRONT CASTERS**

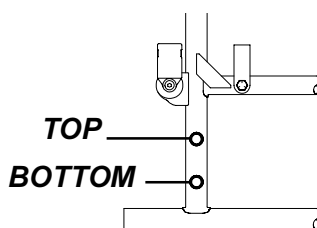
SEAT-TO-FLOOR HEIGHT (in inches)	FRONT CASTER MOUNTING POSITION	REAR WHEEL SIZE	REAR WHEEL MOUNTING POSITION
15-1/2	TOP	20-inch	TOP
16-1/2	MIDDLE	22-inch	TOP
17-1/2	BOTTOM	24-inch	TOP
17-1/2	BOTTOM	20-inch	BOTTOM

**\*8-INCH FRONT CASTERS**

SEAT-TO-FLOOR HEIGHT (in inches)	FRONT CASTER MOUNTING POSITION	REAR WHEEL SIZE	REAR WHEEL MOUNTING POSITION
17-1/2	TOP	20-inch	BOTTOM
17-1/2	TOP	24-inch	TOP
18-1/2	MIDDLE	22-inch	BOTTOM
19-1/2	BOTTOM	24-inch	BOTTOM

\* NOTE: 6-inch and 8-inch front casters require different forks.

**REAR WHEEL MOUNTING POSITIONS - ADULT/HEMI FRAME STYLE**



**6 OR 8-INCH FORK MOUNTING POSITIONS**

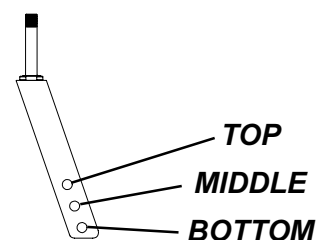


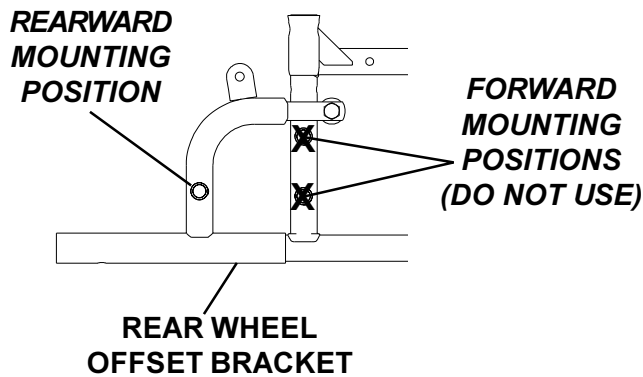
FIGURE 1 - CHANGING SEAT-TO-FLOOR HEIGHT - ADULT/HEMI FRAME STYLE

**WARNING**  
**TRACER SX RECLINER ONLY:** Mount the rear wheels in the Rear Wheel Offset Bracket **ONLY**. NEVER reposition the rear wheels to the forward position, stability of the wheelchair will decrease, and injury or damage may result.

**8-INCH FRONT CASTERS ONLY**

SEAT-TO-FLOOR HEIGHT (in inches)	FRONT CASTER MOUNTING POSITION	REAR WHEEL SIZE	REAR WHEEL MOUNTING POSITION
17-1/2	TOP	20-inch	N/A
18-1/2	MIDDLE	22-inch	N/A
19-1/2	BOTTOM	24-inch	N/A

**REAR WHEEL MOUNTING POSITION - TRACER SX RECLINER FRAME STYLE**



**8-INCH FORK MOUNTING POSITIONS**

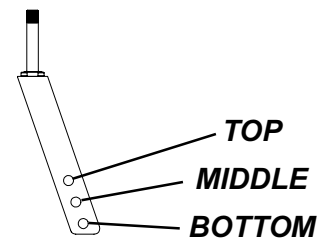


FIGURE 2 - CHANGING SEAT-TO-FLOOR HEIGHT - RECLINER FRAME STYLE

*This Procedure Includes the Following:*

- Recliner Operation*
- Replacing the Headrest Pillow*
- Replacing Headrest/Back Upholstery*
- Adjusting the Seat Depth*
- Storing/Replacing the Spreader Bar*
- Removing/Installing the Rear Wheels*

**WARNING**

After ANY adjustments, repair or service and BEFORE use, make sure all attaching hardware is tightened securely - otherwise injury or damage may result.

**RECLINER OPERATION (FIGURE 1)**

**WARNING**

ALWAYS make sure that the wheelchair is stable BEFORE using the recliner.

ALWAYS wear your Seat Positioning Strap. Inasmuch as the SEAT POSITIONING STRAP is an option on this wheelchair (You may order with or without the Seat Positioning Strap), Invacare strongly recommends ordering the Seat Positioning Strap as an additional safeguard for the wheelchair user.

Anti-tippers MUST BE attached at all times.

Anti-tippers MUST be fully engaged. Ensure that the release button of the anti-tipper fully protrudes out of the hole on the bottom of the wheelchair frame.

Ensure both anti-tippers are adjusted to the same height.

ALWAYS engage both wheel locks while reclining or inclining (reverse recline) the wheelchair.

Ensure the spreader bar is attached and secured BEFORE using the Tracer SX Recliner.

Make sure both back canes are at the same angle BEFORE releasing the handles of the recline mechanisms.

Mount the rear wheels in the Rear Wheel Offset Bracket ONLY. NEVER reposition the rear wheels to the forward position, stability of the wheelchair will decrease, and injury or damage may result.

**WARNING (CONTINUED)**

**TO HEALTHCARE PROFESSIONALS/ASSISTANTS:**

Make sure the patient is properly positioned in the wheelchair before reclining or inclining (reverse recline) to maintain maximum stability and safety.

When returning the occupant of the wheelchair to the full upright position, more body strength will be required for approximately the last twenty (20) degrees of incline (reverse recline). Make sure to use proper body mechanics (use your legs) or seek assistance if necessary to avoid injury.

Assistants MUST be prepared to support the weight of the occupant when reclining, or returning the wheelchair back to the full upright position, otherwise injury may occur.

1. Unfold wheelchair. Refer to **SAFETY/HANDLING** section of this manual.
2. Attach spreader bar. Refer to **STORING/REPLACING THE SPREADER BAR** in this procedure of the manual.
3. Inform the occupant of the wheelchair that the wheelchair is about to be reclined.
4. Make sure wheelchair is occupied and on a level surface before reclining.
5. Stand behind the wheelchair and grasp both handles firmly.
6. Lifting up on handles, squeeze release levers.
7. SLOWLY, pull back on the back assembly while squeezing the release levers.
8. When the back reaches the desired angle, SLOWLY let go of the release levers.
9. To return the back to the full upright position, reverse the **STEPS 6-9** keeping in mind proper body mechanics.

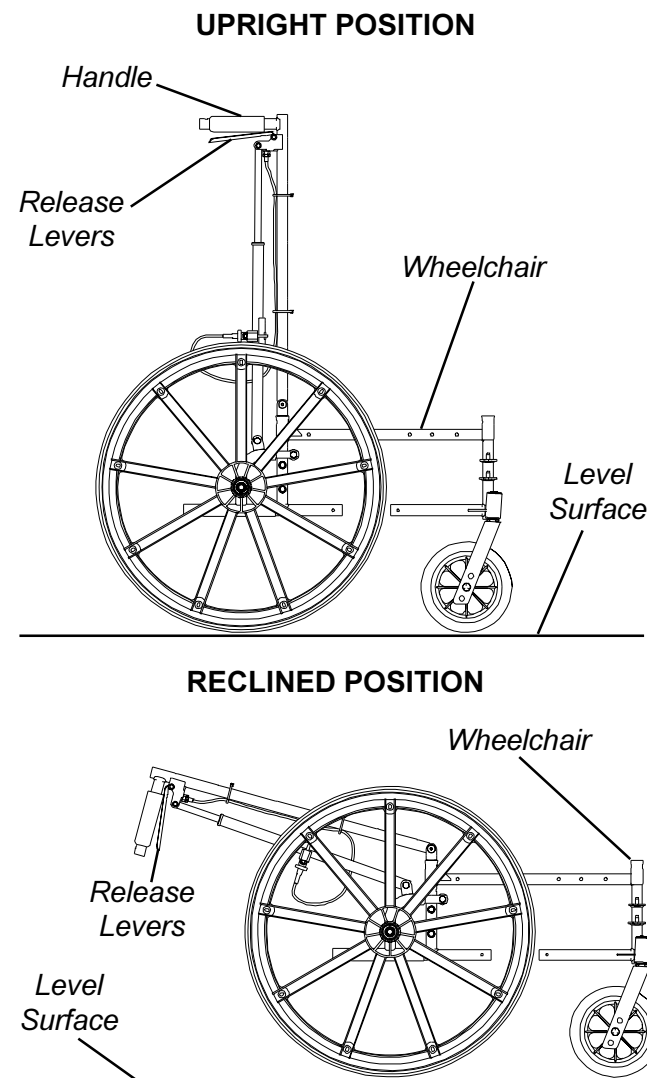


FIGURE 1 - RECLINE OPERATION

### REPLACING THE HEADREST PILLOW (FIGURE 2)

1. Unfasten straps of headrest pillow from behind headrest upholstery and remove the existing headrest pillow from headrest.
2. Center new/existing headrest pillow onto the front of the headrest upholstery.
3. Pull straps of new/existing headrest pillow around the back canes.
4. Pressing firmly, attach the fastening strips of the new/existing headrest pillow to the fastening strips on the back of the headrest upholstery.

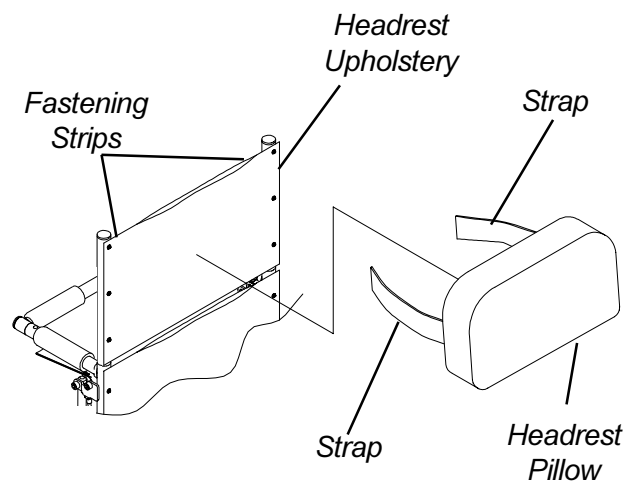


FIGURE 2 - REPLACING THE HEADREST PILLOW

### REPLACING THE HEADREST/BACK UPHOLSTERY

#### Headrest Upholstery (FIGURE 3)

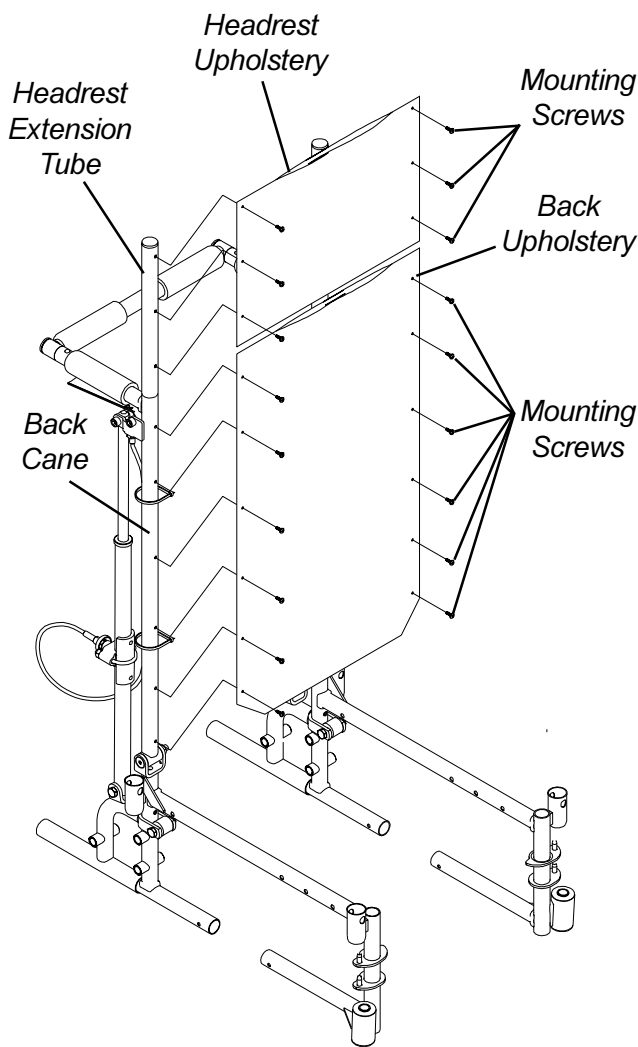
1. Remove the headrest pillow. Refer to **REPLACING THE HEADREST PILLOW** in this procedure of the manual.
2. Remove the six (6) mounting screws that secure the headrest upholstery to the headrest extension tubes.
3. Secure **NEW** headrest upholstery onto headrest extension tubes with the existing six (6) mounting screws.
4. Install headrest pillow. Refer to **REPLACING THE HEADREST PILLOW** in this procedure of the manual.

#### Back Upholstery (FIGURE 3)

1. Disengage one (1) side of the spreader bar. Refer to **REMOVING/INSTALLING THE SPREADER BAR** in this procedure of the manual.

*NOTE: To remove and install the bottom two (2) mounting screws of the back upholstery the wheelchair must be partially folded. Refer to **FOLDING AND UNFOLDING THE WHEELCHAIR** in the **SAFETY/HANDLING** section of this manual.*

2. Remove the twelve (12) mounting screws that secure the back upholstery to the back canes.
3. Secure new back upholstery to back canes with the existing twelve (12) mounting screws. Securely tighten.
4. Reengage spreader bar. Refer to **REMOVING/INSTALLING THE SPREADER BAR** in this procedure of the manual.



**FIGURE 3 - REPLACING THE HEADREST/BACK UPHOLSTERY**

**REMOVING/INSTALLING THE SPREADER BAR (FIGURE 4)**

**WARNING**

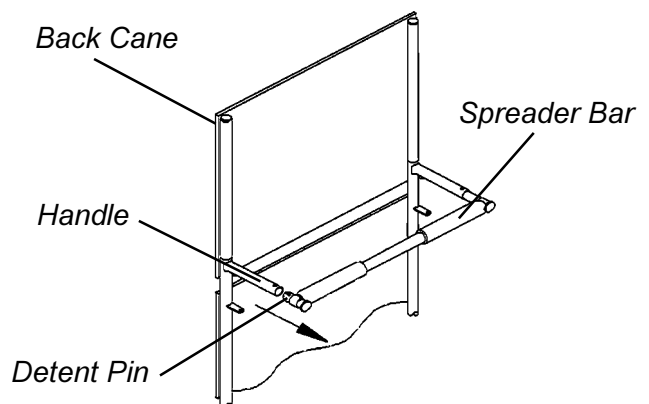
Make sure detent pin of the spreader bar is completely extended through the hole in the handle **BEFORE** using the wheelchair.

**Removing**

1. Push in detent pin on one side of existing spreader bar.
2. While holding existing spreader bar, pull handle until the release pin is out of the handle of the back cane.
3. Drop the spreader bar to one side.
4. Repeat **STEPS 1-3** on opposite end of spreader bar.

**Installing**

1. Push in detent pin on the handle of the new/existing spreader bar.
2. Insert new/existing spreader bar into the handle of the back cane.
3. Repeat **STEPS 1-2** on opposite end of spreader bar.



**FIGURE 4 - STORING/REPLACING THE SPREADER BAR**



**REMOVING/INSTALLING THE REAR WHEELS (FIGURE 5)**

**WARNING**  
 TRACER SX RECLINER ONLY: Mount the rear wheels in the Rear Wheel Offset Bracket ONLY. NEVER reposition the rear wheels to the forward position, stability of the wheelchair will decrease, and injury or damage may result.

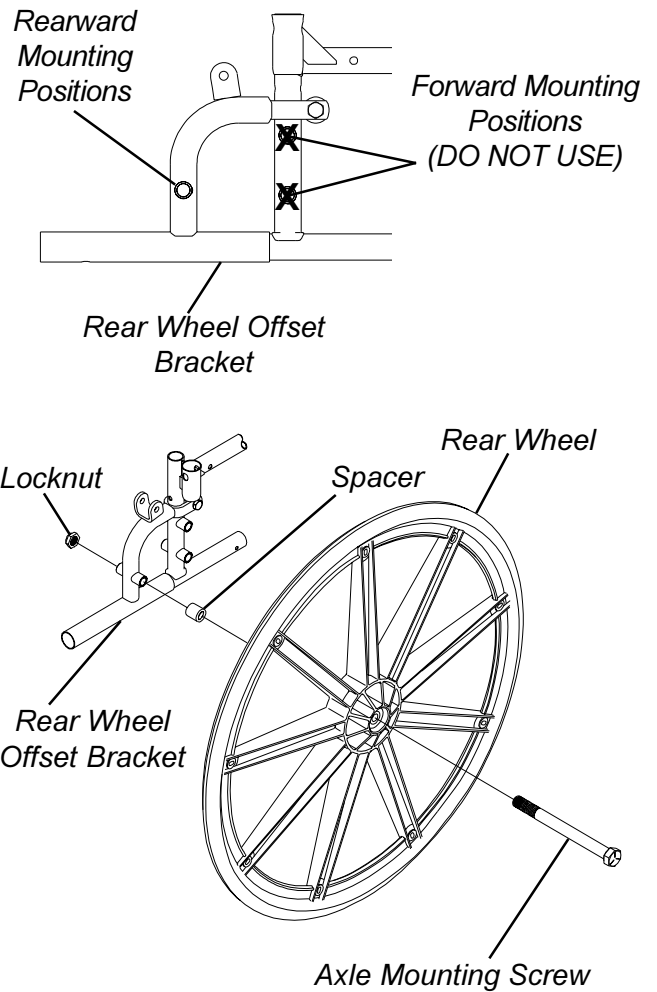
*NOTE: If changing rear wheel size refer to **CHANGING SEAT TO FLOOR HEIGHT** in **PROCEDURE 8** of this manual BEFORE performing this procedure.*

**Removing**

1. Note mounting position of EXISTING rear wheel.
2. Remove the axle mounting screw and locknut that secure the **EXISTING** rear wheel and spacer to the wheel offset bracket.
3. Remove the **EXISTING** rear wheel from wheel offset bracket.

**Installing**

1. Secure the new/existing rear wheel and spacer to wheel offset bracket with axle mounting screw and locknut. Securely tighten.



**FIGURE 5 - REMOVING/INSTALLING THE REAR WHEELS**

RECLINER

**This Procedure Includes the Following:**

*Installing the Amputee Bracket*

*Installing the Seat Positioning Strap*

*Installing the Crutch and Cane Carrier*

*Installing the Telescoping I.V. Rod*

*NOTE: The procedures in this section of the manual apply to NON-RECLINER wheelchairs, EXCEPT Installing the Seat Positioning Strap.*

**WARNING**

After ANY adjustments, repair or service and BEFORE use, make sure all attaching hardware is tightened securely - otherwise injury or damage may result.

**INSTALLING THE AMPUTEE BRACKET (FIGURE 1)**

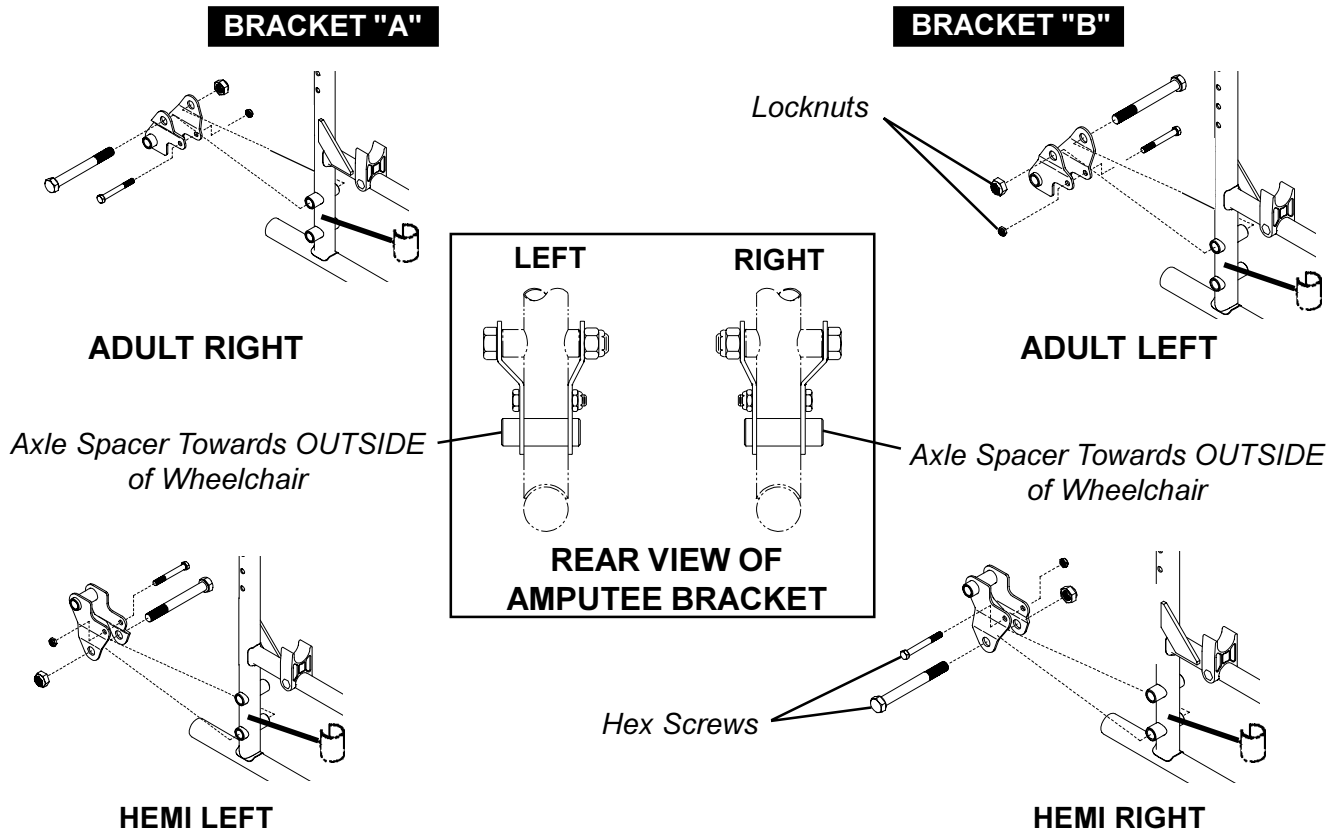
1. Refer to the following chart or **FIGURE 1** to determine the mounting position of the amputee bracket:
2. Install the amputee bracket on the wheelchair frame to the position determined in **STEP 1**.

*NOTE: Make sure the axle spacer is pointing towards the outside of the wheelchair.*

3. Install the two (2) hex screws and locknuts that secure the amputee bracket to the wheelchair.
4. Install the rear wheels onto the wheelchair. Refer to **REMOVING/INSTALLING THE REAR WHEELS** in **PROCEDURE 9** of this manual.

SEAT-TO-FLOOR	*BRACKET	AXLE SPACER POSITION (on bracket)	SIDE OF WHEELCHAIR	AXLE MOUNTING POSITION (on wheelchair)
ADULT	A	DOWN	RIGHT	TOP
ADULT	B	DOWN	LEFT	TOP
HEMI	B	UP	RIGHT	BOTTOM
HEMI	A	UP	LEFT	BOTTOM

*\*"A" and "B" are stamped on the sides of the amputee bracket.*



**FIGURE 1 - INSTALLING THE AMPUTEE BRACKET**

## INSTALLING THE SEAT POSITIONING STRAP (FIGURE 2)

### WARNING

**ALWAYS** wear your SEAT POSITIONING STRAP. Inasmuch as the SEAT POSITIONING STRAP is an option on this wheelchair (You may order with or without the SEAT POSITIONING STRAP), Invacare strongly recommends ordering the SEAT POSITIONING STRAP as an additional safeguard for the wheelchair user.

1. Remove the rear seat upholstery screw from the wheelchair.
2. Position one seat positioning strap half between the seat rail and seat upholstery.
3. Secure the seat upholstery and seat positioning strap to the wheelchair with the existing seat upholstery screw.
4. Repeat **STEPS 1-3** for the opposite side of the wheelchair.

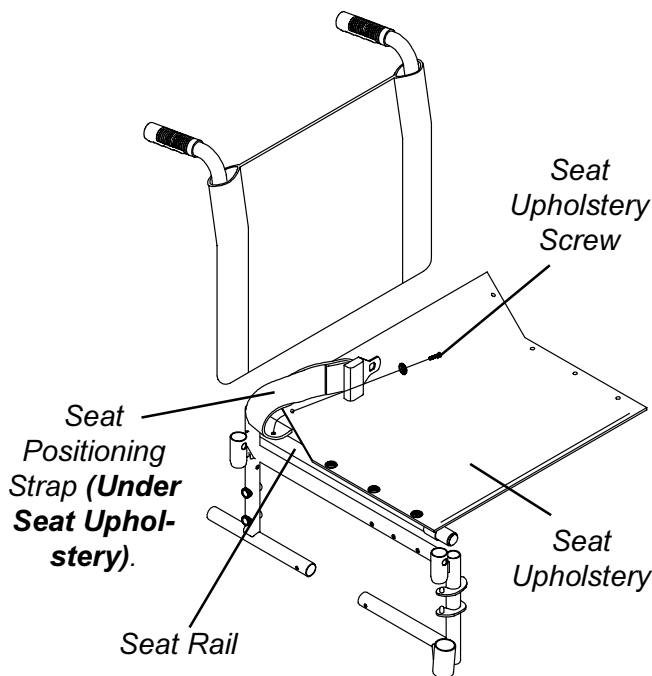


FIGURE 2 - INSTALLING THE SEAT POSITIONING STRAP

## INSTALLING THE CRUTCH AND CANE CARRIER (FIGURE 3)

### Safety and Maintenance

1. Check base weekly to secure proper placement.
2. Securely fasten strap while carrying items.
3. Never insert or remove items while wheelchair is moving.
4. Base should be parallel to step tube to avoid bending spokes when folding the wheelchair.

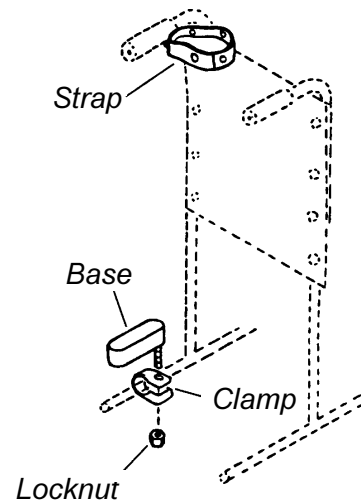


FIGURE 3 - INSTALLING THE CRUTCH AND CANE CARRIER

5. The base cleans easily with any chrome or glass cleaner. The strap can be cleaned with mild soap and water.

### Installing

1. Slide the clamp with the base attached over the end of the step tube of the wheelchair.
2. Position the base parallel to the step tube.
3. Securely tighten the locknut that secures the base to the step tube of the wheelchair.
4. Remove the upper back upholstery screw and washer.
5. Align the strap with the back upholstery screw mounting hole.
6. Reinstall the back upholstery screw and washer and secure the strap to the wheelchair.

OPTIONS

## INSTALLING THE TELESCOPING I.V. ROD

*NOTE: Flip-back style arms will not flip back when used on the same side of the wheelchair as the telescoping I.V. rod.*

### Installing The telescoping I.V. Rod on Non-Transport Wheelchairs Only (FIGURE 1)

1. Determine if the telescoping I.V. rod will be mounted on the right or left side of the wheelchair.

*NOTE: The telescoping I.V. rod is factory set for installation onto either the right side of a wheelchair with back upholstery mounted to the front of the back canes OR the left side of a wheelchair with back upholstery mounted to the back of the back canes. Refer to REPOSITIONING THE UPPER ATTACHMENT in this instruction sheet if any other mounting position is desired.*

2. Position the I.V. rod mounting bracket on the step tube on the side determined in STEP 1.
3. Loosely install the lug screw, spacer and locknut that secure the mounting bracket to the back cane.
4. Remove the top phillips screw and washer from the back upholstery.
5. Line up the mounting holes in the back cane, back upholstery and upper attachment.
6. Reinstall the washer and phillips screw and securely tighten.
7. Securely tighten all attaching hardware.
8. Loosen the adjustment knob and position the I.V. rod to the desired height and securely tighten the adjustment knob.

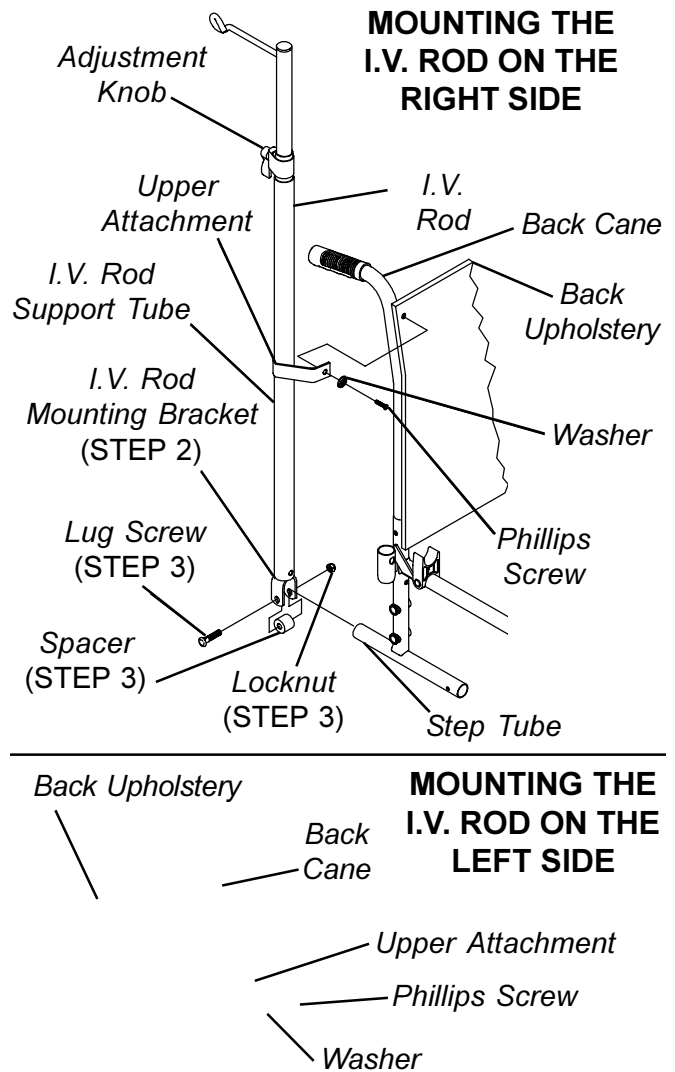


FIGURE 1 - INSTALLING THE TELESCOPING I.V. ROD ON NON-TRANSPORT WHEELCHAIRS ONLY

**Repositioning The Upper Attachment  
(FIGURE 3)**

1. With the Telescoping I.V. rod in the lowest position, align the hole of the outer tube with the phillips screw of the inner tube. Remove phillips screw and set aside.

2. Remove the inner tube from the outer tube.

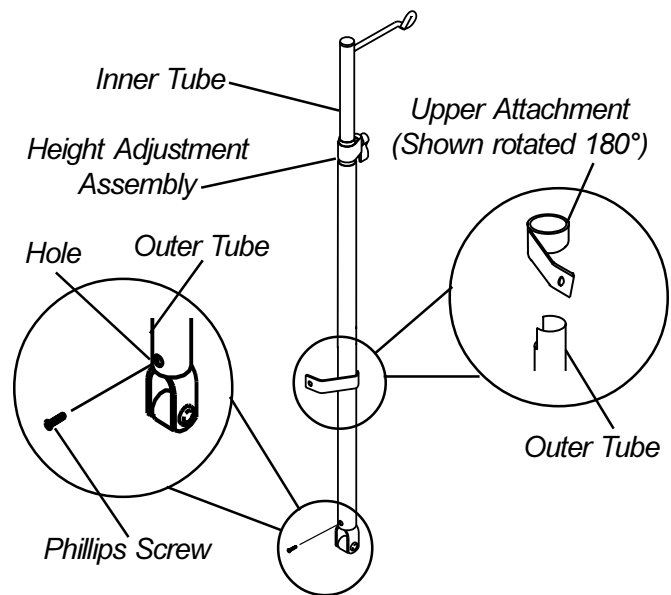
*NOTE: Take note of the position and orientation of the height adjustment assembly before removing. The height adjustment assembly must be positioned to face away from the wheelchair when installed.*

3. Firmly grasp the height adjustment assembly and Pull to remove from the outer tube.

4. Slide the upper attachment UP off of the outer tube.

5. Rotate the upper attachment 180° and reinstall onto the outer tube.

6. Reverse STEPS 1-4 to reassemble the telescoping I.V. rod.



**FIGURE 3- REPOSITIONING THE UPPER MOUNTING BRACKET**

O P T I O N S



## 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 a period of one (1) year from date of purchase. With regard to the original purchaser/user only, Invacare warrants the side frames and crossmembers to be free from defects in materials and workmanship of the original purchaser/users for:

Tracer Titan, Tracer SX and Tracer SX Recliner	Lifetime
Tracer DLX	5 Years

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 at the bottom of this page. Provide dealer's name, address, the product model number, date of purchase, indicate nature of the defect and, if the product is serialized, indicate the serial number. Do not return products to our factory without our prior consent.

**LIMITATIONS AND EXCLUSIONS: 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, 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, OR TO A PRODUCT DAMAGED BY CIRCUMSTANCES BEYOND INVACARE'S CONTROL, AND SUCH EVALUATION WILL BE SOLELY DETERMINED BY INVACARE. THE WARRANTY SHALL NOT APPLY TO PROBLEMS ARISING FROM NORMAL WEAR OR FAILURE TO ADHERE TO THESE INSTRUCTIONS.**

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



**Yes, you can.™**

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