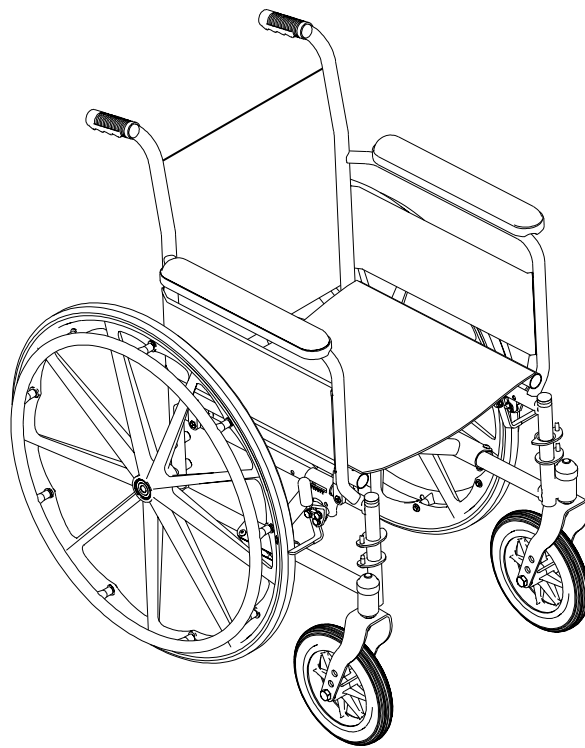


Owner's Operator And Maintenance Manual

Tracer[®] EXI



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.

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



Yes, you can.™

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 A QUALIFIED TECHNICIAN BEFORE ATTEMPTING TO USE THIS EQUIPMENT - OTHERWISE INJURY OR DAMAGE MAY RESULT.

WARNING

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 RESTRAINTS

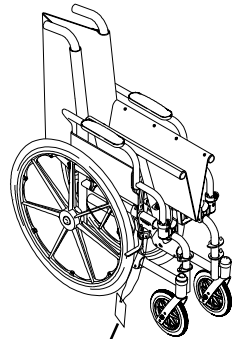
Invacare recommends that wheelchair users **NOT** be transported in vehicles of any kind while in wheelchairs. As of this date, the Department of Transportation has not approved any tie-down systems for transportation of a user while in a wheelchair, in a moving vehicle of any type.

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 HEALTHCARE PROFESSIONALS TO DETERMINE IF A SEATING RESTRAINT 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.

LABEL LOCATIONS

LABEL LOCATIONS



IMPORTANT NOTICE

The wheel locks on this wheelchair have been pre-set at the factory to comply with the Veterans Administration functional Standard 8320.01 of the Federal Register, paragraph 3.2.4.5.3. If these wheel locks do not meet your needs, follow instructions below.

CAUTION

Any wheel lock adjustments should embed wheel lock shoe at least 1/8" into tire when locked (3/16" on pneumatic tires).

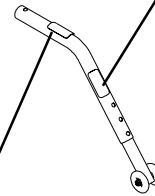
INSTRUCTIONS FOR WHEEL LOCK ADJUSTMENTS

1. Loosen wheel lock mounting fastener, which runs through mounting bracket and frame.
2. Slide clamp toward rear wheel until wheel lock shoe is embedded into tire material at least 1/8" when handle is engaged to the lock position (3/16" for pneumatic tires).
3. Tighten mounting fastener to secure mounting bracket in desired location and recheck lock shoe embedding.
4. Inspect for correct locking action BEFORE actual use.

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⚠ WARNING

Refer to Owner's Manual for proper anti-tipper setting. 1085379

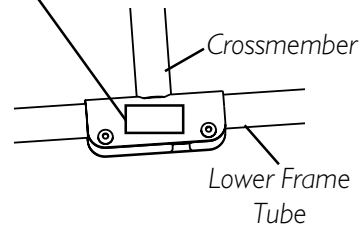


⚠ WARNING

DO NOT OPERATE WITHOUT THE ANTI-TIP TUBES INSTALLED.

REV. 5/98 P/N 60106X144

WEIGHT CAPACITY
250 LBS. (114 kgs.)
REFER TO OWNER'S MANUAL
P/N 1111013



SPECIFICATIONS

TRACER EXI	
Overall Width	
Permanent Arm:	23-1/4, 25-1/4, 27-1/4-inches
Removable Arm:	24-1/2, 26-1/2, 28-1/2-inches
Overall Depth: (without Front Riggings)	31-7/8-inches
Seat Width:	16, 18 and 20-inches
Seat Depth	
SA Frame:	16-inches
FF Frame:	16-inches
SEAT-TO-FLOOR** (With 24-inch Wheels)	
Adult (SA Frame):	19-1/2-inches
Adult (FF Frame):	21-inches
Hemi (SA Frame):	17-1/2-inches
Back Height:	16-inches
Back Style:	Fixed
Arm Styles:	Fixed Height; Desk or Full Length; Permanent or Removable
Front Riggings:	Swingaway Footrests, Elevating Legrests (Not Available on FF Frame)
Rear Axle:	Permanent
Rear Wheels:	20, 22 and 24*-inch Composite* Urethane*, Pneumatic or Pneumatic-Flat Free Insert
Handrims:	Composite*, Chrome Plated Steel, Black Painted Aluminum
Wheel Locks:	Push to Lock* (Adult), Pull to Lock* (Hemi)
Caster Size:	6x1-inch Urethane (N/A FF Frame), 8x1-inch Solid Rubber* 8x1-1/4-inch Pneumatic or Pneumatic-Flat Free Insert,
Upholstery:	Vinyl - Midnight Blue or Black*
Weight*** (approx.)	
SA Frame	
Permanent Arm:	36 pounds
Removable Arm:	36 pounds
FF Frame:	37 pounds
Shipping Weight*** (approx.)	
SA Frame	
Permanent Arm:	45-1/2 pounds
Removable Arm:	45-1/2 pounds
FF Frame:	46-1/2 pounds

* NOTE: These options are standard for this model.

** NOTE: The seat-to-floor heights are based on urethane tires. If wheelchair is equipped with pneumatic (properly inflated) or solid rubber tires, add 1/4-inch to the measurements listed above. These heights can vary +/- 1/4-inch due to tire wear and manufacturing tolerances.

***NOTE: Weights based on 18-inch wide wheelchair without front riggings. Weights will vary depending on how wheelchair is equipped.

Section I - General Guidelines includes the following:

Stability

Weight Limitation

Operating Information

Safety/Handling of Wheelchairs

Tire Pressure

Weight Training

STABILITY - ALL MODELS

WARNING

The size/position of the front casters, size/position of the rear wheels, use of anti-tipper model, as well as the user condition directly relate to the stability of the wheelchair. Any change to one (1) or any combination of the six (6) may cause the wheelchair to decrease in stability. These adjustments **MUST** be performed by a qualified technician.

	Caster Size	Caster Position	Wheel Size	Wheel Position	Anti-Tippers	User Condition
Caster Size	•	✓	✓	✓	✓	✓
Caster Position	✓	•	✓	✓	✓	✓
Wheel Size	✓	✓	•	✓	✓	✓
Wheel Position	✓	✓	✓	•	✓	✓
User Condition	✓	✓	✓	✓	✓	•

NOTE: When changes to the left hand column occur, follow across the chart and refer to the procedure that is checked (✓) to maintain the proper stability, safety and handling of the wheelchair.

Seat-to-floor heights have specific positions depending on rear wheel size, rear wheel position, front caster size and front caster position. These adjustments **MUST be performed by a qualified technician.**

Anti-tippers are specific to the different seat-to-floor heights. Refer to the chart in **INSTALLING/ADJUSTING THE ANTI-TIPPERS in SECTION 8 of this manual for correct usage and adjustment. If these requirements cannot be achieved, do not use the wheelchair. Contact a qualified technician.**

If changing the seat-to-floor height the correct anti-tippers **MUST be ordered to maintain a 1-1/2 to 2-inch ground clearance.**

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.

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.**

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 healthcare professional BEFORE attempting active use 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.

ALWAYS verify that hand grips on the rear cane are secure prior to use when an assistant is used to propel the chair.

DO NOT sit or transfer into the wheelchair unless the wheelchair is fully open.

DO NOT TRAVERSE, CLIMB or GO DOWN ramps or slopes greater than 9°.

DO NOT operate on roads, streets or highways.

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 to you or damage to 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. This will change your center of gravity and may cause you to tip over.

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

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

DO NOT tilt the wheelchair without assistance.

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

WARNING (CONTINUED)

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

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

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 and/or assistant or damage to the wheelchair.

DO NOT stand on the frame of the wheelchair.

DO NOT use the footplate as a platform. When getting in or out of the wheelchair, make sure that the footplates are in the upward position.

ALWAYS use the handrims for self-propulsion. Inasmuch as the **HANDRIMS** are an option on this wheelchair (you may order with or without the handrims), Invacare strongly recommends ordering the handrims as an additional safeguard for the wheelchair user.

TIRE PRESSURE**WARNING**

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

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

WEIGHT TRAINING**WARNING**

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**WARNING**

The Tracer EX1 wheelchair has a weight limitation of 250 lbs. (114 kg.).

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 users.

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/chest positioning strap. Inasmuch as the SEAT/CHEST POSITIONING STRAP is an option on this wheelchair (You may order with or without the Seat/Chest Positioning Strap), Invacare strongly recommends ordering the Seat/Chest 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 challenge 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 and/or assistant or damage to the wheelchair.

Always verify that hand grips on the rear cane are secure **PRIOR** to use when an assistant is used to propel or lift the chair. Check for any signs of looseness or deterioration and if found, contact a qualified technician. **DO NOT** attempt to move the wheelchair by pulling on the hand grips if they are found to be unsecure or have deteriorated.

Also, be aware of detachable parts such as armrests or legrests. These must **NEVER** be used to move the wheelchair or as 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.

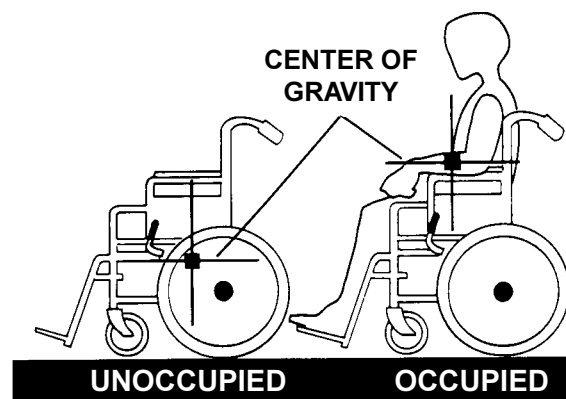
PERCENTAGE OF WEIGHT DISTRIBUTION**WARNING**

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.

The size/position of the front casters, size/position of the rear wheels, use of anti-tipper model, as well as the user condition directly relate to the stability of the wheelchair. Any change to one (1) or any combination of the six (6) may cause the wheelchair to decrease in stability. These adjustments **MUST** be performed by a qualified technician.

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.

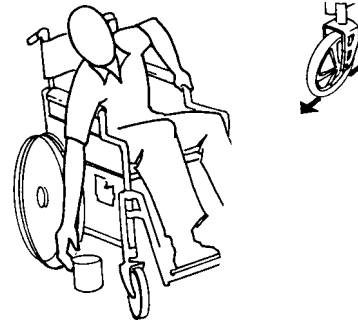
Proper positioning is essential for your safety. When reaching, leaning, or bending forward, it is important to use the front casters as a tool to maintain stability and balance.



Reaching, Leaning and Bending - Forward.**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.

Position the front casters so that they are extended as far forward as possible and engage wheel locks.

**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 and/or pinch points.

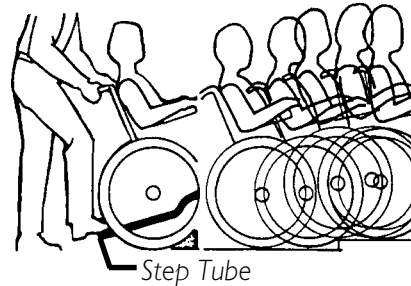
After mastering the techniques of tipping the wheelchair, use one (1) of the following methods to tackle curbs, short stairs, etc.

TIPPING - CURBS: METHOD 1 - WHEELCHAIR WITH STEP TUBES:

Place foot on the step tube and begin to tilt the wheelchair toward you. 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

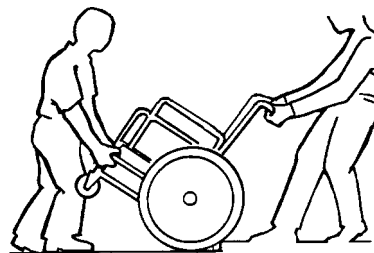
When lowering the front casters of the wheelchair, **DO NOT** let the wheelchair drop the last few inches to the ground. This could result in injury to the occupant and/or damage to the wheelchair.

**METHOD 1 - WHEELCHAIR WITH STEP TUBES**

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 2 - WHEELCHAIR WITHOUT STEP TUBE**WARNING**

Always verify that hand grips on the rear cane are secure **PRIOR** to use when an assistant is used to propel or lift the chair. Check for any signs of looseness or deterioration and if found, contact a qualified technician. **DO NOT** attempt to move the wheelchair by pulling on the hand grips if they are found to be unsecure or have deteriorated.

**METHOD 2 - WHEELCHAIR WITHOUT STEP TUBE**

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. Turn the anti-tippers so the anti-tip wheels are facing down.

STAIRWAYS**WARNING**

ALWAYS wear your seat/chest positioning strap. Inasmuch as the **SEAT/CHEST POSITIONING STRAP** is an option on this wheelchair (You may order with or without the Seat/Chest Positioning Strap), Invacare strongly recommends ordering the Seat/Chest 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 and/or assistant or damage to the wheelchair.

Always verify that hand grips on the rear cane are secure **PRIOR** to use when an assistant is used to propel or lift the chair. Check for any signs of looseness or deterioration and if found, contact a qualified technician. **DO NOT** attempt to move the wheelchair by pulling on the hand grips if they are found to be unsecure or have deteriorated.

EXTREME CAUTION is advised when it is necessary to move an occupied wheelchair up or down the stairs. Invacare recommends that, if possible, the user be removed from the wheelchair prior to moving. 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. If necessary, rotate the anti-tippers so the wheels are facing up.
2. 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.
3. 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.
4. The wheelchair should not be lowered until the last stair has been negotiated and the wheelchair has been rolled away from the stairway.
5. If necessary, rotate the anti-tippers so the wheels are facing down.

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 parallel to 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 parallel to it. Remove or flip up the armrest. 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.

UNFOLDING AND FOLDING THE WHEELCHAIR**WARNING**

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

DO NOT sit or transfer into the wheelchair unless it is fully open and the seat frame rails are fully seated into the side frame H-blocks.

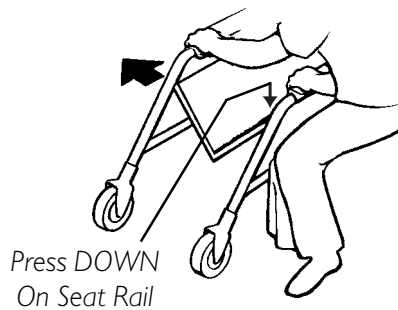
Unfolding.

1. Open the wheelchair by grasping the back cane 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.

Folding.

1. Swing footrest/legrest and calfpads (if equipped) 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.
4. Continue to close the wheelchair by grasping the back cane furthest from you and pulling the armrest towards you.

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

UNFOLDING**FOLDING**

Section 2 - Safety Inspection includes the following:**Safety Inspection Checklist****Troubleshooting****Maintenance**

NOTE: Every six (6) months or as necessary, 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.

SAFETY INSPECTION CHECKLIST

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

ITEM	Initially	Weekly	Monthly	Periodically
GENERAL				
• Wheelchair rolls straight (no excessive drag or pull to one side).	X			X
• Inspect for loose/missing/broken hardware in all locations.	X			X
FRAME AND CROSSBRACES				
• Inspect for bent frame or crossbraces.	X			X
WHEEL LOCKS				
• Do not interfere with tires when rolling.	X		X	
• Pivot points free of wear and looseness.	X		X	
• Wheel locks easy to engage.	X			X
• Wheel locks prevent wheelchair from moving when engaged.	X	X		
SEAT AND BACK				
• Inspect upholstery for rips or sagging.	X			X
• Inspect for loose or broken hardware.	X		X	
• Inspect cane hand grips for wear/looseness/deterioration.	X		X	
TIRES				
• Inspect for flat spots, cracks and wear.	X	X		
• If pneumatic tires check for proper inflation.	X	X		
CAUTION: As with any vehicle, the wheels and tires should be checked periodically for cracks and wear, and should be replaced if damaged.				
REAR WHEELS				
• No excessive side movement or binding when lifted and spun.	X			X
• Inspect wheels for cracks and wear (hub and rim).	X			X
• Inspect for cracked, bent or broken spokes.	X	X		
HANDRIMS				
• Inspect for signs of rough edges or peeling.	X			X
FRONT CASTERS/FORKS				
• Inspect wheel/fork assembly for proper tension by spinning caster; caster should come to a gradual stop.	X	X		
• Adjust bearing system if wheel wobbles noticeably or binds to a stop. Ensure wheel bearings are clean and free of moisture.	X		X	
• Check headtube locknuts for tightness.	X		X	
• Inspect casters for cracks and wear (hub and rim).	X			X
• Inspect for cracked or broken spokes.	X	X		
CAUTION: As with any vehicle, the wheels and tires should be checked periodically for cracks and wear, and should be replaced if damaged.				
CLEANING				
• Clean upholstery and armrests.	X			X

TROUBLESHOOTING

Chair Veers Right/Left	Chair 3 Wheels	Sluggish Turn or Performance	Caster Flutter	Squeaks and Rattles	Looseness in Chair	SOLUTIONS
X	X	X	X			If pneumatic, check tires for correct and equal pressure.
X		X	X	X	X	Check for loose stem nuts and bolts.

MAINTENANCE

MAINTENANCE SAFETY PRECAUTIONS

WARNING

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

CAUTION

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

SUGGESTED MAINTENANCE PROCEDURES

1. Before using your Tracer EX1 wheelchair, make sure all nuts and bolts are tight. Check all parts for damage or wear and replace. Check all parts for proper adjustment.

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 instructions may cause the tire to explode and cause bodily harm.

2. If tires are pneumatic, recommended tire pressure is listed on the sidewall of the tire.

CAUTION

As with any vehicle, the rear wheels, casters and tires should be checked periodically for cracks and wear, and should be replaced if damaged.

3. The rear wheels, casters and tires should be checked periodically for cracks and wear, and should be replaced by a qualified technician if damaged.
4. Periodically check handrims to ensure they are secured to the rear wheels. If loose, have them tightened by a qualified technician.
5. Periodically adjust wheel locks as tires wear. Refer to WHEEL LOCK ADJUSTMENT in SECTION 8 of this manual.

6. Periodically check caster and rear wheel bearings to make sure they are clean and free from moisture. Use a Teflon[®] lubricant if necessary.

WARNING

When cleaning rear cane or hand grip areas use only a clean towel lightly dampened with cool water. Verify that grips are dry prior to use. Use of soap or ammonia based cleaning solutions will result in the hand grips sliding off the cane assembly. Failure to observe this warning may result in injury to the user or bystanders.

7. Hand grips should be checked monthly for wear/looseness. Clean if desired.
8. Check upholstery for sagging, rips or tears.

Section 3 - Front Riggings includes the following:

Installing/Removing the Front Riggings

Footplate Height Adjustment

Adjusting the Elevating Legrest Assembly

Heel Loop Replacement

WARNING

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

INSTALLING/REMOVING THE FRONT RIGGINGS (FIGURE 1)

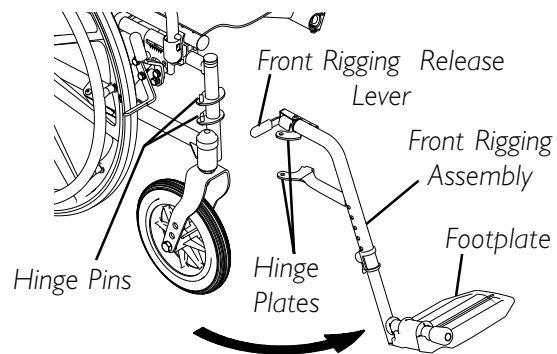
NOTE: This procedure applies to the swingaway footrests and the elevating legrest.

INSTALLING

1. Turn the front rigging assembly to the side (open front rigging is perpendicular to wheelchair).
2. Install the hinge plates on the front rigging assembly onto the hinge pins on the wheelchair frame.
3. Push the front rigging assembly 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 footplate assembly.
5. To release the front rigging, push the front rigging release lever inward, rotate front rigging outward.



NOTE: Swingaway footrests shown.

FIGURE 1 - INSTALLING/REMOVING THE SWINGAWAY front rigging

REMOVING

1. Push the front rigging release lever inward
2. Rotate swingaway front rigging assembly outward.
3. Lift the swingaway front rigging assembly off of the hinge pins.

FOOTPLATE HEIGHT ADJUSTMENT

SPRING BUTTON HEIGHT ADJUSTMENT (FIGURE 2)

NOTE: This procedure applies to the swingaway front riggings and swingaway elevating legrest.

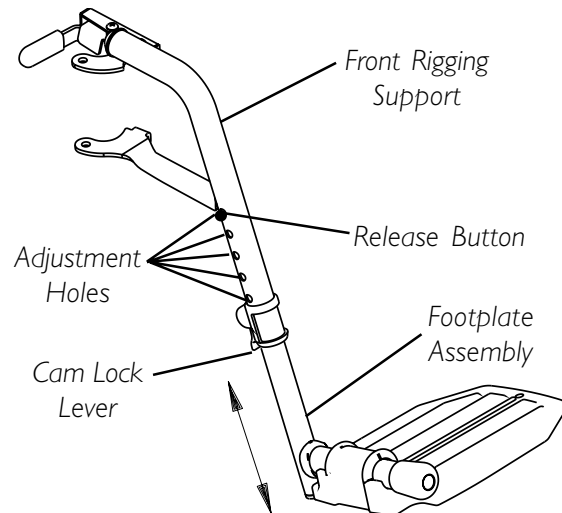
1. Remove the front rigging assembly. Refer to INSTALLING/REMOVING THE FRONT RIGGING in this section of the manual.

NOTE: Lay the front rigging assembly on a flat surface to simplify this procedure.

2. Pull the cam lock lever UP to UNLOCKED position.

NOTE: The elevating legrest has two (2) sets of release buttons, one (1) set above the other. Each set will be visible one at a time allowing finer footplate height adjustment.

3. Push IN the release buttons and reposition the footplate assembly to the desired height.
4. Ensure that the release buttons fully protrude from holes on both sides of the front rigging support.
5. Rotate cam lock lever DOWN to LOCKED position.
6. Repeat this procedure for the other footplate, if necessary.
7. Reinstall the swingaway front rigging assembly. Refer to INSTALLING/REMOVING THE FRONT RIGGING in this section of the manual.



NOTE: Swingaway footrest shown.

FIGURE 2 - FOOTPLATE HEIGHT ADJUSTMENT - SPRING BUTTON HEIGHT ADJUSTMENT

BOLT-IN-PLACE HEIGHT ADJUSTMENT (FIGURE 3)

NOTE: This procedure applies to the swingaway footrests and swingaway elevating legrest.

1. Remove the swingaway front rigging. Refer to INSTALLING/REMOVING THE FRONT RIGGINGS in this section of the manual.

NOTE: Lay the front rigging assembly on a flat surface to simplify this procedure.

2. Pull the cam lock lever UP to UNLOCKED position.
3. Using a screw driver to hold the riv nut in position, remove the button head screw from the riv nut.
4. Remove the riv nut and button head screw securing the footplate assembly to the front rigging support.
5. Adjust the footplate assembly height by aligning the desired adjustment holes in the upper front rigging support and lower footrest assembly.

6. From the outside of the swingaway front rigging, insert the riv nut through both the front rigging support and the footplate assembly.
7. From the inside of the swingaway front rigging, insert the button head screw through the appropriate adjustment hole and thread into the riv nut.
8. Using a screwdriver to hold the riv nut in position, securely tighten the button head screw. Torque to 32 in-lbs.
9. Rotate cam lock lever DOWN to LOCKED position.
10. Repeat STEPS 1-8 to adjust the remaining footrest.

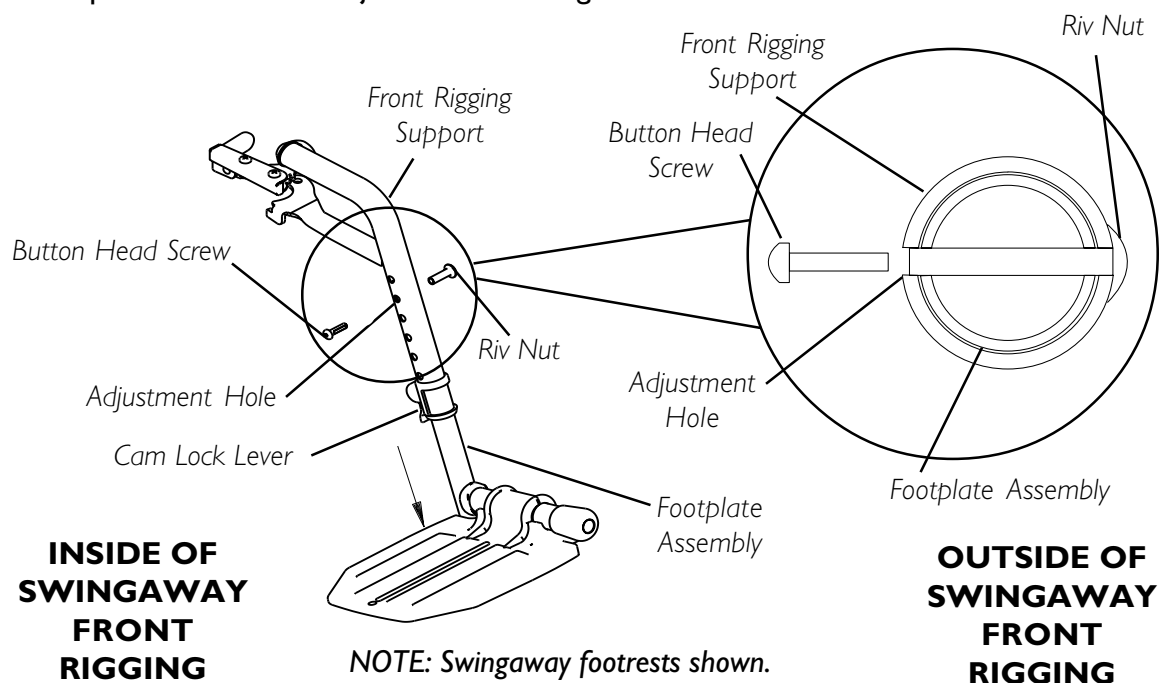


FIGURE 3 - FOOTPLATE HEIGHT ADJUSTMENT - BOLT-IN-PLACE HEIGHT ADJUSTMENT

FIXED FRAME (FIGURE 4)

1. Remove impact guards and/or calf strap, if necessary.
2. Loosen, but do not remove the bolt and locknut that secure the lower footrest assembly to the upper footrest support.
3. Reposition the lower footrest assembly to the desired height.
4. Securely tighten the bolt and locknut.
5. Repeat this procedure for the other footrest, if necessary.
6. Replace impact guards and/or calf strap, if necessary.

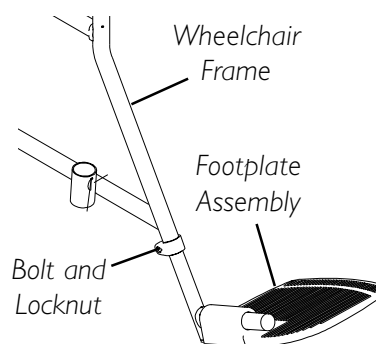


FIGURE 4 - FOOTPLATE HEIGHT ADJUSTMENT - FIXED FRAME

RAISING/LOWERING THE ELEVATING LEGREST ASSEMBLY (FIGURE 5)

WARNING

Ensure hands and fingers are clear of elevating legrest mechanism **BEFORE** pushing release lever to lower the elevating legrest. Otherwise injury may occur due to pinch points.

The wheelchair user's leg **MUST** be supported by an assistant **BEFORE** attempting to lower legrest.

1. To raise the elevating legrest, the assistant should grab hold of the support tube and raise elevating legrests until the desired height is obtained.
2. To lower the elevating legrest, perform the following:
 - A. Support user leg with one (1) hand.
 - B. Push release lever downward with other hand.
 - C. Gently, lower user leg down and rest against the legrest.

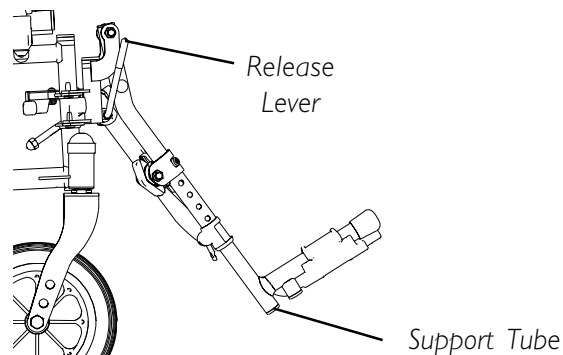


FIGURE 5 - ADJUSTING THE ELEVATING LEGREST ASSEMBLY

HEEL LOOP REPLACEMENT (FIGURE 6)

1. Pull the cam lock lever UP to UNLOCKED position.
2. Perform one (1) of the following as shown in DETAIL "A" of FIGURE 6:
 - A. FOOTPLATES WITH SPRING BUTTONS: Push IN the release buttons and remove the footplate assembly from the front rigging support.
 - B. BOLT-IN-PLACE FOOTPLATES:
 - Using a screw driver to hold the riv nut in position, remove the button head screw from the riv nut.
 - Remove the riv nut and button head screw securing the footplate assembly to the front rigging support.
3. Remove the mounting screw, spacer and locknut that secure the heel loop to the footplate.
4. Remove EXISTING heel loop from slide tube.
5. Install NEW heel loop onto slide tube.
6. Install the mounting screw, spacer and locknut to secure the heel loop to the footplate. Tighten until the spacer is secure.

7. Insert the lower footrest assembly into the upper footrest assembly to desired height.
8. Perform one (1) of the following as shown in DETAIL "A" of FIGURE 6:
 - A. **FOOTPLATES WITH SPRING BUTTONS:** Ensure that the release buttons fully protrude from holes on both sides of the upper footrest support.
 - B. **BOLT-IN-PLACE FOOTPLATES:**
 - From the outside of the swingaway front rigging, insert the riv nut through both the front rigging support and the footplate assembly.
 - From the inside of the swingaway front rigging, insert the button head screw through the appropriate adjustment hole and thread into the riv nut.
 - Using a screwdriver to hold the riv nut in position, securely tighten the button head screw. Torque to 32 in-lbs.
9. Rotate cam lock lever **DOWN** to **LOCKED** position.

DETAIL "A"

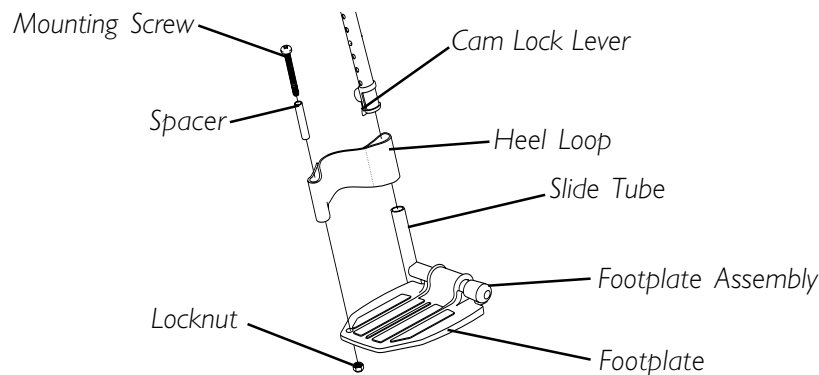
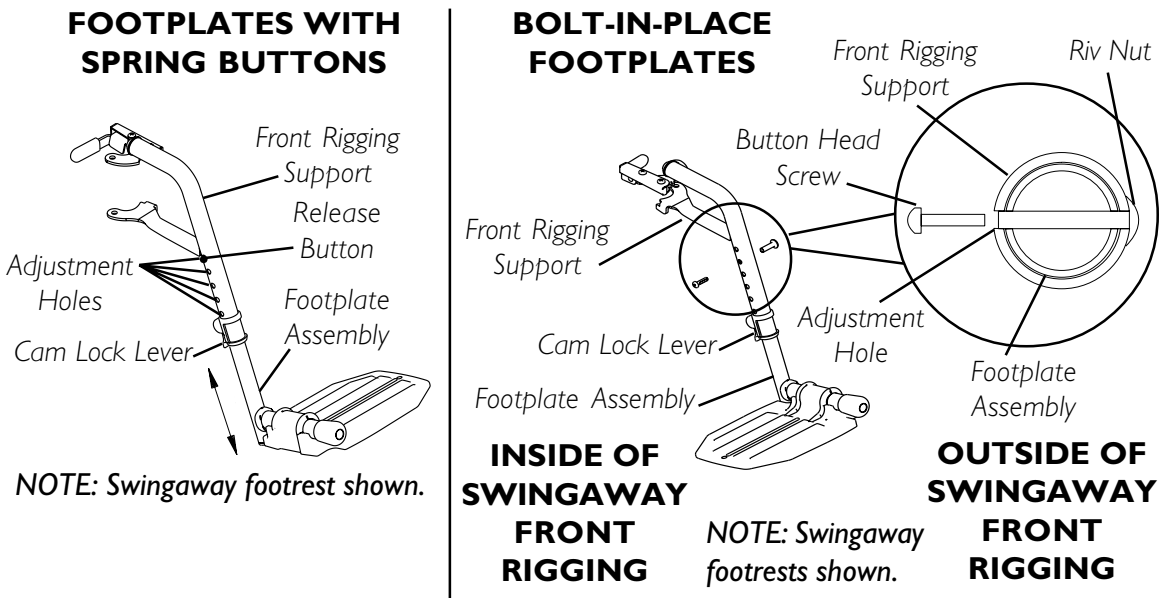


FIGURE 6 - HEEL LOOP REPLACEMENT

Section 4 - Arms includes the following:

Removing/Installing Standard Armrest

WARNING

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

REMOVING AND INSTALLING ARMREST (FIGURE 1)

WARNING

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

NOTE: This procedure applies to wheelchairs with removable arms only.

REMOVING ARMREST

1. Push down on armrest to ensure it is fully seated in front and rear sockets.

NOTE: This step is needed to prevent the release buttons from hanging up on sockets.

2. Unlock the rear armrest by rotating the armrest release lever towards the inside of the wheelchair.
3. Press **IN** the armrest release button at the front of the armrest.
4. While pressing in the armrest release button, remove the armrest from the arm sockets by pulling straight up.

INSTALLING ARMREST

NOTE: Rear armrest release lever must be in the unlocked position when installing the armrest.

1. Position the armrest just above the front and rear arm sockets.
2. Push arm down evenly at the front and rear until the front armrest release button snaps into the front arm socket.
3. Lock rear armrest by turning the armrest release lever towards the outside of the wheelchair.
4. Ensure armrest is locked securely in the arm sockets by gently lifting up. If not locked, repeat STEPS 1-3.

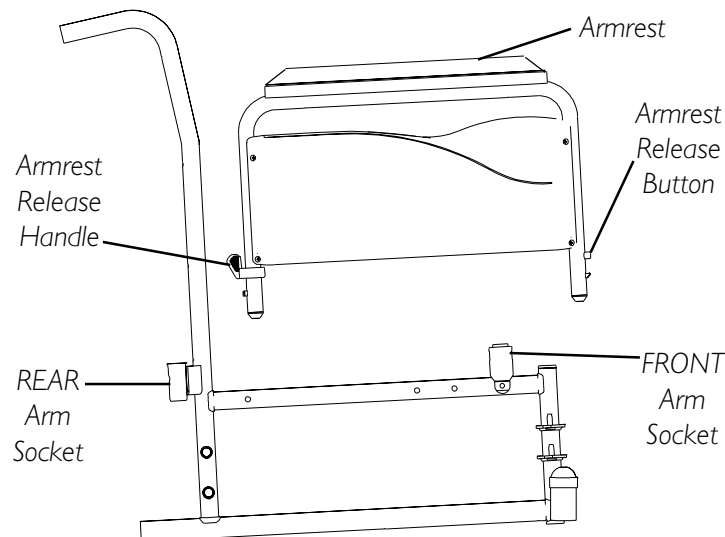


FIGURE 1 - REMOVING/INSTALLING STANDARD ARMREST

Section 5 - Seat and Back includes the following:

Replacing Back Upholstery

Replacing Seat Upholstery

Adjusting Seat Width

WARNING

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

REPLACING BACK UPHOLSTERY (FIGURE 1)

1. Remove the eight (8) phillips screws and washers that secure the existing back upholstery to the back canes.
2. Remove existing back upholstery from the back canes.
3. Securely tighten the new back upholstery to the back canes with the phillips screws and washers.

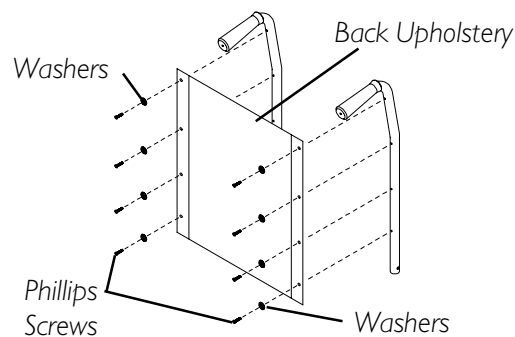


FIGURE 1 - REPLACING BACK UPHOLSTERY

REPLACING SEAT UPHOLSTERY (FIGURE 2)

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 SECTION 10 of this manual.
4. Install new seat upholstery by reversing STEPS 1-2.

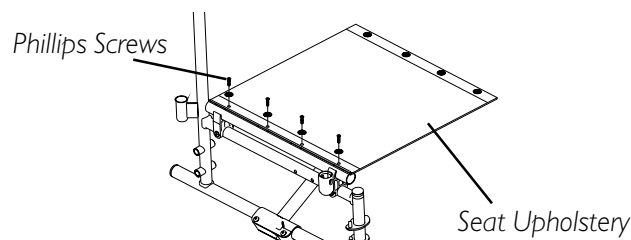


FIGURE 2 - REPLACING SEAT UPHOLSTERY

ADJUSTING THE SEAT WIDTH

EXI WITH SWINGAWAY FRONT RIGGINGS (FIGURE 3)

NOTE: When adjusting the seat width of the wheelchair, the back and seat upholstery MUST be changed. If applicable, the headrest pillow and headrest upholstery MUST be changed as well.

1. Remove the existing back and seat upholstery from the wheelchair. Refer to REPLACING BACK UPHOLSTERY and REPLACING THE SEAT UPHOLSTERY in this section of the manual.
2. Remove the four (4) button screws and locknuts that secure the two (2) pivot links to the wheelchair frame and crossbraces.
3. Remove the two (2) button screws, locknuts and crossbrace saddle that secure the bottom of the crossbrace to the wheelchair frame. Repeat for other crossbrace.
4. Remove the hex screw, coved washers, washers and locknut that secure the two (2) crossbraces together. See DETAIL "B".

*NOTE: Note the orientation of the coved washers, washers and locknut for assembling the **NEW** crossbraces. See DETAIL "B".*

5. Assemble the two (2) **NEW** crossbraces together with the existing hex screw, coved washers, washers and locknut. Securely tighten. Refer to DETAIL "B" for hardware orientation.
6. Determine the correct pivot link and mounting hole to use with the desired seat width. See chart below.

SEAT WIDTH	PIVOT LINK
16-INCH 18-INCH	
20-INCH	

7. Secure the pivot links to the crossbraces and wheelchair frame with the four (4) button screws and locknuts. Securely tighten.

NOTE: Position crossbrace saddle on wheelchair frame using the washer on the underside of the wheelchair frame as a reference. See DETAIL "A" for proper positioning of the crossbrace saddle.

8. Reinstall the two (2) button screws, locknuts and crossbrace saddle that secures the bottom of the **NEW** crossbrace to the wheelchair frame. Refer to DETAIL "B" for hardware orientation. Repeat for opposite crossbrace. Securely tighten.
9. Install the **NEW** back and seat upholstery onto the wheelchair. Refer to REPLACING BACK UPHOLSTERY and REPLACING SEAT UPHOLSTERY in this section of the manual.

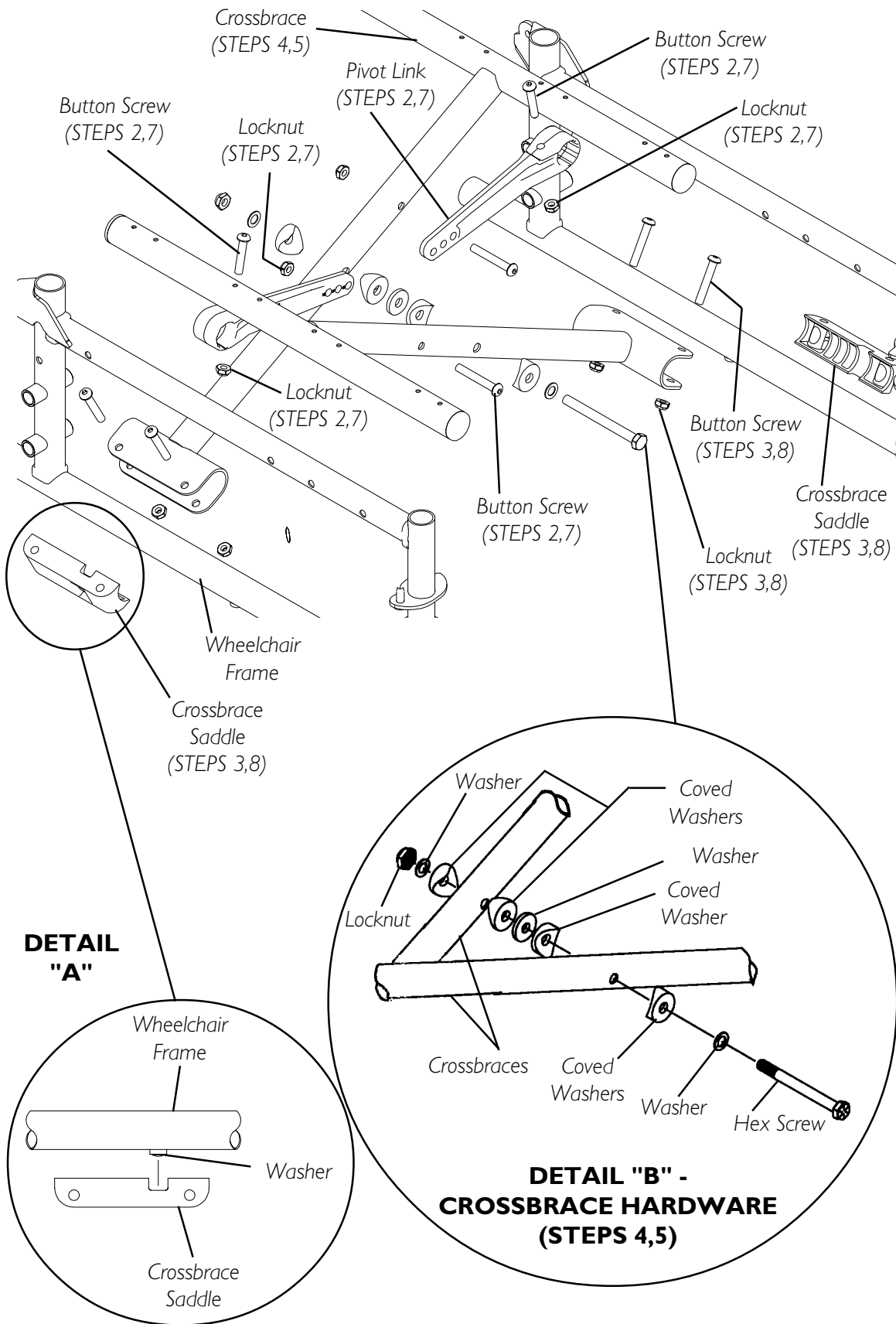


FIGURE 3 - ADJUSTING THE SEAT WIDTH - EXI WITH SWINGAWAY FRONT RIGGINGS

EXI WITH FIXED FRAME (FIGURE 4)**Removing Lower Mounting Hardware (DETAIL "A").**

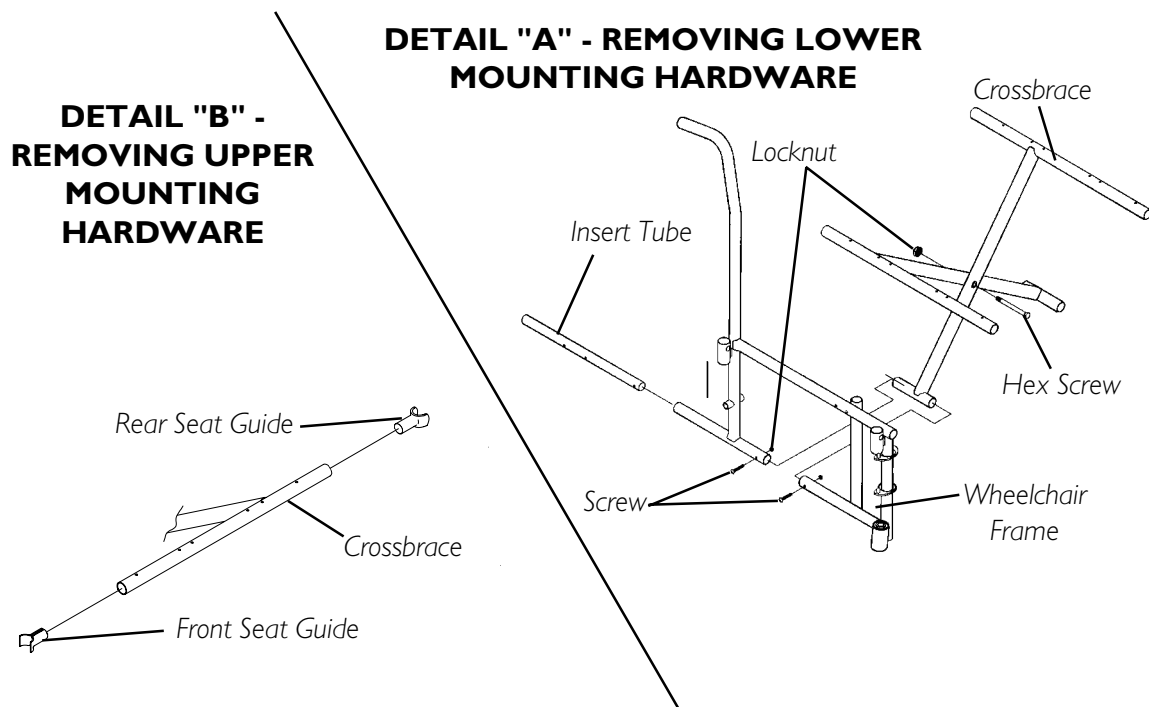
1. Remove the existing back and seat upholstery from the wheelchair. Refer to REPLACING THE BACK UPHOLSTERY and REPLACING THE SEAT UPHOLSTERY in this section of the manual.

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

2. Remove the four (4) screws and locknuts that secure the insert tube to the lower wheelchair frame.
3. Remove the inserts from the rear of the wheelchair.
4. Remove the hex screw and locknut that secure the two (2) existing crossbraces together.

Removing Upper Mounting Hardware (DETAIL "B").

1. While pushing down on the rear seat guide, pull up the front seat guide until the front seat guide releases from the wheelchair frame.
2. Pull the crossbrace away from the rear seat guide.
3. Repeat STEPS 1-2 for opposite crossbrace.
4. Reverse STEPS 1-3 to assemble the upper mounting hardware.
5. Reverse STEPS 1-4 in REMOVING LOWER MOUNTING HARDWARE in this section of the manual to reassemble the wheelchair.

**FIGURE 4 - ADJUSTING SEAT WIDTH - EXI WITH FIXED FRAME**

Section 6 - Rear Wheels includes the following:

Removing/Installing the Rear Wheels

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 occur.

REMOVING/INSTALLING THE REAR WHEELS

WARNING

If changing the size of the rear wheel or a change in the **SEAT-TO-FLOOR HEIGHT** is desired, this procedure **MUST** be performed by a qualified technician.

Make sure both rear wheels are the same size and are installed into the same respective mounting hole **BEFORE** using the wheelchair, otherwise injury may occur.

PERMANENT AXLES (FIGURE 1)

NOTE: If replacing the same size rear wheel, note the mounting position on the wheelchair frame for proper reinstallation of the NEW rear wheel.

1. Remove the dust cap (SA Frame ONLY), hex screw, washer (SA Frame ONLY), spacer (if installed) and locknut that secure the rear wheel to the wheelchair frame.

NOTE: The spacer is used on wheelchairs with removable arms ONLY.

2. Repeat STEP 1 for the opposite rear wheel.
3. To reinstall the rear wheel(s) onto the wheelchair, reverse STEPS 1-2. Torque locknut to 40 FT-LBS.
4. Adjust wheel locks. Refer to WHEEL LOCK ADJUSTMENT in SECTION 8 of this manual.

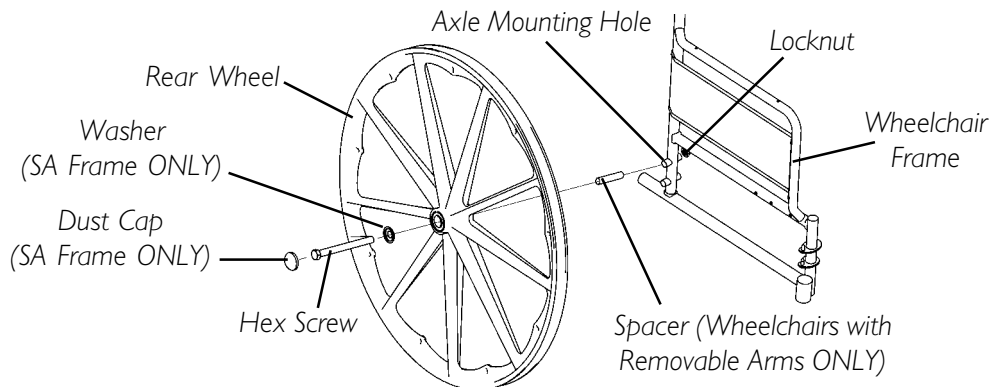


FIGURE 1 - REMOVING/INSTALLING THE REAR WHEELS - PERMANENT AXLES

REPLACING REAR WHEEL HANDRIM (FIGURE 2)

1. Remove the rear wheel from the wheelchair. Refer to REMOVING/INSTALLING THE REAR WHEELS in this section of the manual.
2. Remove the mounting screws and washers (not shown) that secure the handrim to the rear wheel.
3. Remove the existing handrim.
4. Install the NEW handrim by reversing the above steps.
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.

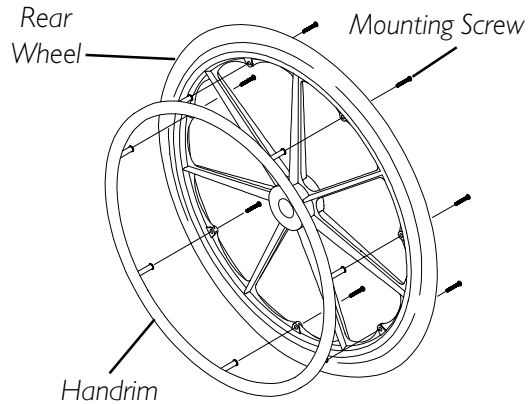


FIGURE 2 - REPLACING REAR WHEEL HANDRIM

REPLACING/REPAIRING REAR WHEEL TIRE/TUBE

WARNING

Replacement of rear wheel 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 if damaged.

Section 7 - Front Casters includes the following:

Installing/Replacing Fork Assemblies

Adjusting Forks

Replacing Front Casters

Replacing/Repairing Front Caster 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 occur.

INSTALLING/REPLACING FORK ASSEMBLIES (FIGURE 1)

WARNING

If converting from six-inch fork to an eight-inch fork or vice versa, there are **SEAT-TO-FLOOR** height adjustments that must be made. A qualified technician **MUST** perform these adjustments if this is the case.

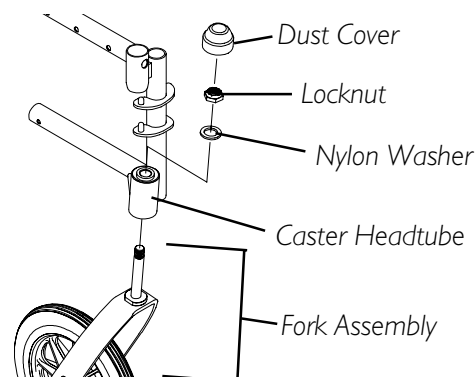
Make sure both fork/caster assemblies are the same size **BEFORE** using the wheelchair, otherwise injury may occur.

NOTE: This procedure can be performed if replacing the exact same size front caster.

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.

*NOTE: If caster replacement is desired, refer to **REPLACING FRONT CASTERS** in this section of the manual.*

4. Slide in the new fork assembly.
5. Reassemble by reversing STEPS 1-3.
6. Repeat STEPS 1-5 for the opposite fork assembly.
7. Adjust the forks. Refer to **ADJUSTING FORKS** in this section of the manual.



**FIGURE 1 - INSTALLING/
REPLACING FORK ASSEMBLIES**

ADJUSTING FORKS (FIGURE 1)

1. 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 (wheels should swing once to one-side, then immediately rest in a straight downward position).
 - 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.

2. Test wheelchair for maneuverability.
3. Readjust locknuts if necessary, and repeat STEPS 1-2 until correct.
4. Snap dust cover over the locknut and stem.

REPLACING FRONT CASTERS (FIGURE 2)

WARNING

If converting from six-inch casters to eight-inch casters or vice versa, the fork assemblies **MUST** be replaced. Refer to **INSTALLING/REPLACING FORK ASSEMBLIES** in this section of the manual. In addition, there are **SEAT-TO-FLOOR** height adjustments that must be made. A qualified technician **MUST** perform these adjustments if this is the case.

Make sure both front casters are the same size and are installed into the same respective mounting hole **BEFORE** using the wheelchair, otherwise injury may occur.

NOTE: If replacing the same size front caster, note the mounting position on the fork assembly for proper reinstallation of the NEW front caster.

1. Remove the hex screw, washers and locknut that secure the front caster to the fork.

NOTE: Washers are only used with 6 and 8-inch casters with precision bearings.

2. To reinstall the new front caster onto the fork, reverse STEP 1.

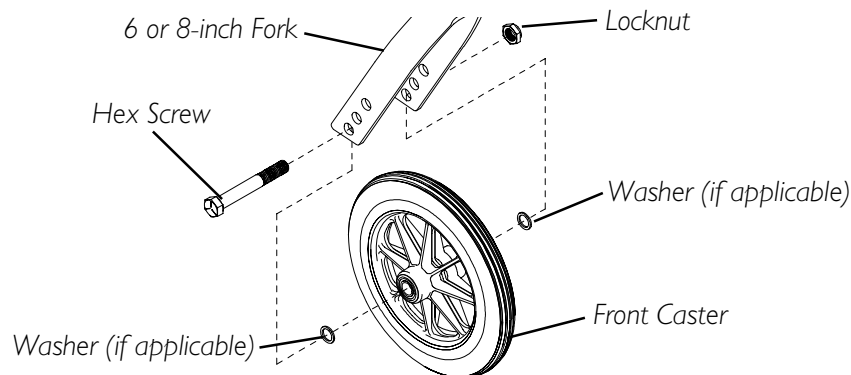


FIGURE 2 - REPLACING FRONT CASTERS

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 if damaged.

Section 8 - Anti-tippers/Wheel Locks includes the following:
Installing/Adjusting the Anti-Tippers
Using/Adjusting the Disk Wheel Locks

WARNING

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

INSTALLING/ADJUSTING THE ANTI-TIPPERS

WARNING

Anti-tippers are specific to the different seat-to-floor angles and/or seat-to-floor heights. Refer to the chart in this section of the manual for correct usage and adjustment. If these requirements **CANNOT** be achieved, **DO NOT** use the wheelchair. Contact a qualified technician. Any changes to the seat-to-floor angle or seat-to-floor height may require different anti-tippers.

If so equipped, anti-tippers **MUST** be attached at all times. Inasmuch as the anti-tippers are an option for this wheelchair (You may order with or without the anti-tippers), Invacare strongly recommends ordering the anti-tippers as a safeguard for the wheelchair user.

Anti-tippers **MUST** be fully engaged and release buttons fully protruding out of adjustment holes.

Ensure both anti-tippers are adjusted to the same mounting hole.

INSTALLING THE ANTI-TIPPERS (FIGURES 1 AND 2)

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

Wheelchair Model	Seat-to-Floor Height in inches	Anti-tipper (measurements in inches)			
		Length	Height	Model	Part Number
Tracer EX1	17-1/2 to 19-1/2	13-1/2	3-1/4	1360	1058836
Tracer EX1	15-1/2 to 17-1/2	11-5/8	2-3/4	1360A	1058752
Tracer EX1 FF	21	12	2-3/4	9758	1086190

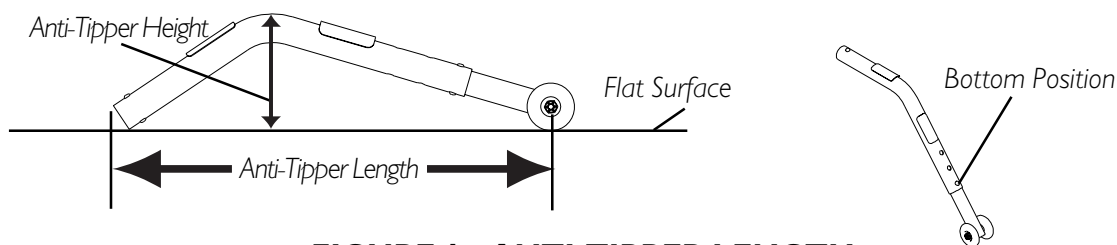


FIGURE 1 - ANTI-TIPPER LENGTH

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. Place the wheelchair on a flat surface.
4. Measure the distance between the bottom of the anti-tipper wheels and the ground/floor.

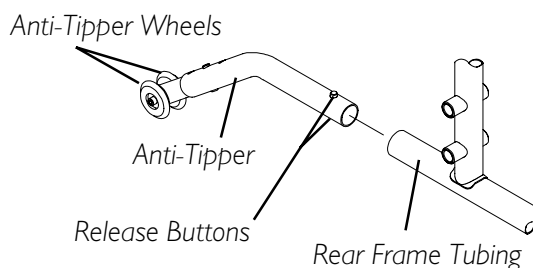


FIGURE 2 - INSTALLING THE ANTI-TIPPERS

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.

5. If the distance between the bottom of anti-tipper wheels and the ground/floor is not 1-1/2 to 2-inches, adjust anti-tippers. Refer to [ADJUSTING THE ANTI-TIPPERS](#) in this section of the manual.

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 the wheelchair on a flat surface.

NOTE: If adjusting anti-tippers on recliner models, ensure back canes are in the upright position BEFORE making adjustments.

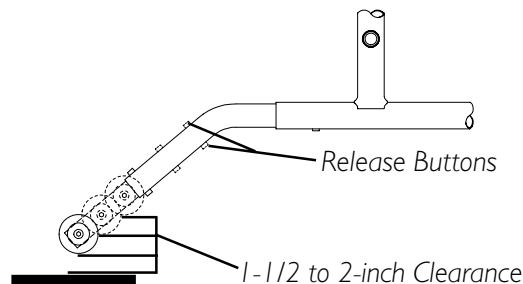


FIGURE 3 - ADJUSTING THE ANTI-TIPPERS

2. Press the release buttons on the wheeled portion of the anti-tipper and slide it up or down to the desired adjustment hole.
3. Check to make sure that the release buttons are fully engaged in adjustment holes.
4. Ensure both anti-tippers are adjusted to the same height.
5. Measure the distance between the bottom of the anti-tipper wheels and the ground/floor.
6. If the distance between the bottom of anti-tipper wheels and the ground/floor is not 1-1/2 to 2-inches, repeat STEPS 2-5 until the distance is 1-1/2 to 2-inches.
7. If the 1-1/2 to 2-inch distance cannot be achieved with the anti-tippers, a different model may be required. Contact an Invacare dealer or qualified technician.

USING/ADJUSTING THE DISK WHEEL LOCKS

USING THE PATIENT OPERATED DISK WHEEL LOCKS (FIGURE 3)

WARNING

DO NOT attempt to stop a moving wheelchair with the wheel locks. WHEEL LOCKS ARE NOT BRAKES - otherwise injury or damage may occur.

NOTE: Position wheelchair on a flat, level surface to perform this procedure.

1. Ensure the wheelchair is not moving before engaging the wheel locks.
2. Perform one (1) of the following:
 - A. **Push-to-Lock** - To engage, push the wheel lock handle forward.
 - B. **Pull-to-Lock** - To engage, pull the wheel lock handle backward.
3. Disengage the wheel locks by reversing STEP 2.

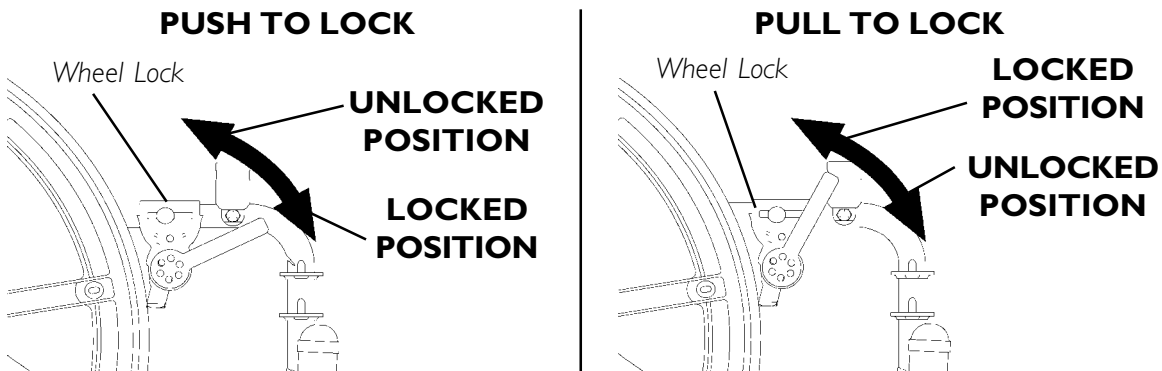


FIGURE 3 - USING THE DISK WHEEL LOCKS

ADJUSTING THE DISK WHEEL LOCKS (FIGURE 4)

NOTE: If wheels are pneumatic, before adjusting or replacing the wheel lock assemblies, ensure that the tires are inflated to the recommended psi on the side wall of tire. The recommended tire pressure is located on the side wall of the tire.

1. Disengage the wheel locks.
2. Loosen the bolt and locknut that secure the wheel lock to the wheelchair frame.
3. Reposition the wheel lock so that when engaged, the wheel lock shoe embeds the tire 1/8-inch (3/16-inch for pneumatic tires) and **HOLDS** the occupied wheelchair in place when pushed.
4. Securely tighten the bolt and locknut attaching the wheel lock to the wheelchair frame.
5. Engage the wheel lock.
6. Measure the distance the wheel lock is embedded into the tire as shown in DETAIL "A" of FIGURE 4.

NOTE: Any wheel lock adjustment should embed the wheel lock shoe at least 1/8-inch (3/16-inch if pneumatic tire) into the tire when engaged.

7. Repeat STEPS 1-6 until the wheel lock shoe embeds the tire 1/8-inch (3/16-inch for other tires) and **HOLDS** the wheelchair in place when pushed.
8. If the measurement of 1/8-inch (3/16-inch for other tires) can not be achieved, remove the bolt and locknut that secure the wheel lock to the wheelchair frame and mount the wheel lock in the remaining mounting position.

9. Repeat STEPS 1-7

10. If wheel lock is unable to properly engage the wheel it may be necessary to install wheel lock shoe extensions. Refer to INSTALLING WHEEL LOCK SHOE EXTENSIONS in this section of the manual.

11. Repeat STEPS 1-7

12. Repeat STEPS 1-10 for the opposite wheel lock.

13. Engage both wheel locks and ensure the occupied wheelchair is held in place when pushed.

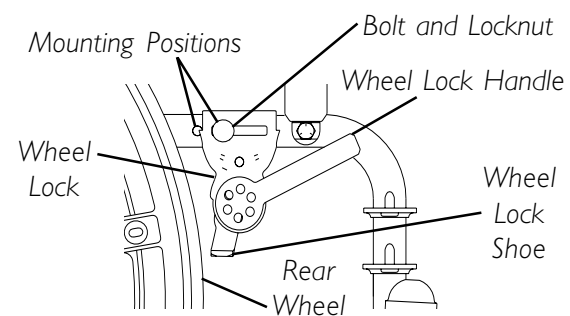
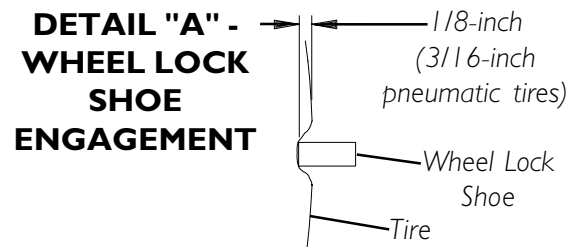


FIGURE 4 - ADJUSTING THE PATIENT OPERATED WHEEL LOCKS

WARNING

If wheel locks do not hold the occupied wheelchair in place contact a qualified technician. - otherwise injury or damage may occur.

INSTALLING WHEEL LOCK SHOE EXTENSIONS (FIGURE 5)

1. Loosen the two (2) set screws on the wheel lock shoe extension until the set screws do not protrude into the slot.
2. Insert the disk wheel lock shoe into the slot in the shoe extension.

NOTE: Ensure the pointed end of the wheel lock shoe extension is facing toward the rear wheel.

3. Position the wheel lock shoe extension so the outside edge is flush with the end of the wheel lock shoe.
4. Securely tighten the two (2) set screws to secure the wheel lock shoe extension to the wheel lock shoes.

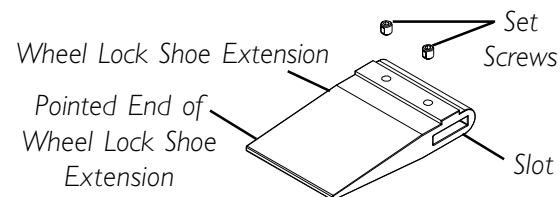


FIGURE 5 - INSTALLING WHEEL LOCK SHOE EXTENSION

Section 9 - Seat-to-Floor Height 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.

NOTE: Seat-to-floor height is not adjustable for Tracer EX1 wheelchairs with the fixed frame option (FF). This procedure is for EX1 wheelchairs with swingaway footrests ONLY.

CHANGING SEAT-TO-FLOOR HEIGHT (FIGURE 1)

WARNING

The size/position of the front casters, size/position of the rear wheels, use of anti-tipper model, as well as the user condition directly relate to the stability of the wheelchair. Any change to one (1) or any combination of the six (6) may cause the wheelchair to decrease in stability. These adjustments **MUST** be performed by a qualified technician.

Seat-to-floor heights have specific positions depending on rear wheel size, rear wheel position, front caster size and front caster position. These adjustments **MUST** be performed by a qualified technician.

If changing the seat-to-floor height the correct anti-tippers **MUST** be ordered to maintain a 1-1/2 to 2-inch ground clearance.

1. Refer to the following chart in FIGURE 1 to determine mounting positions for front casters/forks and rear wheels for the desired obtainable seat-to-floor height:
2. Remove the rear wheels from the wheelchair. Refer to REMOVING/INSTALLING THE REAR WHEELS in SECTION 6 of this manual.
3. If necessary, replace the front casters and forks with the casters and forks indicated in the chart. Refer to REPLACING FRONT CASTERS and INSTALLING/REPLACING FORK ASSEMBLIES in SECTION 7 of this manual.
4. Reinstall the rear wheels onto the wheelchair in the mounting position indicated in the chart. Refer to REMOVING/INSTALLING THE REAR WHEELS in SECTION 6 of this manual.
5. Adjust anti-tippers according to NEW seat-to-floor height. Refer to ADJUSTING THE ANTI-TIPPERS in SECTION 8 of this manual.

***6-INCH FRONT CASTERS**

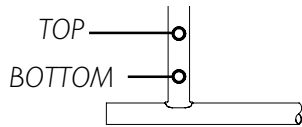
SEAT-TO-FLOOR HEIGHT (in inches)	FRONT CASTER MOUNTING POSITION	REAR WHEEL SIZE	REAR WHEEL MOUNTING POSITION
15-1/2	TOP	20-inch	TOP
16-1/2	MIDDLE	22-inch	TOP
17-1/2	BOTTOM	24-inch	TOP
17-1/2	BOTTOM	20-inch	BOTTOM

***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

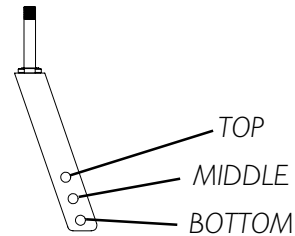


FIGURE 1 - CHANGING SEAT-TO-FLOOR HEIGHT

SEAT-TO-FLOOR HEIGHT

Section 10 - Options includes the following:

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 occur.

INSTALLING THE SEAT POSITIONING STRAP (FIGURE 1)

WARNING

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

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

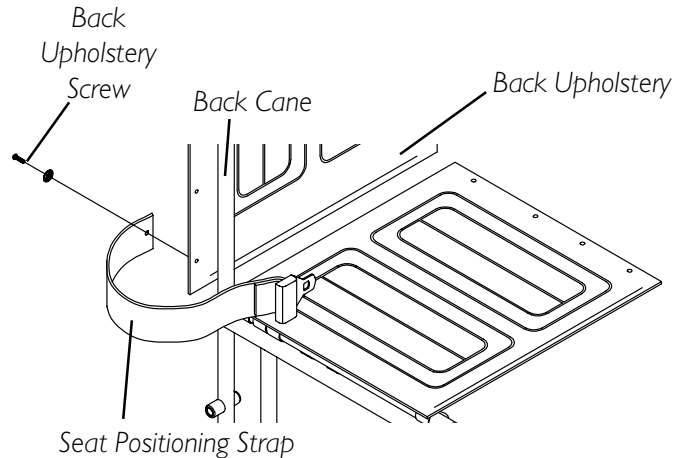


FIGURE 1 - INSTALLING THE SEAT POSITIONING STRAP

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. The side frames and crossmembers are warranted for the lifetime of the original purchaser/users. 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.

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