

Invacare® Top End® Everyday Series
Terminator™
Terminator™ Titanium

User Manual
Manuel d'utilisation
Gebruikershandleiding
Gebruiksaanwijzing



This manual MUST be given to the user of the product.

BEFORE using this product, read this manual and save for future reference.



Yes, you can.®



This product complies with Directive 93/42/EEC concerning medical devices.

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User Manual

DEALER: This manual MUST be given to the user of the product.

USER: BEFORE using this product, read this manual and save for future reference.

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I General

I.1 Symbols

Warnings

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



DANGER

Danger indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

Warning indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

Caution indicates a potentially hazardous situation which, if not avoided, may result in property damage or minor injury or both.



IMPORTANT

Indicates a hazardous situation that could result in damage to property if it is not avoided.



Gives useful tips, recommendations and information for efficient, trouble-free use.

I.2 Dealer/Technician Information

The term “qualified technician” in this manual refers to an Invacare qualified technician.

1.3 Warranty Information

United States 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 who purchases this product when new and unused from Invacare or a dealer. This warranty is not extended to any other person or entity and is not transferable or assignable to any subsequent purchaser or owner. Coverage under this warranty will end upon any such subsequent sale or other transfer of title to any other person.

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

Invacare warrants the frames when purchased new and unused to be free from defects in materials and workmanship for a period of three (3) years from the date of purchase from Invacare or a dealer, with a copy of the seller's invoice required for coverage under this warranty. Invacare warrants the upholstered materials (seat and back) and remaining components of this product when purchased new and unused to be free from defects in materials and workmanship for a period of thirteen (13) months from date of purchase from Invacare or a dealer, with a copy of the seller's invoice required for coverage under this warranty.

Force-2 Model Only - Invacare warrants the frames when purchased new and unused to be free from defects in materials and workmanship for a period of two (2) years from the date of purchase from Invacare or a dealer, with a copy of the seller's invoice required for coverage under this warranty.

Invacare warrants the upholstered materials (seat and back) and remaining components of this product when purchased new and unused to be free from defects in materials and workmanship for a period of thirteen (13) months from date of purchase from Invacare or a dealer, with a copy of the seller's invoice required for coverage under this warranty.

If within such warranty periods 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 SUBJECT 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 DAMAGE 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 NORMAL WEAR AND TEAR OR FAILURE TO ADHERE TO THE PRODUCT INSTRUCTIONS. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES WHATSOEVER, WHETHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND THE SOLE REMEDY FOR VIOLATIONS OF ANY WARRANTY WHATSOEVER, SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT PURSUANT TO THE TERMS CONTAINED HEREIN. THE APPLICATION OF ANY IMPLIED WARRANTY WHATSOEVER SHALL NOT EXTEND BEYOND THE DURATION OF THE EXPRESS WARRANTY PROVIDED HEREIN. INVACARE SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES WHATSOEVER. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGE, OR LIMITATION OF HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE EXCLUSION AND LIMITATION MAY NOT BE APPLICABLE. THIS WARRANTY SHALL BE EXTENDED TO COMPLY WITH STATE/PROVINCIAL LAWS AND REQUIREMENTS.

Canadian Limited Warranty

Cette garantie n'est offerte qu'à l'acheteur initial de nos produits neufs et inutilisés achetés auprès de Invacare ou d'un distributeur. Cette garantie n'est offerte à nulle autre personne ou entité; elle n'est ni transférable ni attribuable à un acheteur ou propriétaire consécutif. La prise en charge au terme de cette garantie sera résiliée consécutivement à la vente ou au transfert de propriété du produit. Cette garantie confère à l'acheteur certains droits reconnus par la loi. D'autres droits légaux, variant d'un état ou d'une province à l'autre, peuvent s'y ajouter.

Invacare garantit les cadres latéraux de ce produit acheté neuf et inutilisé contre les vices de fabrication et de main d'oeuvre pendant une période de trois (3) ans à compter de la date d'achat auprès d'Invacare ou d'un distributeur, une copie de la facture du revendeur étant nécessaire pour couvrir le produit au titre de cette garantie. Invacare garantit les matériaux de revêtement (siège et dossier) acheté neuf et inutilisé contre les vices de fabrication et de main d'oeuvre pendant une période de treize (13) mois à compter de la date d'achat auprès d'Invacare ou d'un distributeur, une copie de la facture revendeur étant nécessaire pour couvrir le produit au titre de cette garantie. Si ledit produit s'avère défectueux pendant ces périodes, il sera réparé ou remplacé au choix d'Invacare. Cette garantie n'inclut pas les frais de livraison ou de main d'oeuvre résultant de l'installation de pièces de rechange ou de la réparation dudit produit.

La seule obligation d'Invacare et le seul recours du bénéficiaire de la garantie se limitera à ces réparations et/ou remplacements.

Pour un service au titre de la garantie, l'acheteur doit contacter le distributeur auprès duquel il a acheté le produit Invacare. Si l'acheteur ne juge pas le service de garantie satisfaisant, il doit écrire directement à Invacare à l'adresse figurant au bas de cette page. Il doit fournir le nom du distributeur, l'adresse, le numéro de modèle du produit, sa date d'achat, indiquer la nature du défaut et le numéro du produit si celui-ci est numéroté en série. Ne pas renvoyer les produits à l'usine sans avoir obtenu notre accord préalable.

LIMITATIONS ET EXCLUSIONS : LA PRÉSENTE GARANTIE NE S'APPLIQUERA PAS AUX PRODUITS DONT LES NUMÉROS DE SÉRIE ONT ÉTÉ SUPPRIMÉS OU MUTILÉS, AUX PRODUITS SUJETS À UNE NÉGLIGENCE, UN ACCIDENT, UNE UTILISATION, UN ENTRETIEN OU UN ENTREPOSAGE IMPROPRES, AUX PRODUITS MODIFIÉS SANS LE CONSENTEMENT ÉCRIT FORMEL D'INVACARE, Y COMPRIS SANS S'Y LIMITER, DES MODIFICATIONS PAR LE BIAIS DE PIÈCES OU D'ACCESSOIRES NON AUTORISÉS; AUX PRODUITS ENDOMMAGÉS SUITE À DES RÉPARATIONS APPORTÉES À UN COMPOSANT SANS L'ACCORD SPÉCIFIQUE D'INVACARE, OU À UN PRODUIT ENDOMMAGÉ LORS DE CIRCONSTANCES ÉCHAPPANT AU CONTRÔLE D'INVACARE; CETTE ÉVALUATION SERA EXCLUSIVEMENT DÉTERMINÉE PAR INVACARE. CETTE GARANTIE NE S'APPLIQUERA PAS EN CAS D'USURE NORMALE OU DE NON-RESPECT DES INSTRUCTIONS DU PRODUIT.

LA PRÉSENTE GARANTIE EXPLICITE EST EXCLUSIVE ET SE SUBSTITUE À TOUTES AUTRES GARANTIES, EXPLICITES OU IMPLICITES, NOTAMMENT TOUTE GARANTIE IMPLICITE DE QUALITÉ MARCHANDE ET D'ADÉQUATION À UN USAGE PARTICULIER.

LE SEUL REMÈDE À LA MOINDRE RUPTURE DE LA GARANTIE SE LIMITE À LA RÉPARATION OU AU REMPLACEMENT DU PRODUIT DÉFECTUEUX CONFORMÈMENT AUX TERMES ET CONDITIONS DE LA PRÉSENTE GARANTIE. L'APPLICATION DE TOUTE GARANTIE IMPLICITE NE SAURAIT S'ÉTENDRE AU-DELÀ DE LA PÉRIODE DE COUVERTURE EXPLICITE INDIQUÉE DANS LE PRÉSENT DOCUMENT. INVACARE NE SAURAIT ÊTRE TENU RESPONSABLE DU MOINDRE DOMMAGE INDIRECT OU ACCESSOIRE.

CERTAINS ÉTATS OU CERTAINES PROVINCES N'AUTORISENT PAS L'EXCLUSION NI LA LIMITATION DES DOMMAGES ACCESSOIRES OU INDIRECTS, NI LA LIMITATION DE LA DURÉE DE LA GARANTIE IMPLICITE; AUSSI, L'EXCLUSION ET LA LIMITATION ÉNONCÉES CI-DESSUS PEUVENT NE PAS VOUS CONCERNER. LA PRÉSENTE GARANTIE PEUT ÊTRE ÉTENDUE POUR LA RENDRE CONFORME AUX LOIS ET RÈGLEMENTS LOCAUX.

1.4 European Limited Warranty Information and Customer Service:

Belgium & Luxembourg:

Invacare nv, Autobaan 22, B-8210 Loppem
Tel: (32) (0)50 83 10 10, Fax: (32) (0)50 83 10 11
belgium@invacare.com, www.invacare.be

Danmark:

Invacare A/S, Sdr. Ringvej 37, DK-2605 Brøndby
Tel: (45) (0)36 90 00 00, Fax: (45) (0)36 90 00 01
denmark@invacare.com, www.invacare.dk

Deutschland:

Invacare Aquatec GmbH, Alemannenstraße 10, D-88316 Isny
Tel: (49) (0)75 62 7 00 0, Fax: (49) (0)75 62 7 00 66
info@invacare-aquatec.com, www.invacare-aquatec.de

European Distributor Organisation:

Invacare, Kleiststraße 49, D-32457 Porta Westfalica
Tel: (49) (0)57 31 754 540, Fax: (49) (0)57 31 754 541
edo@invacare.com, www.invacare.eu.com

España:

Invacare SA, c/Areny s/n, Polígon Industrial de Celrà, E-17460 Celrà (Girona)
Tel: (34) (0)972 49 32 00, Fax: (34) (0)972 49 32 20
contactsp@invacare.com, www.invacare.es

France:

Invacare Poirier SAS, Route de St Roch, F-37230 Fondettes
Tel: (33) (0)2 47 62 64 66, Fax: (33) (0)2 47 42 12 24
contactfr@invacare.com, www.invacare.fr

Ireland:

Invacare Ireland Ltd, Unit 5 Seatown Business Campus, Seatown Road,
Swords, County Dublin - Ireland
Tel: (353) 1 810 7084, Fax: (353) 1 810 7085
ireland@invacare.com, www.invacare.ie

Italia:

Invacare Mecc San s.r.l., Via dei Pini 62, I-36016 Thiene (VI)
Tel: (39) 0445 38 00 59, Fax: (39) 0445 38 00 34
italia@invacare.com, www.invacare.it

Nederland:

Invacare BV, Celsiusstraat 46, NL-6716 BZ Ede
Tel: (31) (0)318 695 757, Fax: (31) (0)318 695 758
nederland@invacare.com, www.invacare.nl, csede@invacare.com

Norge:

Invacare AS, Grensesvingen 9, Postboks 6230, Etterstad, N-0603 Oslo
Tel: (47) (0)22 57 95 00, Fax: (47) (0)22 57 95 01
norway@invacare.com, www.invacare.no
island@invacare.com

Österreich:

Invacare Austria GmbH, Herzog Odilostrasse 101, A-5310 Mondsee
Tel: (43) 6232 5535 0, Fax: (43) 6232 5535 4
info@invacare-austria.com, www.invacare.at

Portugal:

Invacare Lda, Rua Estrada Velha, 949, P-4465-784 Leça do Balio
Tel: (351) (0)225 1059 46/47, Fax: (351) (0)225 1057 39
portugal@invacare.com, www.invacare.pt

Sverige & Suomi:

Invacare AB, Fagerstagatan 9, S-163 91 Spånga
Tel: (46) (0)8 761 70 90, Fax: (46) (0)8 761 81 08
sweden@invacare.com, www.invacare.se, finland@invacare.com

Switzerland:

Invacare AG, Benkenstrasse 260, CH-4108 Witterswil
Tel: (41) (0)61 487 70 80, Fax: (41) (0)61 487 70 81
switzerland@invacare.com, www.invacare.ch

United Kingdom:

Invacare Limited, Pencoed Technology Park, Pencoed,
Bridgend CF35 5HZ
Switchboard Tel: (44) (0)1656 776200, Fax: (44) (0)1656 776201
Customer services Tel: (44) (0)1656 776222,
Fax: (44) (0)1656 776220
UK@invacare.com, www.invacare.co.uk

2 Overview

2.1 Label Locations



Serial number label located underneath seat.

The weight capacity label is on the camber tube. Refer to Weight Capacity on page 21.

Terminator



Terminator Titanium



2.2 Typical Product Parameters

Top End Terminator

	Everyday (ED)		Basketball
FRAME:	Rigid - 4130 Chrome-moly		
SEAT WIDTH:	12-20 inches (30.48 - 50.8 cm) - Outside to Outside of SEAT FRAME in 1-inch (2.54 cm) increments		
SEAT DEPTH:	14 to 17 (35.56 - 43.18 cm) inches		
SEAT-TO-FLOOR:	Front - 17 to 21-inch (43.18 - 53.34 cm) Rear - 14 to 21-inch (35.56 - 53.34 cm)		Front - 17 to 21-inch (43.18 - 53.34 cm) Rear - 13 to 21-inch (33.02 - 53.34 cm)
BACK STYLE:	Fixed (Standard), Fold Down		
BACK HEIGHT FIXED:	8 - 16 inches (20.32 - 40.64 cm)		8 - 14 inches (20.32 - 35.56)
ADJUSTABLE:	8 to 11, 10 to 14, 12 to 16, 14 to 18 and 16 to 20 inches in 1-inch increments (20.32 - 27.94, 25.4 - 35.56, 30.48 - 40.64, 35.56 - 45.72, and 40.64 - 50.8 cm in 2.54 cm increments)		
BACK ANGLE FOLDING:	90° straight, 4° backward, 4° forward or 8° forward		
FIXED:	0°, 3°, 6° or 9°		
REAR-FRONT CASTER DISTANCE:	17 to 21 Inches (43.18 - 53.34 cm) (From outside of back of frame to center of front caster housing)		
FRONT CASTER TO FOOTPLATE DISTANCE:	3 - 5 inches (7.62 - 12.7 cm)		
FOOT WIDTH:	9 - 12 inches (22.86 - 30.48 cm) (Average is 10 inches (25.4 cm) between front of footrest bars)		
FOOTREST:	Tubular: 4-inch (10.16 cm) Height Adjustable (Standard)		
SIDE-WHEEL CLEARANCE:	Adjustable 1/2 to 1-1/2 inches (1.27 - 3.81 cm)		
REAR AXLE:	Adjustable Axle Position, Quick (Standard) or Quad-Release		
REAR WHEEL CAMBER			
CAMBER TUBE 2000:	0°, 3°, 6°, 9°, 12°, 15°, 18°, 20°		
A4™ CAMBER SYSTEM:	0°, 3°, 6°, 9°, 12°		Optional
REAR WHEELS AND TIRES*	Double walled rim high flange hub (Standard), Spinergy® Spox		
22-INCH:	22x1-3/8-inch (55.88x3.5 cm) (Standard)		N/A
22-INCH (STANDARD):	Primo 25-540 (Standard), 24x1-3/8-inch (60.69x3.5 cm), KIK®, Knobby		Primo 25-540 (Standard)
25-INCH:	Primo 25-559 (Standard), KIK, Knobby		Primo 25-559 (Standard)
26-INCH:	Primo 25-590 (Standard), 26x1-3/8-inch (60.96x3.5 cm)		Primo 25-590 (Standard)
700C:	Special Turbo (Standard)		

2 OVERVIEW

	Everyday (ED)	Basketball
HANDRIMS:	Aluminum Welded Tab (Standard) Plastic Coated, Natural Fit [®] , Titanium	Aluminum Welded Tab (Standard), Titanium
WHEEL LOCKS:	High Mount, Low Mount (Standard)	N/A
FRONT FORKS:	Non-Suspension (Standard), Suspension	Non-Suspension
CASTER SIZE:	3, 4, 5 and 6-inch (7.62, 10.16, 12.7 and 15.24 cm)	3-inch (7.62 cm) Solid
BACK UPHOLSTERY:	U240 Black - Adjustable Tension	
WEIGHT:	20 lbs (9.07 kg)	
SHIPPING WEIGHT:	30 lbs (13.6 kg)	
WEIGHT CAPACITY:	250 lbs (113.4 kg) 350 lbs (158.76 kg) with Heavy Duty Package	250 lbs (113.4 kg)



15 x 15-inch seat, rear wheels and minimal options are included in the weight.

* Refer to [Tire Pressure Conversion](#) on page 15.

All specifications are approximate

Top End Terminator Titanium

	Everyday (ED)		Basketball
FRAME:	Rigid - 4130 Chrome-moly		
SEAT WIDTH:	12-20 inches (30.48 - 50.8 cm) - Outside to Outside of SEAT FRAME in 1-inch (2.54 cm) increments		
SEAT DEPTH:	14 to 18 (35.56 - 45.72 cm) inches		
SEAT-TO-FLOOR:	Front - 17 to 21-inch (43.18 - 53.34 cm) Rear - 14 to 21-inch (35.56 - 53.34 cm)	Front - 17 to 21-inch (43.18 - 53.34 cm) Rear - 13 to 21-inch (33.02 - 53.34 cm)	
BACK STYLE:	Fixed (Standard), Fold Down		
BACK HEIGHT FIXED:	8 - 16 inches (20.32 - 40.64 cm)	8 - 14 inches (20.32 - 35.56 cm)	
ADJUSTABLE:	8 to 11, 10 to 14, 12 to 16, 14 to 18 and 16 to 20 inches in 1-inch increments. (20.32 - 27.94, 25.4 - 35.56, 30.48 - 40.64, 35.56 - 45.72, and 40.64 - 50.8 cm in 2.54 cm increments)		
BACK ANGLE FOLDING:	90° straight, 4° backward, 4° forward or 8° forward		
FIXED:	0°, 3°, 6° or 9°		
REAR-FRONT CASTER DISTANCE:	17 to 2 inches (43.18 - 53.34 cm) (From outside of back of frame to center of front caster housing)		
FRONT CASTER TO FOOTPLATE DISTANCE:	3 to 5 inches (7.62 - 12.7 cm)		
FOOT WIDTH:	9 to 12 inches (22.86 - 30.48 cm) (Average is 10-inches (25.4 cm) between front of footrest bars)		
FOOTREST:	Tubular: 4-inch (10.16 cm) Height Adjustable (Standard)		
SIDE - WHEEL CLEARANCE:	Adjustable 1/2 to 1-1/2-inches (1.27 - 3.81 cm)		
REAR AXLE:	Adjustable Axle Position, Quick (Standard) or Quad-Release		
REAR WHEEL CAMBER CAMBER TUBE 2000:	0°, 3°, 6°, 9°, 12°, 15°, 18°, 20°		
A4™ CAMBER SYSTEM:	0°, 3°, 6°, 9°, 12°		
REAR WHEELS AND TIRES*:	Double walled rim high flange hub (Standard), Spinergy® Spox		
22-INCH:	22x1-3/8-inch (55.88x3.5 cm) (Standard)	N/A	
24-INCH (STANDARD):	Primo 25-540 (Standard), 24x1-3/8-inch (60.69x3.5 cm), KIK®, Knobby	Primo 25-540 (Standard)	
25-INCH:	Primo 25-559 (Standard), KIK, Knobby	Primo 25-559 (Standard)	
26-INCH:	Primo 25-590 (Standard), 26x1-3/8-inch (60.69x3.5 cm)	Primo 25-590 (Standard)	
700C:	Special Turbo (Standard)		
HANDRIMS:	Aluminum Welded Tab (Standard) Plastic Coated, Natural Fit®, Titanium	Aluminum Welded Tab (Standard), Titanium	

2 OVERVIEW

	Everyday (ED)	Basketball
WHEEL LOCKS:	High Mount, Low Mount (Standard)	N/A
FRONT FORKS:	Non-Suspension (Standard), Suspension	Non-Suspension
CASTER SIZE:	3, 4, 5 and 6-inch (7.62, 10.16, 12.7 and 15.24 cm)	3-inch (7.62 cm) Solid
BACK UPHOLSTERY:	U240 Black - Adjustable Tension	
WEIGHT:	17 lbs (7.71 kg)	
SHIPPING WEIGHT:	30 lbs (13.6 kg)	
WEIGHT CAPACITY:	250 lbs (113.4 kg) 400 lbs (181.44 kg) with Heavy Duty Package	250 lbs (113.4 kg)



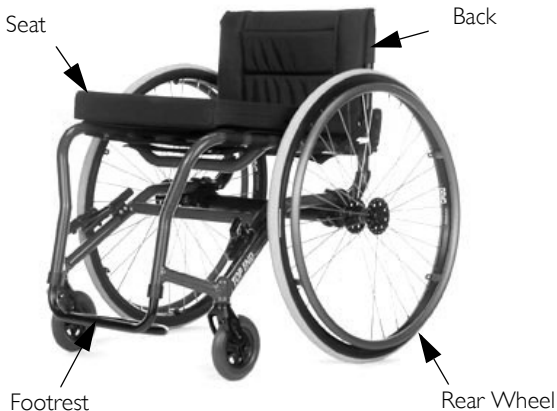
15 x 15-inch seat, rear wheels and minimal options are included in the weight.

* Refer to Tire Pressure Conversion on page 15.

All specifications are approximate

2.3 Component Identification

Terminator



Terminator Titanium



2.4 Tire Pressure Conversion



PSI rating is printed on the side of the tire. Conversion formula: 1 psi = 6.895 kPa (approx. 7 kPa).

PSI	KILOPASCALS	PSI	KILOPASCALS
50	345	90	621
55	379	95	655
60	414	100	690
65	448	105	724
70	483	110	758
75	517	115	793
80	552	120	827
85	586		

3 Safety

The safety section contains important information for the safe operation and use of this product.

3.1 General Guidelines



WARNING

DO NOT use this product without first completely reading and understanding these instructions and any additional instructional material such as owner's manuals, service manuals or instruction sheets supplied with this product. If you are unable to understand the warnings, cautions or instructions, contact a healthcare professional, dealer or technical personnel before attempting to use this equipment - otherwise, injury or damage may occur.

A qualified technician MUST perform the initial set up of this wheelchair. also, a qualified technician must perform all procedures specifically indicated in the manual.



ACCESSORIES WARNINGS

Invacare products are specifically designed and manufactured for use in conjunction with Invacare accessories. Accessories designed by other manufacturers have not been tested by Invacare and are not recommended for use with Invacare products.



NOTICE

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


Check all parts for shipping damage and test before using. In case of damage, DO NOT use. Contact Invacare/Carrier for further instruction.

3.2 Stability Warning



WARNING

The position of the footrest, camber tube, back angle, the tautness of the back upholstery as well as the user's condition are directly related to the wheelchairs stability. Any change to one or any combination of the five conditions may cause the wheelchair to decrease in stability. Use extreme caution when using a new seating position. The addition of anti-tippers may be required.

 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.	FOOTREST POSITION	CAMBER TUBE	BACK ANGLE	BACK UPHOLSTERY	USER CONDITION
FOOTREST POSITION	✓		✓		✓
CAMBER TUBE		✓	✓		✓
BACK ANGLE	✓		✓	✓	✓
BACK UPHOLSTERY			✓	✓	✓
USER CONDITION	✓	✓	✓	✓	✓

3 SAFETY

3.3 Operating Information



WARNING

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.

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 tip the wheelchair without assistance.

DO NOT use an escalator to move a wheelchair between floors. Serious bodily injury may occur. 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 prevent the wheels from moving.

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 turn over and cause bodily harm or damage to the wheelchair.

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.

DO NOT stand on the frame of the wheelchair.

Check all allen screws that secure the footrest/raised footrest system to the chair frame before using the wheelchair, especially if engaging in any contact sport.



WARNING

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 used at all times. When outdoors on wet, soft ground or on gravel surfaces, anti-tippers may not provide the same level of protection against tip over. Extra caution **MUST** be observed when traversing such surfaces.

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

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 Top End strongly recommends ordering the seat positioning strap as an additional safeguard for the wheelchair user.

The seat positioning strap is a positioning belt only. It is not designed for use as a safety device withstanding high stress loads such as auto or aircraft safety belts. If signs of wear appear, belt **MUST** be replaced **IMMEDIATELY**. **SERIOUS INJURY CAN OCCUR IN THE EVENT OF A FALL FROM THE PRODUCT.**

Because Top End wheelchairs are made to the specification of the original owner, it is unlikely that refurbished product would be suitable to the another user's needs.

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.

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

Ensure the occupant's legs and feet are properly secured during use. When transferring the occupant, ensure the feet do not slip between the tubes on the footrest.

Tire Pressure and Information

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. The recommended tire pressure is on the sidewall of the tire.

Replacement of the 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.

3 SAFETY

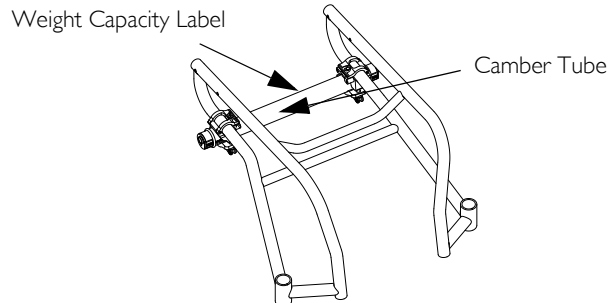
3.4 Weight Capacity



WARNING

Weight Capacity

Invacare's Top End Everyday and Terminator Titanium wheelchairs have a weight capacity of 250 lbs (113.4 kg). Invacare's Terminator Everyday wheelchairs with the heavy duty option have a weight capacity of 350 lbs (158.7 kg). Terminator Titanium wheelchairs with the heavy duty option have a weight capacity of 400 lbs (181.4 kg).



3.5 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.

3.6 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 tilting the wheelchair or traversing curbs, or other impediments.



WARNING

DO NOT attempt to lift a wheelchair by lifting 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. These must NEVER be used for lifting supports or to move the handcycle, as they may be inadvertently released, resulting in possible injury to the user and/or assistant.

When learning assistance techniques for the handcycle, have an experienced assistant help you before attempting it alone.

3.7 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.

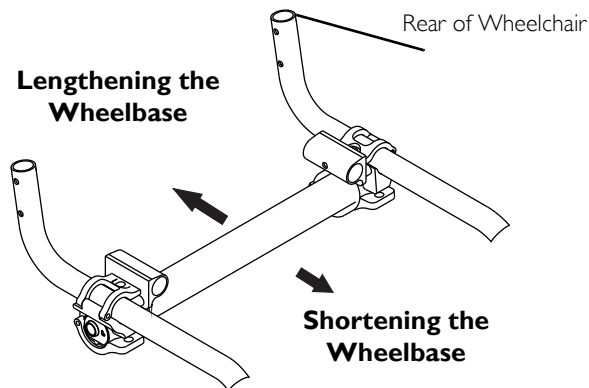
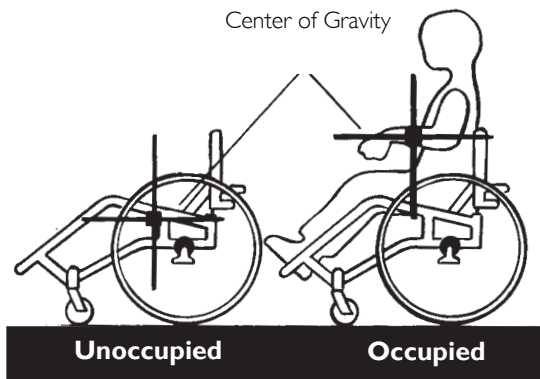
The position of the footrest, camber tube, back angle, the tautness of the back upholstery as well as the user's condition are directly related to the wheelchair's stability. Any change to one or any combination of the five may cause the wheelchair to decrease in stability. Use **EXTREME** caution when using a new seating position. The addition of anti-tippers may be required.

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 health-care professional before attempting active use of wheelchair.

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

- Lengthening the wheelbase will increase the stability and maintain standard maneuverability of wheelchair.
- Shortening the wheelbase will decrease the stability, increase the maneuverability and distribute additional weight onto the rear wheels.



3.8 Reaching, Leaning and Bending Forward

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



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.

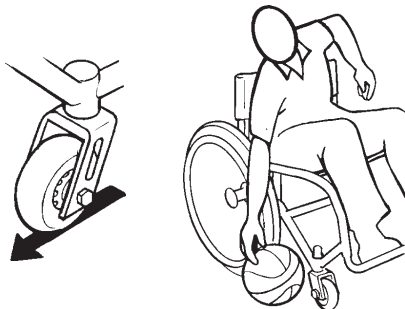
3.9 Reaching, Leaning and Bending Backwards



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.

**Reaching,
Leaning, and
Bending -
Forward**



**Reaching,
Leaning, and
Bending -
Backwards**



3.10 Tipping



WARNING

DO NOT tip the wheelchair without assistance.

DO NOT let the wheelchair drop the last few inches to the ground. This could result in injury to the occupant.

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 tilting 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. Apply a continuous motion until the balance point is achieved. At this point, the assistant will feel a difference in the weight distribution. Turn the wheelchair in the desired direction if necessary. Slowly lower the wheelchair in one continuous movement.

3 SAFETY

3.11 Tipping - Curbs



WARNING

Invacare does not recommend that sport wheelchairs be used where traversing curbs present an obstacle. Possible injury to occupant and/or assistant(s) can occur. Transfer to an everyday use wheelchair is recommended if any such obstacles may be encountered.

After mastering the techniques of tipping the wheelchair, use the following method to tackle curbs, short stairs, etc.

Turn the anti-tippers, if equipped, so the wheels are facing up. Unless the first assistant has exceptional upper body strength, it is recommended that two assistants perform this operation. 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.

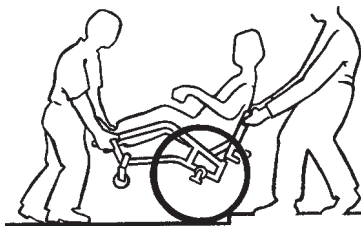
The first assistant should stand on the sidewalk and turn the wheelchair so that the rear wheels are against the curb. The wheelchair should be tilted back to the balance point and, in one continuous upward movement, the rear wheels should be pulled up and over the curb. **DO NOT** return the front casters 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 wheels are facing down.



3.12 Stairways



WARNING

Concerning stairway access: Invacare does not recommend that wheelchairs be transported up or down stairways with occupant in the wheelchair. Possible injury to occupant and/or assistant(s) can occur. Transfer to an everyday use wheelchair is recommended.

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.

Extreme caution is advised when it is necessary to move an occupied wheelchair up or down a stairway. Invacare recommends that, if possible, the user be removed from the wheelchair prior to moving. Invacare recommends using two 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 equipped, turn the anti-tippers up. Refer to Footrest/Anti-Tipper on page 53.
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 it as the first assistant places one foot on the next stair and repeats procedure.
4. The wheelchair should not be lowered until the last stair has been negotiated and it has been rolled away from the stairway.
5. If equipped, turn the anti-tippers down. Refer to Footrest/Anti-Tipper on page 53 in this manual.



WARNING

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

3 SAFETY

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



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 the armrest, if installed. 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.



4 SAFETY INSPECTION/TROUBLESHOOTING

4 Safety Inspection/Troubleshooting



Every six months or as necessary, take your Top End 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. Clean upholstery with mild soap and water or spray disinfectant using a sponge. **DO NOT** use bleach or wash in a washing machine.

4.1 Safety Inspection Checklist



WARNING

In cases of inactivity longer than six months, a comprehensive initial inspection **MUST** be performed.

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

Inspect/Adjust Initially

- ☐ Ensure wheelchair rolls straight (no excessive drag/pull to one side).
- ☐ Ensure wheel locks Do not interfere with tires when rolling.
- ☐ Ensure pivot points are free of wear and looseness.
- ☐ Ensure wheel locks are easy to engage.
- ☐ Inspect seat and back upholstery for rips or sagging.
- ☐ Inspect upholstery fastening flaps to ensure they securely latch.
- ☐ Inspect seat positioning strap for any signs of wear. Ensure buckle latches. Verify hardware that attaches strap to frame is secure and undamaged. Replace if necessary.
- ☐ Ensure hand grips (if equipped) are not loose.
- ☐ Ensure quick release axles and camber inserts are clean.
- ☐ Ensure adjustable axle position camber bar is securely tightened.
- ☐ Ensure quick/quad release axles lock properly.
- ☐ Ensure no excessive side movement or binding when lifted and spun.
- ☐ Inspect handrims for signs of rough edges or peeling.

4 SAFETY INSPECTION/TROUBLESHOOTING

- ☐ Inspect spokes for bent or broken spokes.
- ☐ Ensure all spokes are uniformly tight.
- ☐ Clean upholstery and armrests.



CAUTION

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

- ☐ 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.
- ☐ Ensure wheel bearings are clean and free of moisture.
- ☐ Inspect tires for flat spots and wear.
- ☐ If pneumatic tires check for proper inflation.
- ☐ Ensure casters are free of debris.
- ☐ Check that all labels are present and legible. Replace if necessary.

Inspect/Adjust Weekly

- ☐ Ensure hand grips (if equipped) are not loose.
- ☐ Ensure quick release axles and camber inserts are clean.
- ☐ Ensure quick/quad release axles lock properly.
- ☐ Inspect handrims for signs of rough edges or peeling.
- ☐ Inspect spokes for bent or broken spokes.
- ☐ Ensure all spokes uniformly tight.



CAUTION

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

- ☐ Inspect wheel/fork assembly for proper tension by spinning caster; caster should come to a gradual stop.
- ☐ Inspect tires for flat spots and wear.
- ☐ If pneumatic tires check for proper inflation.
- ☐ Ensure casters are free of debris.

4 SAFETY INSPECTION/TROUBLESHOOTING

Inspect/Adjust Monthly

- ☐ Ensure wheel locks Do not interfere with tires when rolling.
- ☐ Ensure pivot points are free of wear and looseness.
- ☐ Inspect upholstery fastening flaps to ensure they securely latch.
- ☐ Inspect seat positioning strap for any signs of wear. Ensure buckle latches. Verify hardware that attaches strap to frame is secure and undamaged. Replace if necessary.
- ☐ Ensure adjustable axle position camber bar is securely tightened.



CAUTION

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

- ☐ Loosen/tighten locknut if wheel wobbles noticeably or binds to a stop.
- ☐ Ensure wheel bearings are clean and free of moisture.
- ☐ Ensure casters are free of debris.

Inspect/Adjust Periodically

- ☐ Ensure wheelchair rolls straight (no excessive drag/pull to one side).
- ☐ Ensure wheel locks are easy to engage.
- ☐ Inspect seat and back upholstery for rips or sagging.
- ☐ Ensure adjustable axle position camber bar is securely tightened.
- ☐ Ensure no excessive side movement or binding when lifted and spun.
- ☐ Inspect handrims for signs of rough edges or peeling.
- ☐ Clean upholstery and armrests.



CAUTION

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

- ☐ Ensure wheel bearings are clean and free of moisture.
- ☐ Ensure casters are free of debris.
- ☐ Check that all labels are present and legible. Replace if necessary.

4.2 Troubleshooting

Veers Right	Veers Left	Sluggish Turn or Performance	Casters Flutter	Squeaks and Rattles	Looseness in Chair	Solutions
X	X	X	X			Check tires for correct and equal pressure
		X	X	X	X	Check for loose stem nuts.
				X	X	Check spokes and nipples.
X	X		X			Check that both casters contact the ground at the same time.

4.3 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.

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

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/quad-release axles free of dirt and lint to ensure positive locking and proper operation. Refer to

**WARNING**

DO NOT use WD-40®, 3-in-1 oil, or other penetrating lubricants on quick-release axles or camber inserts. Otherwise, binding and/or damage to the handcycle can occur.

3. Clean/oil quick-release axles and camber inserts once a week with a Teflon® lubricant.

4 SAFETY INSPECTION/TROUBLESHOOTING



WARNING

DO NOT use the handcycle 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. The recommended tire pressure is on the sidewall of the tire.

4. Recommended tire pressure is listed on the side wall of the tire.



CAUTION

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

5. The wheels, casters and tires should be checked periodically for cracks and wear, and should be replaced if damaged. Contact a qualified technician or Invacare customer support at the telephone numbers on the back of this manual.
6. Regularly check for loose spokes in the front and rear wheels. If loose, have them adjusted. Contact a qualified technician or Invacare customer support at the telephone numbers on the back of this manual.
7. Periodically check handrims to ensure they are secured to the rear wheels. Refer to
8. Periodically adjust wheel locks as tires wear. Refer to
9. Periodically check caster wheel bearings to make sure they are clean and free from moisture. Use a Teflon® lubricant if necessary.
10. Check upholstery for sagging, rips or tears. Refer to
11. Clean upholstery with mild soap and water.



Some countries require product returned for service be cleaned and sanitized. Please consult your dealer prior to returning product.

4 SAFETY INSPECTION/TROUBLESHOOTING

5 Back



WARNING

After any adjustments, repair or service and before use, make sure all attaching hardware is tightened securely. Otherwise injury or damage may occur.

ALWAYS perform these procedures in the presence of an assistant. The position of the footrest, camber tube, back angle, the tautness of the back upholstery as well as the user's condition are directly related to the wheelchair's stability. Any change to one or any combination of the five may cause the wheelchair to decrease in stability. Use extreme caution when using a new seating position. The addition of anti-tippers may be required.

The position of the footrest, seat angle, back angle, seating system/upholstery, caster size and position, rear wheel size and position, use of anti-tippers, as well as the user condition directly relate to the stability of the wheelchair. Any change to one or any combination of the ten may cause the wheelchair to decrease in stability. EXTREME care MUST be taken when changing the stability of the wheelchair.

5.1 Unfolding/Folding the Back



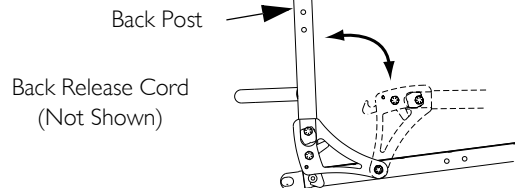
WARNING

Back MUST be locked securely in place before using the wheelchair.

1. To unfold the back, lift up on the back posts and pull back towards the rear of the wheelchair until it locks into place.
2. To fold the back, pull up on the back release cord and push the back posts forward toward the front of the wheelchair.

Rear of Wheelchair

Front of Wheelchair



Back upholstery removed for clarity.

5.2 Back Angle Adjustment



WARNING

If the adjustment square is installed into the back angle plate so that a number does not appear next to the indent, **DO NOT** use this position, otherwise injury will occur. This position of the adjustment square does not allow the locking pins to lock into position when the back is raised.

After unfolding the back, ensure that the plunger pins are fully engaged in the mounting holes of the adjustment square in the back angle plates. Otherwise, serious injury could result.



The numbers on the back angle plate are intended to define the resulting back angle of a chair that has 2 inch seat drop (at 17 inch depth) and that is measured relative to true vertical with the chair sitting on a level surface. The plus (+) sign increases the back angle and the minus (-) sign decreases the back angle. The resulting back angle will vary somewhat depending on your chair configuration. Refer to to see these settings converted into back angle relative to the seat.

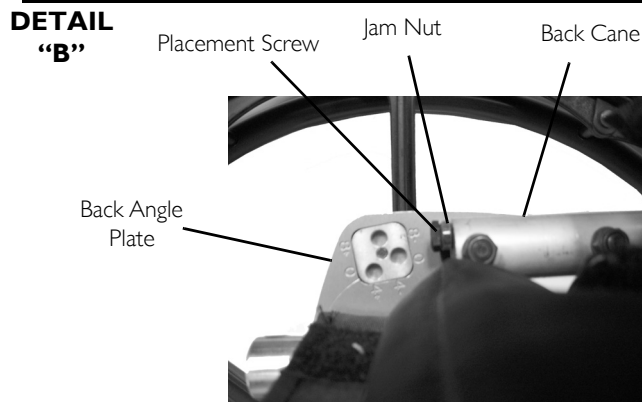
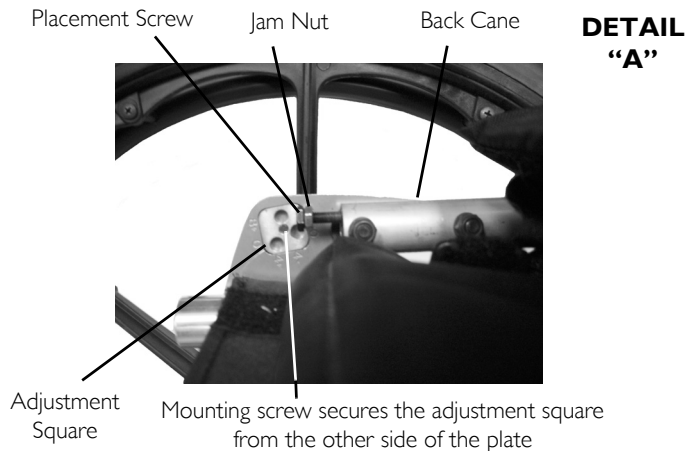
Perform this procedure on both sides of the wheelchair at the same time.

Note the indent on the adjustment square. When the adjustment square is positioned in the back angle plate, the number that is located directly next to the indent will be back angle relative to true vertical. One side of the adjustment square provides back angles of -8°, 0° and -4°. Flip the adjustment square over to obtain back angles of -8°, 4° and 0°.

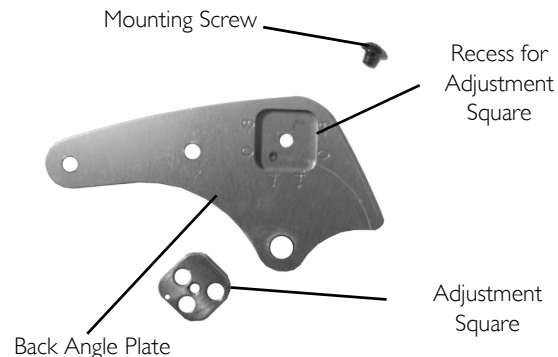
When adjusted properly, the back should have a small amount of movement when locked in the open position. Plunger pins should snap in and release easily without resistance.

5 BACK

1. Fold down the back. Refer to Unfolding/Folding the Back.
2. Loosen the jam nut on the placement screw located at the bottom of the back cane (Detail "A").
3. Tighten the placement screw so that the screw and jam nut are snug against the bottom of the back cane (Detail "B").
4. Remove the mounting screw that secures the adjustment square to the back angle plate (Details "A" and "C").



5. Remove the adjustment square from the back angle plate (Detail "C").
6. Position the adjustment square in the back plate with the indent located underneath the desired back angle.
7. Secure the adjustment square to the back angle plate with the mounting screw. Tighten securely.
8. Repeat STEPS 2-6 for remaining back cane.
9. Unfold the back until the plunger pins lock into the mounting holes in the adjustment square.
10. Unthread the mounting screw until head of screw rests on seat rail (Detail "D").
11. Completely tighten jam nut up against bottom of back cane (Detail "D").

**DETAIL
"C"**

Back angle plate, mounting screw and adjustment square are removed for clarity.

Back Cane

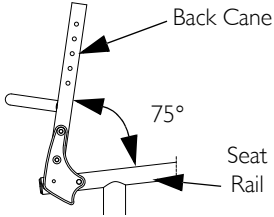
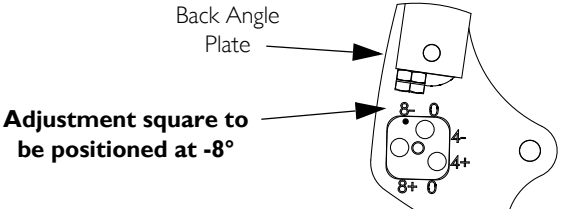
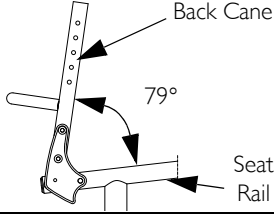
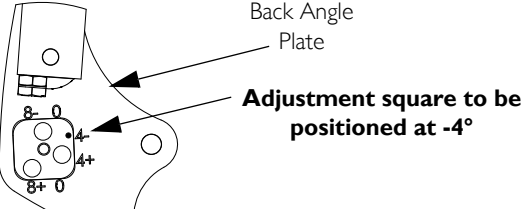
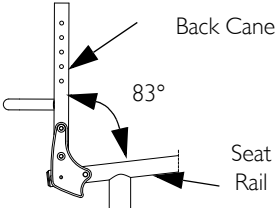
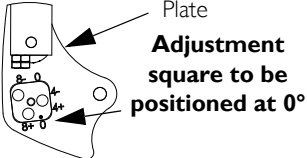
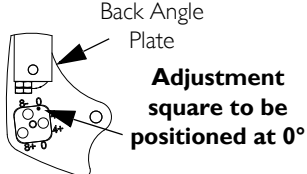
**DETAIL
"D"**

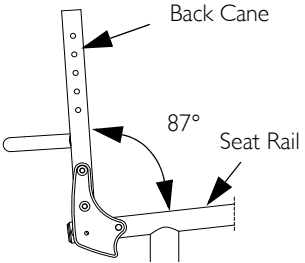
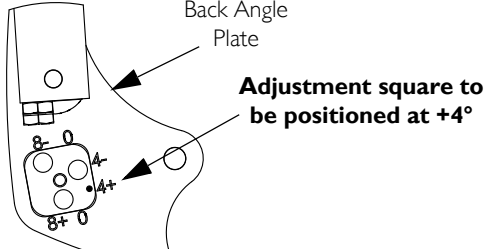
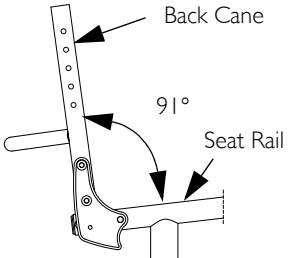
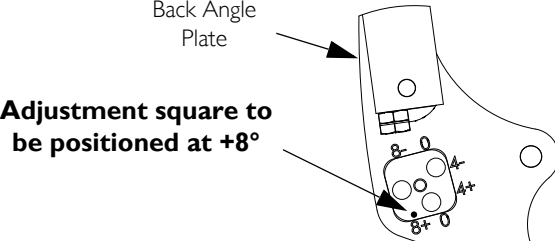
Jam Nut

Mounting Screw

Seat Rail



DESIRED SEAT ANGLE	ADJUSTMENT SQUARE POSITION	
	NUMERICAL	GRAPHICAL
	-8°	
	-4°	
	0°	<div><div><p>OPTION 1</p></div><div><p>OPTION 2</p></div></div>

DESIRED SEAT ANGLE	ADJUSTMENT SQUARE POSITION	
	NUMERICAL	GRAPHICAL
 <p>Back Cane</p> <p>87°</p> <p>Seat Rail</p>	+4°	 <p>Back Angle Plate</p> <p>Adjustment square to be positioned at +4°</p>
 <p>Back Cane</p> <p>91°</p> <p>Seat Rail</p>	+8°	 <p>Back Angle Plate</p> <p>Adjustment square to be positioned at +8°</p>

5 BACK

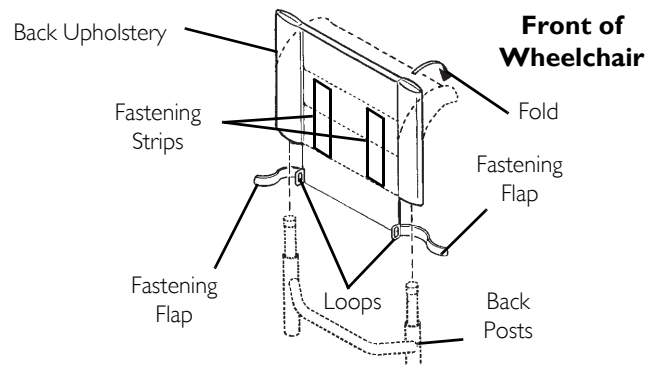
5.3 Removing/Installing Foldover Back Upholstery

Removing

1. Unfasten the two fastening flaps that secure the bottom of the existing back upholstery to the back posts.
2. Unfold the top of the back upholstery.
3. Lift up on the existing back upholstery and remove from the wheelchair.

Installing

1. Install the new back upholstery onto the back posts.
2. Wrap the end of a fastening flap around the back post.
3. Insert the end of the fastening flap through the loop.
4. Wrap the fastening flap around the back post again and press firmly to secure.
5. Fold the top of the back upholstery down over the back posts towards the front of the wheelchair.
6. Press firmly to secure the fastening strips.



5.4 Adjustable Tension Back Upholstery



WARNING

The position of the footrest, seat angle, back angle, seating system/upholstery, caster size and position, rear wheel size and position, use of anti-tippers, as well as the user condition directly relate to the stability of the wheelchair. Any change to one or any combination of the ten may cause the wheelchair to decrease in stability. **EXTREME** care **MUST** be taken when changing the stability of the wheelchair. Refer to the chart in General Guidelines.

The Adjustable Tension Straps

The straps can be adjusted at various levels of tension to accommodate individual end-users. The bottom two straps can be adjusted tightly to support and/or assist the extensor muscles.

The Back Upholstery Cover

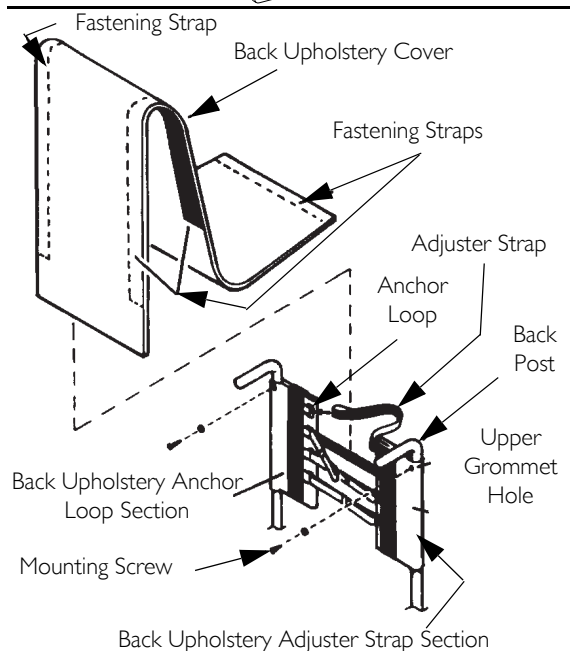
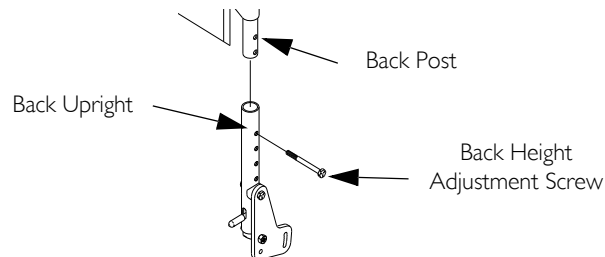
The back upholstery cover is designed for three reasons:

- The first is as a modesty cover.
- The second is to keep the cushion from sliding out of the back of the wheelchair.
- The third is a sacral support depending upon how far or tight the flap is pulled under the seat cushion.

5 BACK

Replacing Adjustable Tension Back Upholstery

1. Remove the back height adjustment screws that secure the back posts to the back uprights.
2. Slide the back posts out of the back uprights.
3. Remove the two screws and washers that secure the existing back upholstery to the back posts.
4. Slide the existing back upholstery down and off the back posts.
5. Stand behind the wheelchair and perform the following:
 - A. Slide anchor loop section of adjustable tension back upholstery up onto the left back post with the upper grommet hole facing the rear of the wheelchair.
 - B. Slide adjuster strap section of adjustable tension back upholstery up onto the right back post with the upper grommet hole facing the rear of the wheelchair.
6. Align the mounting hole in each back post with the desired mounting hole in each back upright.
7. Install the two back height adjustment screws through the back upright mounting holes determined in STEP 6 and the back post mounting holes.
8. Slip adjuster straps through corresponding anchor loops and adjust the back upholstery. Secure with the fastening straps.





Both back posts should be adjusted to the same height.



WARNING

After the adjustable tension back upholstery has been positioned to the end-users individual needs, the fastening straps **MUST** be securely fastened **BEFORE** applying the back upholstery cover. The adjustable back should be checked whenever entering the wheelchair to ensure that the fastening straps are securely fastened.

9. Secure the back upholstery cover (fastening strap) to the back of the adjustable back upholstery (fastening strap).
10. Flip the back upholstery cover over the adjustable back upholstery and secure the fastening straps to the front of the adjustable back upholstery.
11. Lay the front portion of the back upholstery cover on the seat pan.
12. Adjust the slack in the back upholstery cover and then secure to the seat pan fastening straps.

5.5 Back Height Adjustment (Adjustable Backs Only)



Observe the tautness of the back upholstery for reinstallation.

1. Unlatch the two fastening flaps that secure the top of the back upholstery to the back posts and remove from the back posts.



WARNING

Push pin **MUST** be protruding through hole in back post.

Ensure that both back post inserts are at the same height **BEFORE** reassembling the wheelchair.

2. Press the push pin on the back post insert tube in and adjust the back height to one of four heights depending on original back height:

5 BACK

ORIGINAL BACK HEIGHT	9-11 (22.86 - 27.94 CM)	10-14 (25.40 - 35.56 CM)	12-16 (30.48 - 40.64 CM)	14 - 18 (35.56 - 45.72 CM)	16 - 20 (40.64 - 50.8 CM)
Hole* Number					
1	9 (22.86 cm)	10 (25.40 cm)	12 (30.48 cm)	14 (35.56 cm)	16 (40.64 cm)
2	10 (25.40 cm)	11 (27.94 cm)	13 (33.02 cm)	15 (38.1 cm)	17 (43.18 cm)
3	11 (27.94 cm)	12 (30.48 cm)	14 (35.56 cm)	16 (40.64 cm)	18 (45.72 cm)
4	N/A	13 (33.02 cm)	15 (38.10cm)	17 (43.18 cm)	19 (48.25 cm)
5	N/A	14 (35.56 cm)	16 (40.64 cm)	18 (45.72 cm)	20 (50.8 cm)



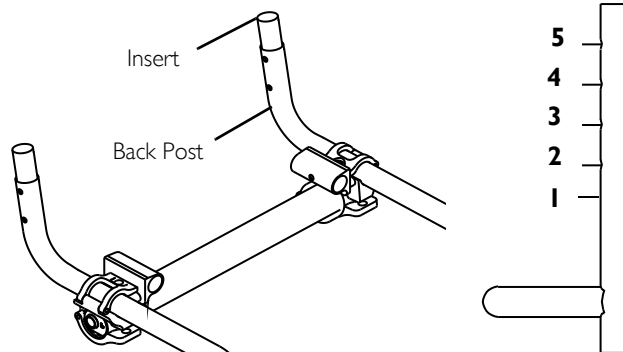
* Holes numbered from bottom to top for reference only. (There are no numbers on the back posts.)

There is a 1-inch (2.54 cm) adjustment pin on the back post insert tube. To raise back to maximum height, first make adjustment to the back post inserts.

The fastening flap with logo is for the left back post.

Right and left is determined by sitting in the wheelchair.

- Reinstall the fastening flaps onto the back posts.
- Adjust the new back upholstery to the desired tautness.



6 Wheels



WARNING

After any adjustments, repair or service and before use, make sure all attaching hardware is tightened securely. Otherwise injury or damage may occur.



CAUTION

Changing the size of the rear wheels can affect the performance of the wheelchair. Contact Top End at the telephone number on the back of this manual before changing rear wheel size.

6.1 Removing/Installing Rear Wheels

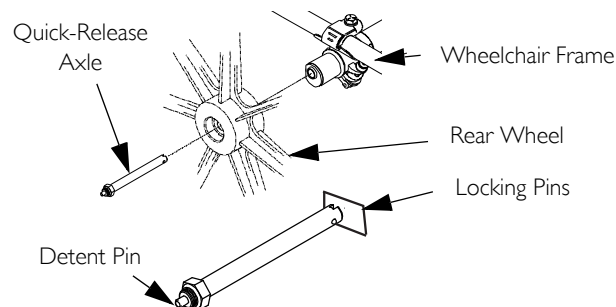
1. Perform one of the following:
 - Quick-Release - Push in the tip of the quick-release axle and pull axle and wheel away from the wheelchair.
 - Quad-Release - Lift up on the handle of the quad-release axle and pull axle and wheel away from the wheelchair.
2. Repeat STEP 1 for the opposite wheel.
3. Install both rear wheels by reversing STEPS 1-2.



WARNING

Pull on the rear wheel to make sure the detent pin and locking pins of the quick/quad-release axle are fully released before operating the wheelchair. Keep locking pins clean.

4. If there is too much movement of the rear wheel assembly in a back and forth motion, refer to



Quad-Release Axle not shown. Locking pins on the Quad-Release Axle are the same as Quick-Release Axle.

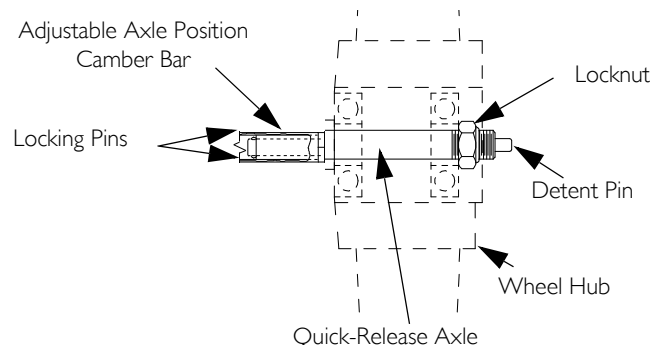
6 WHEELS

6.2 Adjusting Quick-Release Axles

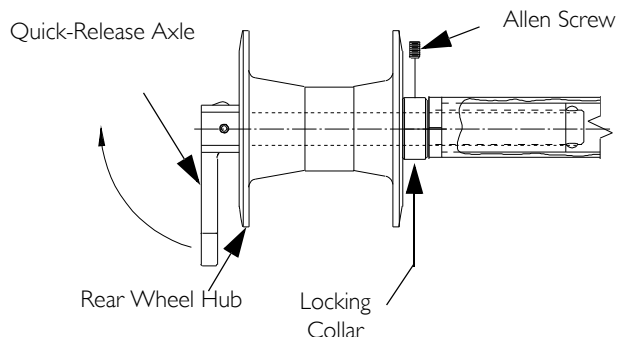
1. Remove rear wheel and quick-release axle from the wheelchair. Refer to Removing/Installing Rear Wheels on page 46 and Refer to Replacing Quad-Release Axles.
2. Depress detent pin in the quick-release axle and slide axle through the wheel hub.
3. Release detent pin ensuring that the locking pins are fully released.
4. Increase or decrease end play by adjusting the locknut on the end of the quick-release axle.
5. Install rear wheel onto the wheelchair. Refer to

6.3 Replacing Quad-Release Axles

1. Remove rear wheel and existing quick-release axle from the wheelchair. Refer to
2. Remove existing quick-release axle from rear wheel.
3. Insert new quad-release axle through rear wheel hub.
4. Slide locking collar onto quad-release axle until it is snug against rear wheel and tighten securely with allen screw.
5. Install the rear wheel and the quad-release axle onto the wheelchair. Refer to
6. Flip the handle of the quad-release axle down to release the detent pin ensuring that the locking pins are fully released.
7. If detent pin does not fully release, proceed to
8. Repeat STEPS 1-7 for the opposite wheel.



End of Quick Release axle is shown for reference only. It is not visible when inserted into camber bar.



End of Quick Release axle is shown for reference only. It is not visible when inserted into camber bar.

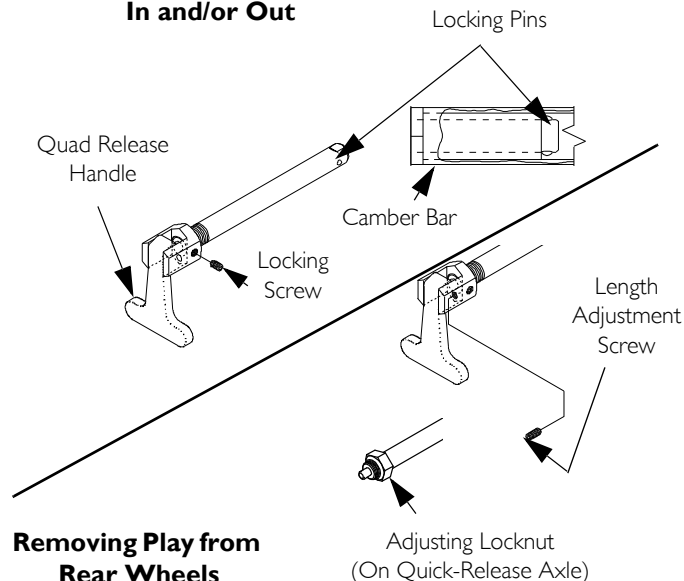
6.4 Adjusting Quad-Release Handles

1. Remove rear wheel and the quad-release axle from the wheelchair. Refer to
2. Loosen the locking screw.
3. Make one or both of the following adjustments:
 - If the quad release handle is not releasing the locking pins completely, rotate the quad-release handle approximately one-quarter turn clockwise.
 - If the quad-release handle hits the spokes of the rear wheel when assembled, rotate the quad-release handle approximately one-quarter turn counterclockwise.
4. Tighten the locking screw.
5. Install the rear wheel and quad-release axle onto the wheelchair. Refer to
6. Flip the handle of the quad-release axle down to release the detent pin ensuring that the locking pins are fully released.
7. Repeat this procedure until the quad-release axle locks correctly.

6.5 Removing Play from Rear Wheels

With the rear wheel and quad-release axle still mounted on the wheelchair, tighten the length adjusting screw until there is no in and out movement of the quad-release axle and rear wheel.

Adjusting Quad-Release Handle In and/or Out



6.6 Handrim Replacement

1. Remove the rear wheel from the wheelchair. Refer to [Removing/Installing Rear Wheels](#) on page 46.



WARNING

The tire must be fully deflated before any disassembly procedures can be performed - otherwise, injury or damage may occur.

2. Remove all air from the tube by pressing down on the pin in the center of the valve stem.
3. While carefully holding the tire, tube and rim strip to one side, hold the allen screws and remove the locknuts that secure the handrim to the rear wheel.
4. Remove the existing handrim.
5. Install new handrim by reversing STEPS 2-4.



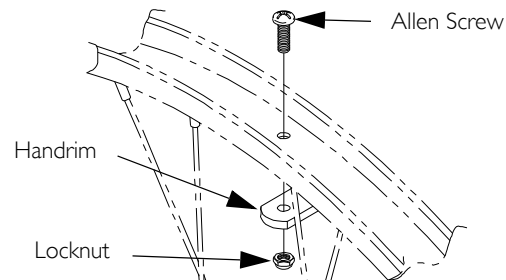
WARNING

DO NOT inflate tire until it is completely assembled - otherwise, injury or damage may occur.

Recommended tire pressure is listed on the side wall of the tire. DO NOT overinflate the tires. Failure to follow these suggestions may cause the tire to explode and cause bodily harm.

DO NOT ride on a flat or underinflated tires. Riding on flat or underinflated tires can cause injury, as well as, damage to the tire, tube and wheels.

6. Inflate the tire to the recommended psi.



6.7 Repairing/Replacing Rear Wheel Tire/Tube



WARNING

The replacement of the tire or tube **MUST** be performed by a qualified technician.



CAUTION

Changing the size of the rear wheels can affect the performance of the wheelchair. Contact Top End at the number on the back cover before performing this procedure.



If replacing rear wheels with a different size than what was originally on the wheelchair, the front caster height must also be changed to keep the wheelchair frame parallel to the floor. Refer to [Replacing/Adjusting Casters](#) on page 65 **ONLY** after contacting Invacare. Anti-tipper height (if applicable) must also be adjusted to maintain 1-1/2 to 2-inch (3.81 to 5.08 cm) clearance between bottom of the anti-tipper wheels and the floor. Refer to [Adjusting/Replacing Anti-Tipper](#) on page 71.

6.8 Opening/Closing Camber Clamps



WARNING

STANDARD AND SUSPENSION CAMBER CLAMPS - Make sure the hex screws are securely tightened before using wheelchair, otherwise personal injury or damage to the wheelchair may occur.

QUICK RELEASE LEVERS - Make sure the quick release levers are in the closed position before using the wheelchair, otherwise personal injury or damage to the wheelchair may occur.

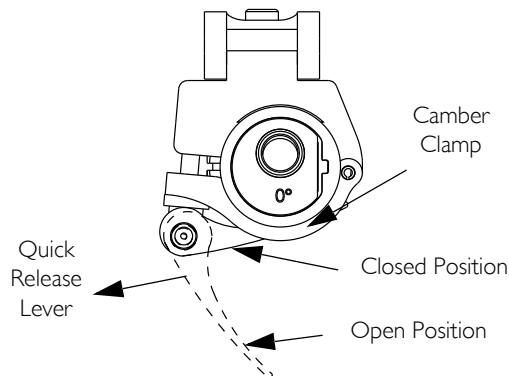


CAUTION

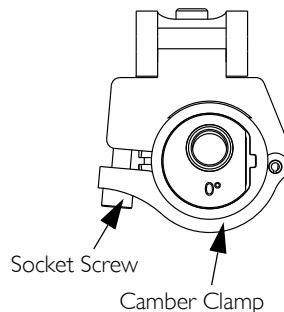
ADJUSTABLE CAMBER SYSTEM only - **DO NOT** close the quick-release levers or tighten the socket screws or hex screws without camber inserts in the axle tube. Damage to the axle tube will occur.

1. Perform one of the following to open a camber clamp:
 - Quick-Release Levers - Pull the quick release lever to the open position.
 - Standard Camber Clamps - Loosen, but do not remove the socket screw on the camber clamp.
 - Suspension Camber Clamps - Loosen, but do not remove the hex screw on the bottom rear of the camber clamp.
2. Perform one of the following to close a camber clamp:
 - Quick Release Levers - Secure the quick release lever to the camber clamp by threading it completely into the camber clamp. Push the quick release lever on the camber clamps to the closed position.
 - Standard Camber Clamps - Securely tighten the socket screw to secure the axle tube.
 - Suspension Camber Clamp - Securely tighten the hex screw on the bottom rear of the camber clamp to secure the axle tube.

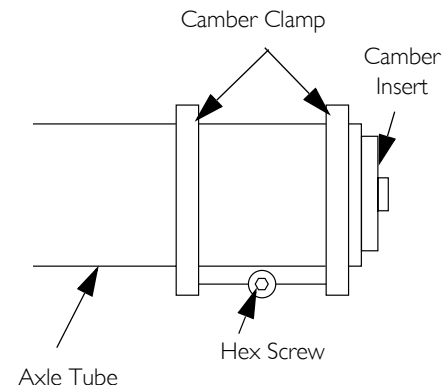
Side View of Quick Release Lever



Side View of Standard Camber Clamp



Rear View of Suspension Camber Clamp



6 WHEELS

6.9 Adjusting Rear Wheel Camber Camber Tube with Single Camber

The axle tube must be replaced to change the camber. Refer to

Adjustable Camber System



Perform this procedure to one side of the wheelchair at a time for ease of adjustment.

Before using the wheelchair, make sure both camber inserts are set to the same indexing mark. This will make sure the distance between the rear wheel and the wheelchair is the same on both sides.

1. Open the camber clamp.
2. Pull one rear wheel with camber insert out of axle tube.
3. Remove the rear wheel from the camber insert.
4. Rotate the camber insert 180°.
5. Reinstall the rear wheel into the camber insert.

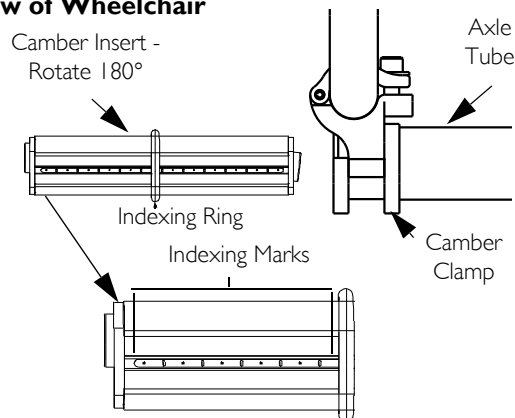


WARNING

NEVER position the camber inserts in the axle tube with more than 3-inches (7.62 cm) (12 indexing marks showing) of the camber insert outside of the axle tube. The camber inserts will not be securely tightened in the axle tube. Possible injury to the user and/or damage to the wheelchair may occur.

6. Position the camber insert to the desired position. Make sure there is no more than 3 inches (7.62 cm) (12 indexing marks) of the camber inserts outside of the axle tube.
7. Slide the indexing ring on the camber insert until it is flush with the camber clamp.
8. Close the camber clamp. Refer to
9. Repeat STEPS 1-8 for opposite side of wheelchair.
10. Install rear wheel to the wheelchair. Refer to
11. Adjust toe in/toe out of wheelchair. Refer to

Rear View of Wheelchair



6.10 Determining Toe In/Toe Out

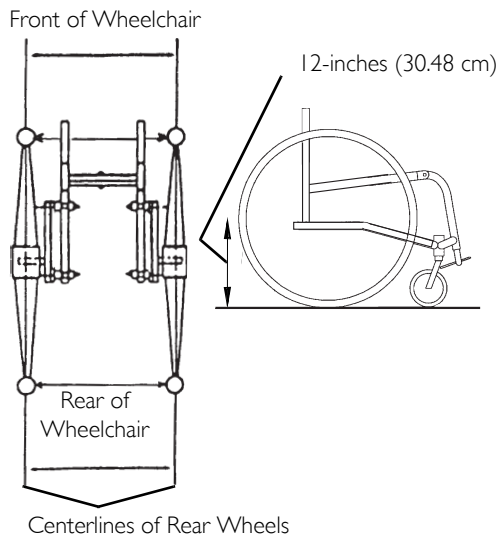
1. Inflate all pneumatic tyres to recommended tyre pressures (listed on the sidewall of the tyre).
2. Measure the distance between the centerlines at the rear and front of the rear wheels at approximately 12 inches (30.48 cm) from the ground/floor.



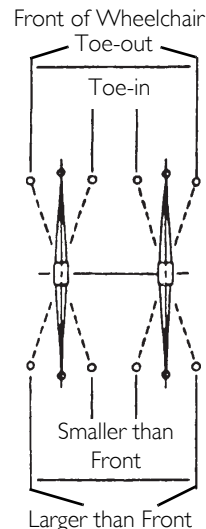
For optimum accuracy, perform STEP 2 with the wheelchair occupied.

3. Determine difference between two measurements. If difference between the two measurements is greater than 1/2-inch (1.27 cm) (0 + 1/4-inch (.63 cm) for maximum rollability), one of two conditions exists:
 - If the back centerline measurement of the rear wheels is **SMALLER** than the front centerline measurement of the rear wheels, a **TOE-OUT** condition exists .
 - If the back centerline measurement of the rear wheels is **LARGER** than the front centerline measurement of the rear wheels, a **TOE-IN** condition exists.
4. If the difference between the measurements is greater than 1/2-inch (1.27 cm), correct the toe-in/toe-out condition.

Top View of Wheelchair



Top View of Wheelchair



6 WHEELS

6.11 Adjusting Toe In/Toe Out

Camber Tube with Single Camber

1. Open the camber clamps.
2. Slowly rotate the camber tube in either direction until the rear wheels are approximately in a straight line.
3. Close the camber clamps.
4. Measure the distance between the center lines at the rear and front of the rear wheels at approximately 12 inches (30.48 cm) from the ground/floor.
5. Repeat STEPS 1-4 until the toe in/toe out measurement is less than 1/2-inch (1.27 cm) ($0 \pm 1/4$ -inch (.63 cm) for maximum rollability).

Adjustable Camber System

Course Adjustment



This procedure is required any time the axle tube is moved from the factory set position or is replaced.

Make the following adjustment for one camber at a time.

Rear wheels are removed from the drawings for clarity. There is no need to remove rear wheels from the wheelchair during adjustment.

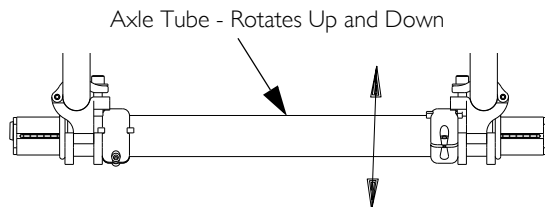
The illustration shows two examples of how the adjustment rings can be positioned.

1. Open the camber clamps.
2. Loosen the Phillips™ screws that secure the adjustment rings to the axle tube.
3. Slowly rotate the axle tube until the rear wheels are approximately in a straight line.
4. Close the camber clamp.
5. Measure the distance between the center lines at the rear and front of the rear wheels at approximately 12 inches (30.48 cm) from the ground/floor.
6. Repeat STEPS 1-4 until the toe in/toe out measurement is less than 1/2-inch (1.27 cm) ($0 \pm 1/4$ -inch (.63 cm) for maximum rollability).
7. Rotate either the right or left adjustment ring until the stop on the ring is at the top of the slot in the camber clamp as shown and securely tighten the Phillips screw on the positioned adjustment ring.



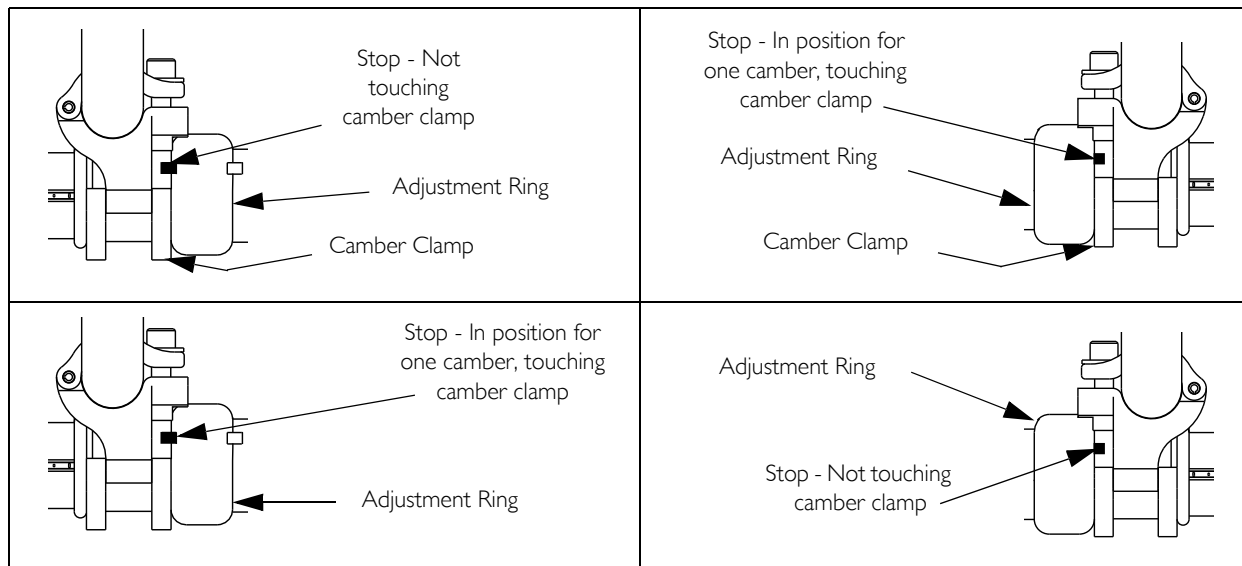
DO NOT tighten the Phillips screw on the other adjustment ring at this time.

Repeat STEPS 1-7 of this procedure for the other adjustment ring after repositioning the camber insert.



i When positioning the other adjustment ring, rotate the ring until the stop is at the bottom of the slot in the camber clamp. The right and left stops **MUST** be positioned opposite to each other or Fine Adjustment on page 56 will not work correctly.

When the left adjustment ring is adjusted to a camber, the right adjustment ring will not touch the camber clamp and when the right adjustment ring is adjusted to the other camber the left adjustment ring will not touch the camber clamp.



6 WHEELS

Fine Adjustment

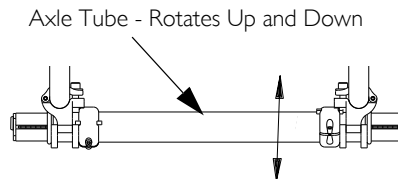


This adjustment is required anytime the camber insert is repositioned.

Rear wheels are removed from the drawings for clarity, there is no need to remove rear wheels from the wheelchair during adjustment.

This illustration shows one example of how the adjustment rings can be positioned.

1. Open the camber clamp.
2. Slowly rotate the axle tube until the stop on the opposite adjustment ring is positioned at the opposite end of the camber clamp.
3. Close the camber clamp.



6.12 Adjusting Wheelbase Length (Adjusting Center of Gravity)



WARNING

ALWAYS perform this procedure in the presence of an assistant. The position of the footrest, camber tube, back angle, the tautness of the back upholstery as well as the user's condition are directly related to the wheelchairs stability. Any change to one or any combination of the five may cause the wheelchair to decrease in stability. Use EXTREME caution when using a new seating position. The addition of anti-tippers may be required.



The camber bar is always mounted to the **BOTTOM** of the wheelchair frame.

1. Perform one of the following:
 - Non-Suspension - Loosen, but **DO NOT** remove the hex screw that secures each of the top clamps to the wheelchair frame.
 - Suspension - Loosen, but **DO NOT** remove the two hex screws that secure each of the top clamps to the wheelchair frame.
2. Position the camber clamps on the wheelchair frame at the desired position.
 - Lengthening the Wheelbase - Will increase the stability and maintain standard maneuverability of the wheelchair.
 - Shortening the Wheelbase - Will decrease the stability, increase the maneuverability and distribute additional weight onto the rear wheels.



Wheelchair performance will be affected if the camber clamps **DO NOT** sit flush on the wheelchair frame.

3. Perform one of the following:

- Non-Suspension - Securely tighten the hex screw that secures one of the top clamps to the wheelchair frame.
- Suspension - Securely tighten the two hex screws that secure one of the top clamps to the wheelchair frame.



Securely tightening one hex screw at a time ensures that the camber clamps will sit flush on the wheelchair frame.

4. Repeat STEP 3 for opposite side of the wheelchair.

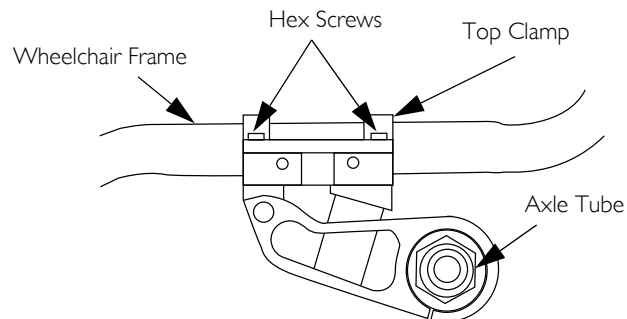
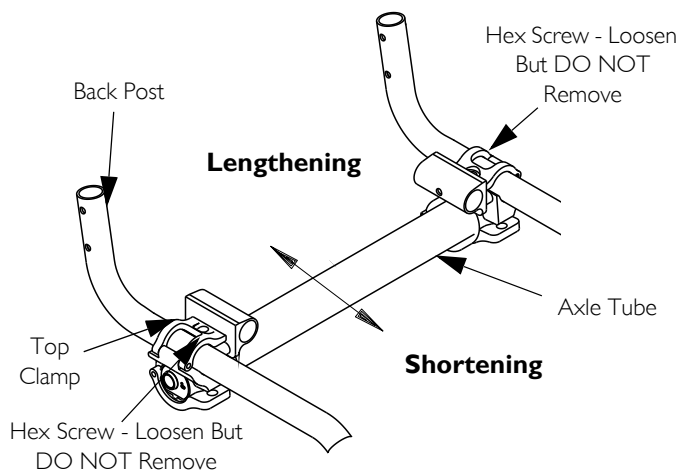


The distance between the back post and the back of the top clamp on each side of the wheelchair can be measured as an additional check to make sure the camber clamps sit flush on the wheelchair frame (the measurements should be the same).

5. Roll the wheelchair before using to make sure there is no excessive drag to either side.



If drag to either side occurs, Refer to Determining Toe In/Toe Out.



6 WHEELS

6.13 Adjusting Wheelbase Width



Perform this procedure on one side of the wheelchair at a time for ease of adjustment.

Camber Tube with Single Camber



The wheelbase width can be increased/decreased by 1-inch (2.54 cm).

1. Remove the rear wheels.
2. Torque the axle nut to increase/decrease the wheelbase width.
3. Count the number of threads showing on the axle bolt.

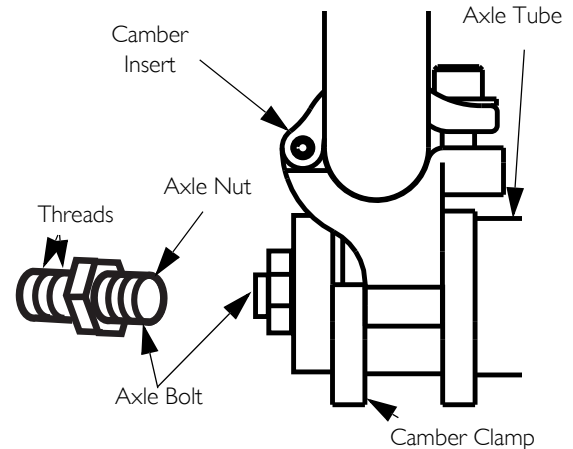


The number of threads showing on the axle bolt should be equal on both sides of the wheelchair. Otherwise, wheelchair performance may be affected.

4. Repeat STEPS 2-3 for the opposite axle nut and axle bolt.



Axle bolt removed from axle tube for clarity. It is not necessary to remove the axle both for this procedure.



Adjustable Camber System

1. Open the camber clamp.



WARNING

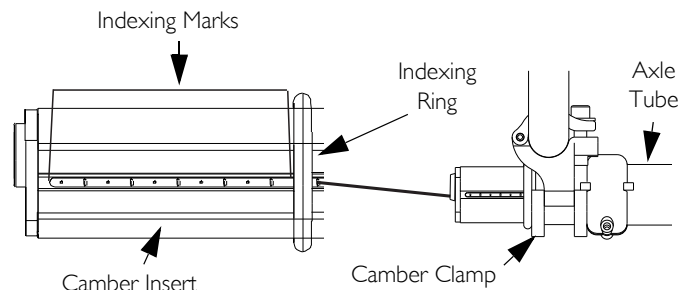
NEVER position the camber inserts in the axle tube with more than 3 inches (7.62 cm) (12 indexing marks showing) of the camber insert outside of the axle tube. The camber inserts will not be securely tightened in the axle tube. Possible injury to the user or damage to the wheelchair may occur.

2. Position camber insert to the desired position. Make sure there are no more than 3 inches (7.62 cm) (12 indexing marks showing) of the camber inserts outside of the axle tube.
3. Slide the indexing ring on the camber insert until it is flush with the camber clamp.



Before using the wheelchair, make sure both camber inserts are set at the same indexing mark. This will make sure the distance between the rear wheel and the wheelchair is the same on both sides.

4. Close the camber clamp.
5. Repeat STEPS 1-4 for opposite side of the wheelchair.



6.14 Replacing Axle Tube



The camber bar is always mounted to the bottom of the wheelchair frame.

There is no need to remove the two camber clamps when replacing the axle tube.

1. Adjustable Camber System Only - Note the position of the camber inserts so they can be installed at the same position in the new axle tube.
2. Open the camber clamps.
3. Remove the two rear wheels.
4. Adjustable Camber System Only - Remove the camber inserts positioned in the axle tube.

6 WHEELS

5. Adjustable Camber System Only - Loosen, but DO NOT remove the two Phillips screws that secure the toe adjustment rings to the axle tube.
6. Pull the existing axle tube through one of the camber clamps.
7. Adjustable Camber System Only - Remove toe adjustment rings from the existing axle tube.
8. Pull the existing axle tube through the other camber clamp and remove from the wheelchair.
9. Slide the new axle tube through one of the camber clamps.



Adjustable Camber System Only - Make sure the notches in the axle tube are towards the rear of the wheelchair and the slots in the axle tube are facing up.

10. Adjustable Camber System Only - Install the adjustment rings onto the new axle tube. Make sure the stops on the adjustment rings are facing towards the outside of the wheelchair.



DO NOT tighten the Phillips screws that secure the adjustment rings to the axle tube at this time.

11. Slide the new axle tube through the other camber clamp until the axle tube is evenly spaced between the camber clamps.



DO NOT close the camber clamps at this time.



WARNING

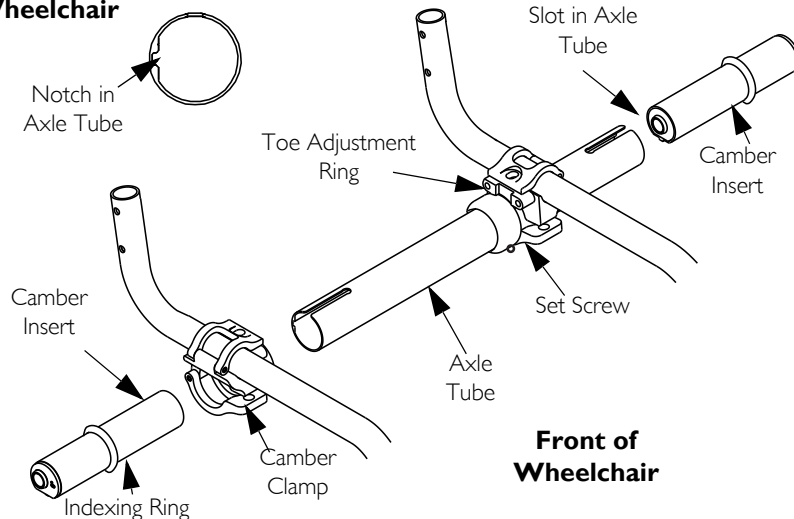
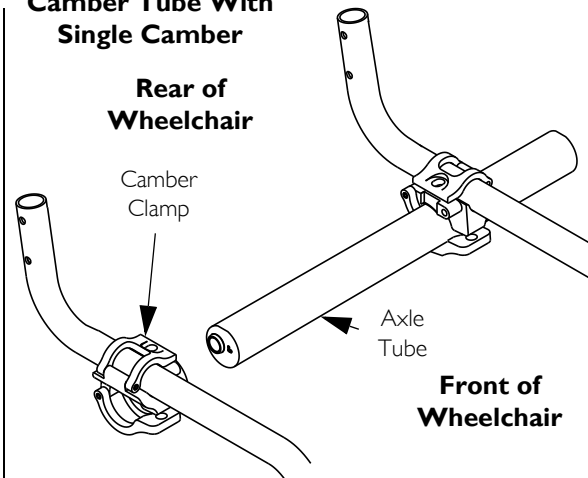
NEVER position the camber inserts in the axle tube with more than 3 inches (7.62 cm) (12 indexing marks showing) of the camber insert outside of the axle tube. The camber inserts will not be securely tightened in the axle tube. Possible injury to the user or damage to the wheelchair may occur.

12. Adjustable Camber System Only - Install camber inserts into the new axle tube and slide the camber inserts to the position noted in STEP 1. Make sure there are no more than 3 inches (12 indexing marks) of the camber inserts outside of the axle tube.
13. Adjustable Camber System Only - Slide the indexing ring on the camber insert until it is flush with the camber clamp.



To maximize rollability: Before using the wheelchair, make sure both camber inserts are set to the same indexing notch. This will make sure the distance between the rear wheel and the wheelchair is the same on both sides.

14. Install the rear wheels onto the wheelchair.
15. Adjust the axle tube.

**Rear of
Wheelchair****Adjustable Camber System****Camber Tube With
Single Camber****Rear of
Wheelchair**

The performance of the wheelchair will be affected if the toe in/toe out of the wheelchair is not correct. Suspension option not shown for clarity. Axle tube installs in the same manner as pictured above.

6 WHEELS

6.15 Adjusting the Axle Tube



WARNING

QUICK RELEASE LEVERS - Make sure the quick release levers are in the closed position before using the wheelchair, otherwise injury or damage to the wheelchair may occur.

STANDARD and suspension camber clamps - Make sure the hex screws are securely tightened before using the wheelchair, otherwise injury or damage to the wheelchair may occur.



CAUTION

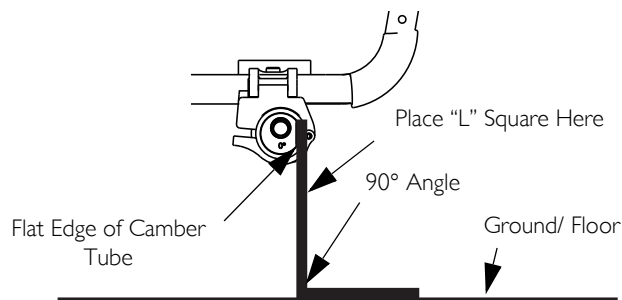
ADJUSTABLE CAMBER SYSTEM ONLY - DO NOT close the quick-release levers or tighten the hex screws without camber inserts in the axle tube. Damage to the axle tube will occur.



Stand behind the wheelchair to determine left or right.

Camber tube with Single Camber

1. If necessary, open both camber clamps.
2. Using an "L" square, rotate the axle tube until the flat edge of the camber tube is at a 90° angle with the ground/floor as shown.
3. Close both camber clamps.
4. Determine the toe in/toe out of the wheelchair.

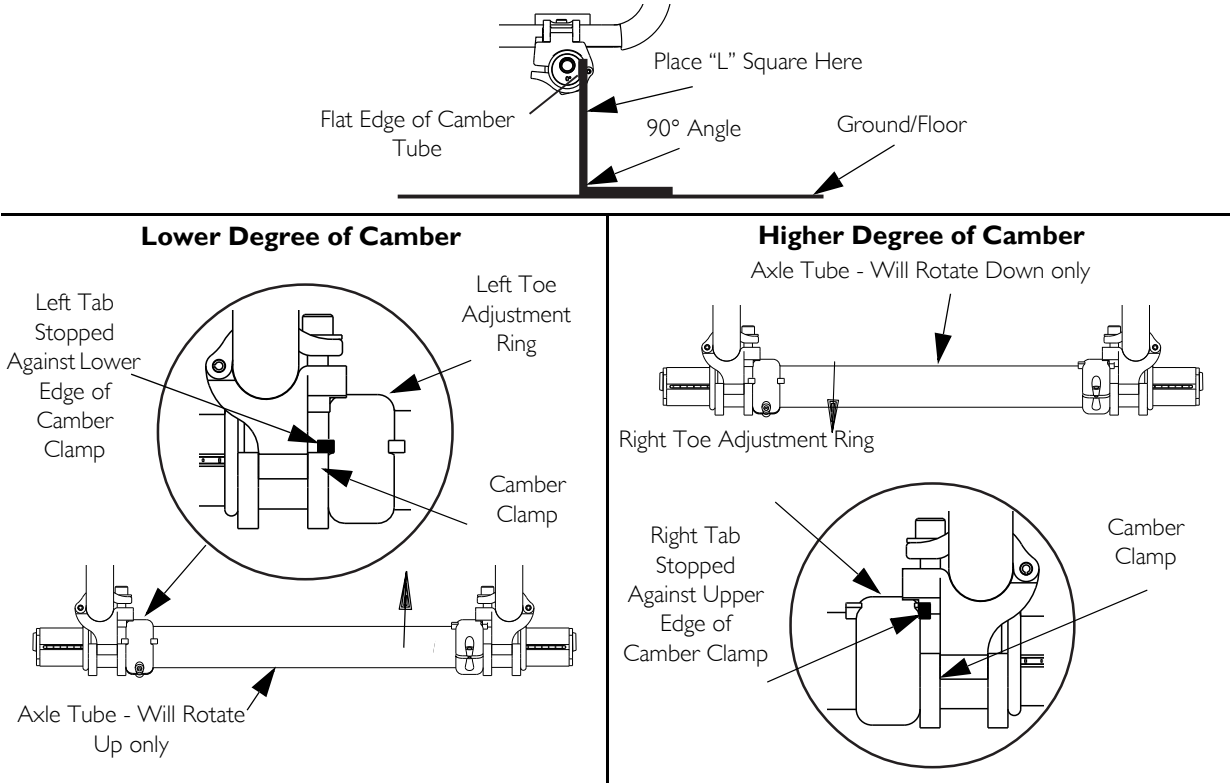


Adjustable Camber System



Before performing this procedure, make sure the camber inserts are positioned to the lowest degree of camber.

1. If necessary, open both camber clamps.
2. Loosen the set screw that secures each toe adjustment ring to the axle tube.
3. Using an "L" square, rotate the axle tube until the flat edge of the camber insert is at a 90° angle with the ground/floor as shown.
4. Close the right camber clamp.
5. Rotate the Left toe adjustment ring until the tab stops against the Lower metal tab on the camber clamp.
6. Securely tighten set screw on left toe adjustment ring.
7. Measure the distance between the center lines at the rear and front of the rear wheels at approximately 12 inches (30.48 cm) from the ground/floor.
8. Perform one of the following:
 - Toe In/Toe Out Measurement is Within $\pm 1/8$ -inch (.32 cm) - Proceed to step 9.
 - Toe In/Toe Out Measurement is Not Within $\pm 1/8$ -inch (.32 cm) - Repeat steps 1-7 until toe in/toe out measurement is within $\pm 1/8$ inch.
9. Open the right camber clamp.
10. Reposition the camber inserts to the highest degree of camber.
11. Repeat STEP 3.
12. Close the left camber clamp.
13. Rotate the right toe adjustment ring until the tab stops against the upper metal tab on the camber clamp.
14. Securely tighten set screw on right toe adjustment ring.
15. Repeat STEP 7.
16. Perform one of the following:
 - Toe In/Toe Out Measurement is Within $\pm 1/8$ -inch (.32 cm) - Proceed to STEP 17.
 - Toe In/Toe Out Measurement is Not Within $\pm 1/8$ -inch (.32 cm) -
 - i. Repeat STEP 1.
 - ii. Loosen the set screw on the right toe adjustment ring.
 - iii. Repeat STEP 3.
 - iv. Repeat STEPS 12-16 until toe in/toe out measurement is within $\pm 1/8$ (.32 cm) inch.
17. If desired, reposition camber inserts to the desired degree of camber.



6.16 Replacing/Adjusting Casters



WARNING

Changing the size/type of and/or repositioning the front casters can affect the performance of the wheelchair. Contact Invacare at the telephone numbers on the back of this manual before performing this procedure.



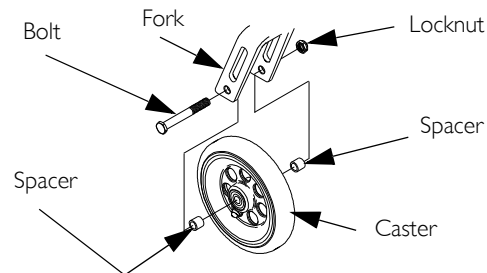
Non-suspension casters cannot be adjusted as they mount in one position.

1. Perform one of the following:
 - Non-Suspension Fork - Remove the bolt and locknut that secure the front caster to the fork.
 - Suspension Fork - Perform the following steps:
 - i. Using two allen wrenches, turn in opposite directions and remove one mounting screw from the fork.
 - ii. Remove the mounting screw/threaded sleeve assembly that secures the front caster and two spacers to the fork.
2. Remove front caster and axle spacers from fork.
3. Perform one of the following:
 - Non-Suspension Fork - Install the new caster, bolt, locknut and axle spacers onto the fork and securely tighten.
 - Suspension Fork - Perform the following steps:
 - i. Determine the desired mounting hole for the caster installation.
 - ii. Line up the front caster and two spacers with the mounting hole in the fork determined in STEP B-i.
 - iii. Reinstall the mounting screw/threaded sleeve assembly through the fork, front caster and two spacers.
4. Reinstall the mounting screw into the threaded sleeve and tighten securely.

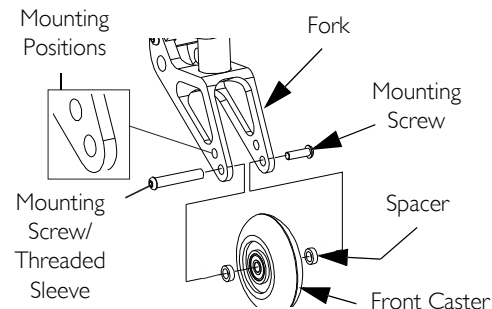


If replacing front casters with a different size than what was originally on the wheelchair, the front caster height **MUST** be adjusted to keep the wheelchair frame parallel to the floor. The size of the rear wheels may also need adjustment.

Non-Suspension Caster



Suspension Caster



6 WHEELS

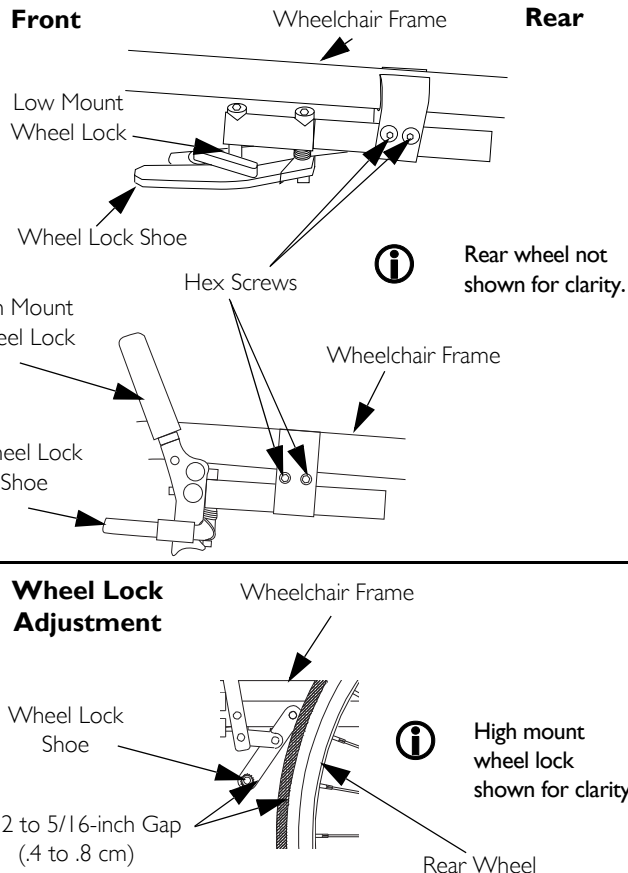
6.17 Wheel Lock Adjustment/Replacement



Invacare recommends low mount wheel locks when engaging in any contact sport.

Before adjusting or replacing the High/Low mount wheel locks, ensure that the tires are inflated to the recommended psi on the sidewall of the tire.

1. Loosen the locknuts and hex/allen screws that secure the High/Low mount wheel locks to side frame.
2. Perform one of the following:
 - Replacing the High/Low Mount Wheel Lock:
 - i. Remove the locknuts and hex/allen screws and remove existing wheel lock from the wheelchair.
 - ii. Install the new wheel lock and adjust.
 - Adjusting the High/Low Mount Wheel Lock:
 - i. Measure the distance between the wheel lock shoe and the rear wheel.
 - ii. Slide the wheel lock along the wheelchair until the measurement is between 5/32 and 5/16-inches (.4 and .8 cm).
 - iii. Tighten the wheel lock to the wheelchair frame.
 - iv. Repeat this procedure for the opposite wheel lock.
 - v. Engage the wheel locks and push against the wheelchair to determine if the wheel locks engage the rear wheels enough to hold the occupied wheelchair.
3. Repeat STEPS i-v until the wheel locks engage the rear wheels enough to hold the occupied wheelchair.



7 Seat

7.1 Replacing Adjustable Tension Seat Upholstery



WARNING

After any adjustments, repair or service and before use, make sure all attaching hardware is tightened securely. Otherwise injury or damage may occur.

The seat upholstery and/or cushion **MUST** be cleaned regularly and/or replaced if incontinence is frequent. The risk of pressure sores is significantly higher with seat upholstery that is wet and/or soiled.

1. Remove the seat cushion and back upholstery.
2. Unlatch the five adjusting straps that secure the seat upholstery to the wheelchair frame. Remove the existing seat upholstery.
3. Place the wheelchair back onto all four wheels.

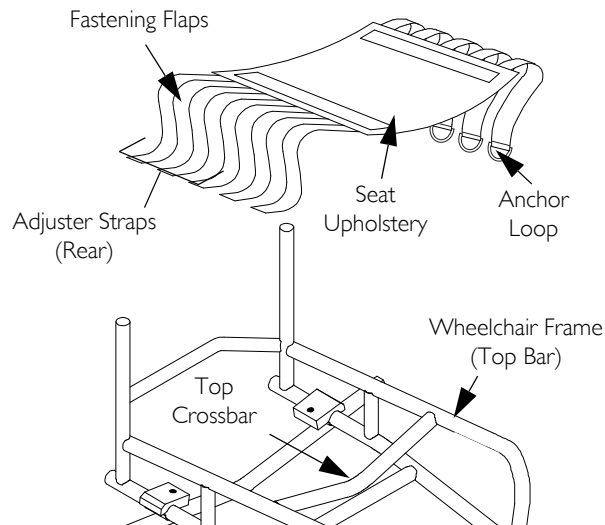


Right and left is determined by sitting in the wheelchair.

The seat upholstery **MUST** be positioned with the three rear adjusting straps towards the rear of the top crossbar for proper installation.

Make sure the rear retaining flap is between the wheelchair frame and the back post support brackets (adjustable backs only).

4. Position new seat upholstery onto the wheelchair frame, ensuring the five adjusting straps hang over the right and left sides of the wheelchair.
5. Pull the front adjuster straps around and under the wheelchair frame top bars.
6. Slip front adjuster strap through corresponding anchor loop and adjust the seat upholstery to desired tension. Secure the adjustment straps.
7. Securely latch the four remaining adjuster straps together.
8. Reinstall the seat cushion and back upholstery.



8 Footrest/Anti-Tipper



WARNING

After any adjustments, repair or service and before use, make sure all attaching hardware is tightened securely. Otherwise injury or damage may occur.

ALWAYS perform this procedure in the presence of an assistant. The position of the footrest, camber tube, back angle, the tautness of the back upholstery as well as the user's condition are directly related to the wheelchairs stability. Any change to one or any combination of the five may cause the wheelchair to decrease in stability. Use extreme caution when using a new seating position. The addition of anti-tippers may be required.

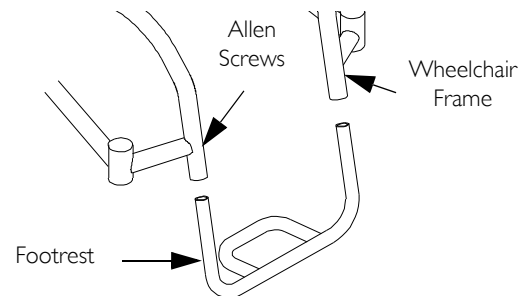
Check all allen screws that secure the footrest/raised footrest system to the wheelchair frame to make sure they are securely tightened before using the wheelchair. Especially if engaging in any contact sport.

The footrest assembly **MUST** be at least 1-3/4-inches (4.45 cm) above the ground/floor to avoid hitting protruding objects when using this wheelchair.

The standard footrest has an open hoop. A footplate cover is recommended for wheelchair users that have leg spasticity or whose feet have a possibility of falling through the footrest hoop. A calf strap is provided with each wheelchair to prevent the feet from slipping backwards off of the footrest. Be sure the calf strap is secure when using the wheelchair.

8.1 Adjusting/Replacing Footrest

1. Loosen the allen screws that secure the footrest to the wheelchair frame. If replacing the footrest, remove existing footrest.
2. Position the new or existing footrest to the desired height on the wheelchair frame.
3. Tighten the allen screws that secure the new footrest to the wheelchair frame.



8 FOOTREST/ANTI-TIPPER

8.2 Installing/Adjusting Optional Clamp on Raised Footrest

Installing

1. Install the two half clamps onto either side of the wheelchair frame approximately 2-inches (5.08 cm) above existing footrest with two provided allen screws.
2. Repeat for the opposite side of the wheelchair.
3. Slide the clamp on raised footrest into the half clamps to the desired height.
4. Securely tighten the four allen screws.

Adjusting

1. Loosen the four allen screws.
2. Adjust clamp on raised footrest to the desired height.
3. Securely tighten the four allen screws.

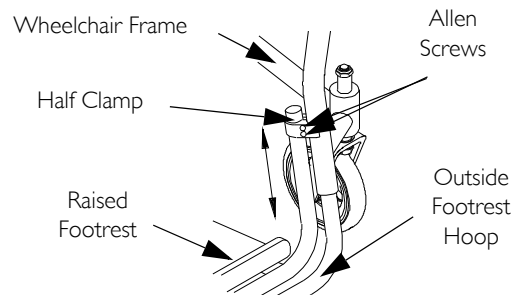
8.3 Replacing/Adjusting Optional Adjustable Angle One Piece Footplate

Replacing the Footrest

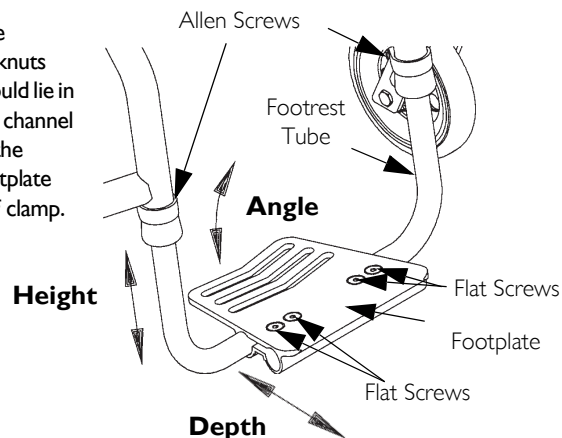
1. Loosen, but DO NOT remove the two allen screws that secure the footrest to the wheelchair frame.
2. Slide the existing footrest tubes out of the wheelchair frame and install new footrest by reversing this step.
3. Position the new footrest to a determined height.
4. Tighten the allen screws that secure the footrest to the wheelchair frame.
5. Adjust the footplate to the desired position.

Adjusting Footplate Angle

1. Loosen, but DO NOT remove the four flat screws and locknuts that secure the footplate to the footrest tubes.
2. Position the footplate to the necessary angle to accommodate the user.
3. Tighten the four flat screws and locknuts.



The locknuts should lie in the channel of the footplate half clamp.



Adjusting Footplate Depth

1. Loosen, but DO NOT remove the four flat screws and locknuts that secure footplate to the footrest tubes.



Observe the angle of the footplate.

2. Move the footplate to one of two positions to accommodate the user.
3. Retighten the four flat screws and locknuts.



The settings for positioning the footplates on the half-clamps may vary for each user.
The locknuts should lie in the channel of the footplate half clamp.

8.4 Adjusting/Replacing Anti-Tipper



WARNING

After any adjustments, repair or service and before use, make sure all attaching hardware is tightened securely. Otherwise injury or damage may occur.

Anti-tippers **MUST** be attached at all times. Inasmuch as the anti-tippers are an option on this wheelchair (you may order it 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 the release button of the anti-tipper fully protrudes out of the hole in the anti-tipper socket. Ensure both anti-tippers are adjusted to the same height.

When anti-tippers are used, anti-tippers **MUST** be adjusted to maintain a 1-1/2 to 2-inch (3.81 to 5.08 cm) clearance between the bottom of the anti-tipper wheels and the ground/ floor. This spacing should always be checked whenever adjustments/changes are made to the wheelchair. Failure to maintain proper spacing may result in the chair tipping over backward causing serious injury or property damage.



Measurements for anti-tippers are approximate and are taken using the top adjustment hole on the anti-tipper.

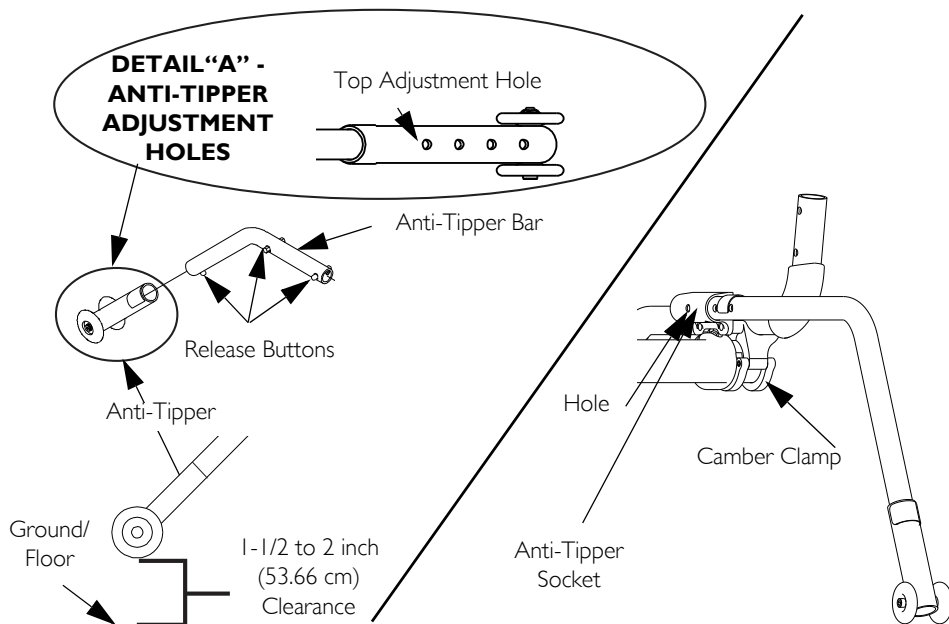
Adjusting Anti-Tipper

1. Press in the release button that secures the anti-tipper wheels to the anti-tipper bar.
2. Adjust the height of the anti-tipper wheels to between 1-1/2 and 2-inches (3.81 to 5.08 cm) of the ground/floor.
3. Repeat STEPS 1-2 for the opposite anti-tipper.

8 FOOTREST/ANTI-TIPPER

Replacing Anti-Tipper

1. Press in the release button that secures the existing anti-tipper to the anti-tipper socket and remove the anti-tipper from the anti-tipper socket.
2. Insert the new anti-tipper into the anti-tipper socket until release button engages.
3. Press in the release button on the anti-tipper bar and install the anti-tipper wheels onto the new anti-tipper bar.
4. Repeat STEPS 1-3 for the opposite anti-tipper.
5. Measure the distance between the bottom of the anti-tipper wheels and the ground floor.
6. If necessary, adjust the height of the anti-tippers.



8.5 Installing/Removing/Adjusting Swivel Anti-Tip

Installing/Depth Adjustment

1. Loosen set screws on anti-tip receivers.
2. Slide the swivel anti-tip into the anti-tip receivers. Position swivel anti-tip so it is even with wheels on chair or extends beyond them. Tighten set screws.

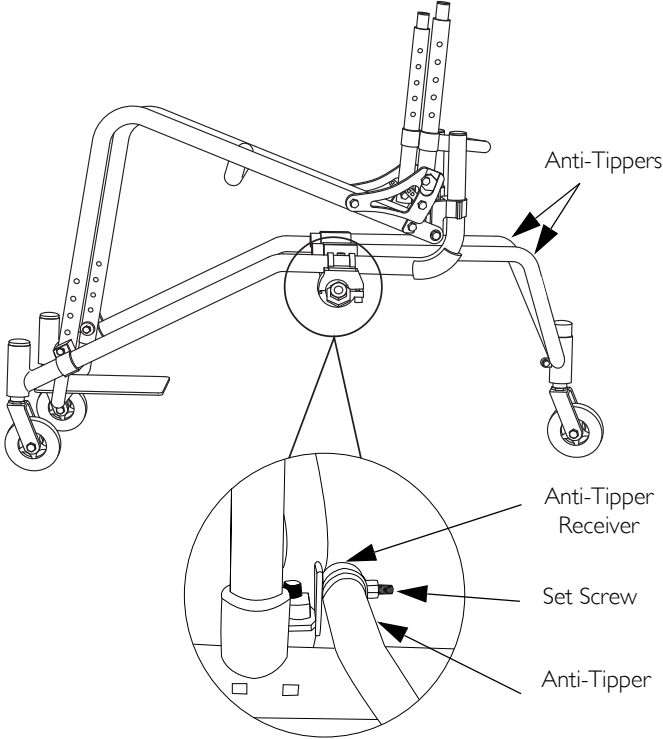
Removing

1. Loosen set screws on anti-tip receivers.
2. Slide the swivel anti-tip out of the receivers.

Adjusting Height

1. To adjust the height of the swivel anti-tip, remove dust cover and loosen set screw on swivel anti-tip caster assembly.
2. Set anti-tip caster wheel to desired height. Tighten set screw and reinstall dust cover.

8 FOOTREST/ANTI-TIPPER



Detail view from rear of wheelchair.

9 Suspension



WARNING

After any adjustments, repair or service and before use, make sure all attaching hardware is tightened securely. Otherwise injury or damage may occur.

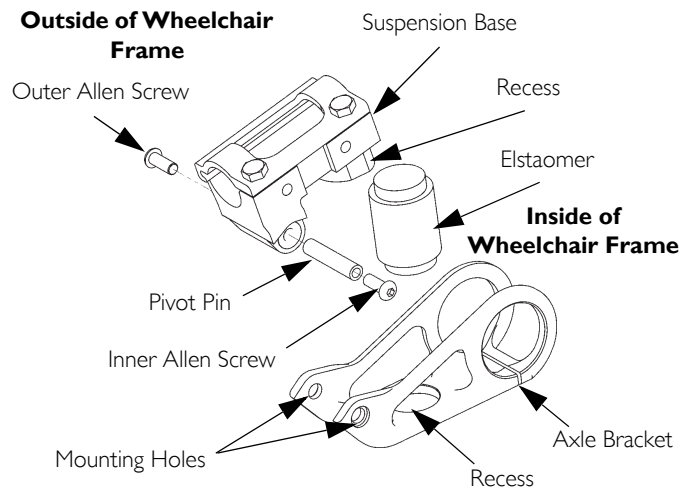
9.1 Elastomers and Suspension



The performance of the wheelchair will be affected if elastomers are not the same on both sides of the wheelchair.

Replacing Rear Elastomers

1. Use an allen wrench to hold the outer allen screw.
2. While holding the outer allen screw in position, remove the inner allen screw from the pivot pin.
3. Use the allen wrench to push the pivot pin with outer allen screw out of the mounting hole.
4. Remove the existing elastomer.
5. Position the new elastomer between the recess in the axle bracket and the recess in the suspension base.
6. Compress and hold the elastomer between the axle bracket and the suspension base.
7. Insert the pivot pin into the mounting hole.
8. Install the outer allen screw into the pivot pin.
9. Use an allen wrench to hold the outer allen screw in position.
10. While holding the outer allen screw, install the inner allen screw into the pivot pin. Tighten securely.
11. Release when desired speed is achieved.



9 SUSPENSION

Replacing Front Elastomers



CAUTION

DO NOT use excessive force when removing/installing the threaded sleeve from/onto the fork. Damage to the threaded sleeve may occur.

1. Using two allen wrenches, turn in opposite directions and remove one mounting screw from fork.



One mounting screw will not turn.

2. Remove the threaded sleeve and mounting screw assembly from the fork. DO NOT use excessive force.
3. Remove the existing elastomer from the fork.
4. Install new elastomer determined in STEP 1 into fork.



Make sure the elastomer sits in the two recessed areas on the fork.

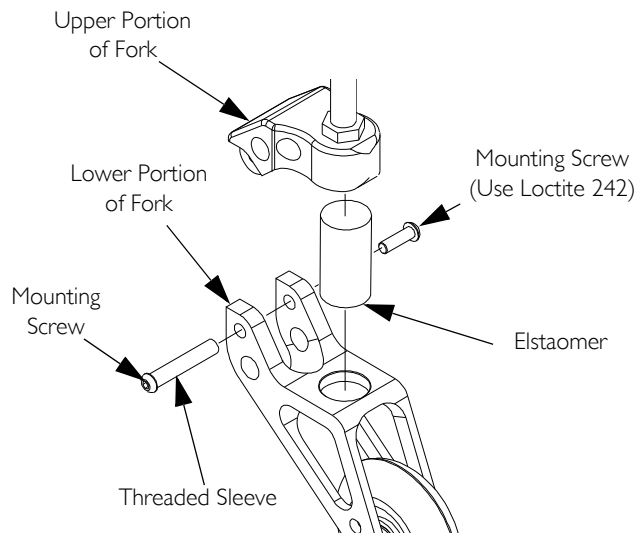
5. Align the mounting holes in the upper and lower portion of the fork.
6. Reinstall threaded sleeve and mounting screw assembly. DO NOT use excessive force.



CAUTION

Use Loctite 242™ when reinstalling the mounting screw into the threaded sleeve, otherwise the fork can become disassembled. Possible injury or damage could occur.

7. Apply Loctite 242 to the mounting screw.
8. Reinstall the mounting screw into the threaded sleeve and tighten securely.





Yes, you can.



Invacare Corporation

USA

One Invacare Way
Elyria, Ohio USA
44036-2125
800-333-6900



EU Representative
Invacare International Sarl
Route de Cité Ouest 2
1196 Gland
Switzerland
Tel: +41 22 354 60 10
Fax: +41 22 354 60 11

www.invacare.com and www.topendchair.com

Manufactured by:
Top End Sports and Recreation Products
4501 63rd Circle North
Pinellas Park, Florida
33781-5914
(727) 522-8677
(800) 532-8677



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