ROUGHRIDER® America

AR-801-01

RoughRider Aurora™ Owner's Manual

This manual MUST be given to the user of the product.
BEFORE using this product, read this manual and save for future reference.

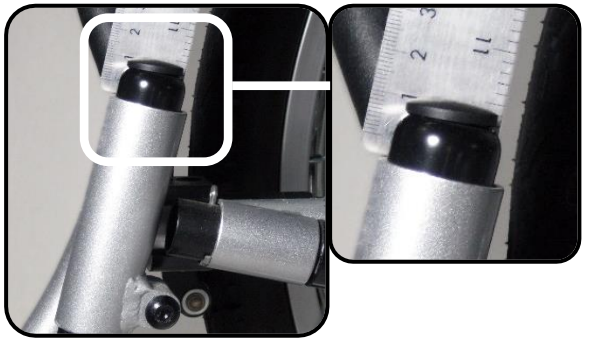
Record the following information about your chair for future reference:

Ref Number (REF) (On the box label and on the X-Brace of your chair): _____
Lot Number (LOT) _____
Serial Number (SN) _____
Date/Purchased: _____

Seat Width [inches (mm)] ☐14 (356) ☐15.5 (393) ☐17 (432) ☐18.5 (470)
Seat Depth [inches (mm)] ☐14 (356) ☐16 (406) ☐18 (457) (Requires seat extender)

Footrest Height
Measured from top of footrest clamp to top of footrest adjustment tube.

Right: _____ ☐inches ☐cm ☐mm
Left: _____ ☐inches ☐cm ☐mm



If you purchased your chair from an authorized dealer, this dealer can answer most of your questions. For future reference, record the following information:

Dealer/Supplier Name: _____
Address: _____

Telephone: _____

Product Codes:

Code	Description
AR01S-14X14	Roughrider Aurora, size S, 14" seat width, 14" seat depth
AR01S-14X16	Roughrider Aurora, size S, 14" seat width, 16" seat depth
AR01M-15.5X14	Roughrider Aurora, size M, 15.5" seat width, 14" seat depth
AR01M-15.5X16	Roughrider Aurora, size M, 15.5" seat width, 16" seat depth
AR01L-17X14	Roughrider Aurora, size L, 17" seat width, 14" seat depth
AR01L-17X16	Roughrider Aurora, size L, 17" seat width, 16" seat depth
AR01XL-18.5X14	Roughrider Aurora, size XL, 18.5" seat width, 14" seat depth
AR01XL-18.5X16	Roughrider Aurora, size XL, 18.5" seat width, 16" seat depth

1 Keep On Keepin' On™

THANK YOU for purchasing a RoughRider Aurora™. Your chair has been designed and developed with input from hundreds of chair riders around the world. By choosing and riding an Aurora you join a global community of hundreds of thousands of people who recognize the importance of freedom through mobility.

Please take the time to read this manual. Its contents will help you understand, maintain, and use your chair for many years to come. To get started, here is a brief summary of some of the unique benefits your Aurora offers.

Indoors and Outdoors

Your chair is designed to help you move around easily, safely, and without the restrictions imposed by much of the terrain you encounter in your daily life. Your chair is expected to perform well:

- Over smooth and rough ground;
- Over soft and hard surfaces;
- Over small obstacles, like door jams; and
- Up, down and across slopes.

More for less

With its aluminum frame, your chair is significantly lighter than equivalent steel chairs. This means you need less strength and use less energy to propel yourself. It is easy to remove the rear wheels making your chair even lighter for lifting or carrying. A light chair also means your companions also don't have to work as hard to help you move around or carry or lift your chair.

All day, everyday

Your chair is compact, tough, and exceeds international testing standards. Your chair can be used all day, every day and will enable you to travel safely much further than you thought perhaps possible.

Are you sitting comfortably?

Your chair has an angled, sling-style seat and tension-adjustable back fabric. The tilted seat helps keep you slightly reclined and the back fabric can be adjusted for comfort and support. A range of cushions that meet your positioning and pressure relief needs can be used with your chair.

Wherever, whenever

The folding frame, quick release wheels, and seat upholstery create a mobility package that fits easily into the storage areas of most vehicles, and is easy to store when not in use. Your chair is also easy to clean and maintain, so you don't have to worry about a little moisture or dirt while your ride!

A global community

Please register your chair with us. This will help us send you important information about your chair. We also encourage you to let us know if there are ways we could improve your Aurora or this manual too. You can send ideas and comments to our Customer Support Team at: CST@roughrideramerica.com.

Please ride safely, within your limits, and Keep On Keepin' On.

Table of Contents

2 Introduction

Connect with Us

Thank you for choosing a RoughRider Aurora™ Manual Wheelchair.

We want to hear your questions and comments about your chair, this manual, and the service you receive from RoughRider America sales team and/or your Authorized Dealer. Please feel free to write or call us at the postal and email addresses and telephone number below:

RoughRider America,
Customer Support Team,
2233 California Street,
Berkeley, CA 94703, USA
Email: CST@roughrideramerica.com
Phone No.: (+1) 510-548-1333

Registering Your Wheelchair

Please register your chair with RoughRider America, and let us know if you change your address. This will allow us to keep you up to date with information about your chair, new products, and options to increase your use and enjoyment of your chair.

You can register your chair at: www.roughrideramerica.com

More Information About Wheelchair Use, Safety, and Maintenance

We have tried to optimize the amount of information contained in this manual by balancing global regulatory requirements, and what you need to know to about maintaining and using your chair safely.

For more information about chair use, safety, and maintenance please visit: www.roughrideramerica.com/chair-use

If you purchased your chair directly from RoughRider America, our Customer Support Team can also help answer your questions.

Phone No.: (+1) 510-548-1333
Email: CST@roughrideramerica.com

Intended Use

The RoughRider America™ RoughRider Aurora™ Manual Wheelchair is intended to provide mobility to persons restricted to a seated position.

Indications for Use

The RoughRider America™ RoughRider Aurora™ Manual Wheelchair is indicated to provide mobility to persons restricted to a seated position up to a weight capacity of up to 250 lb / 114 kg.

Natural Latex Rubber

The caster wheels and rear tires may be made on machinery that also processes natural rubber latex. No components of this chair were made using natural rubber latex.

Key Terms in This Manual

CAUTION means if the precaution is not taken, it may cause minor or moderate injury.

WARNING means if the warning is not heeded, it can cause serious injury or death.

General Warnings

⚠ General Rider / User Warnings

DO NOT operate your chair without first reading the Owner's Manual. If you do not understand how to use your chair, this may result in damage and/or injury to you and those around you.

Please ride safely, within your limits, and use good judgment.

If you do not understand the instructions and warnings please contact RoughRider America Customer Service Department or your Authorized Dealer.

⚠ General Companion / Attendant Warnings

Your safety and well-being are important too! Before providing assistance, read this Owner's Manual and follow the instructions. While this manual is written for the owner of the chair, you can learn safe and proven methods to provide appropriate assistance in a manner that is suited to your and your companion's abilities.

⚠ General Dealer / Technician Warnings

DO NOT operate or service this chair without first reading this Owner's Manual. If you don't understand how to service this chair, it may result in damage and/or injury.

If you do not understand the instructions and warnings of this Owner's Manual please contact the RoughRider America Customer Support Team.

3 Your chair

Who Is Your Wheelchair For?

To avoid injury, your chair should only be used by someone who can meet the following criteria:

Pressure Sensation and/or Effective Pressure Management

If you have limited or no feeling in the parts of your body that may come into contact with your chair (e.g., your calves, buttocks, back, etc.) you must be able to manage the pressure on your body to use your chair safely (e.g., proper techniques for pressure relief). You must always use an appropriate, high quality pressure relief cushion.

Sufficient Head and Trunk Control

The back-fabric may not be suitable for you if you have weak or absent trunk muscles. If you are not able to support your head independently, you should not use your chair as it does not provide any head support. Seating modifications may be made by suitably qualified personnel.

Appropriate Size and Fit

You chose your chair size based on your hip width. If your chair is or has become too big or too small, please contact the Customer Service Team or an approved distributor for assistance.

Within the Weight Limit

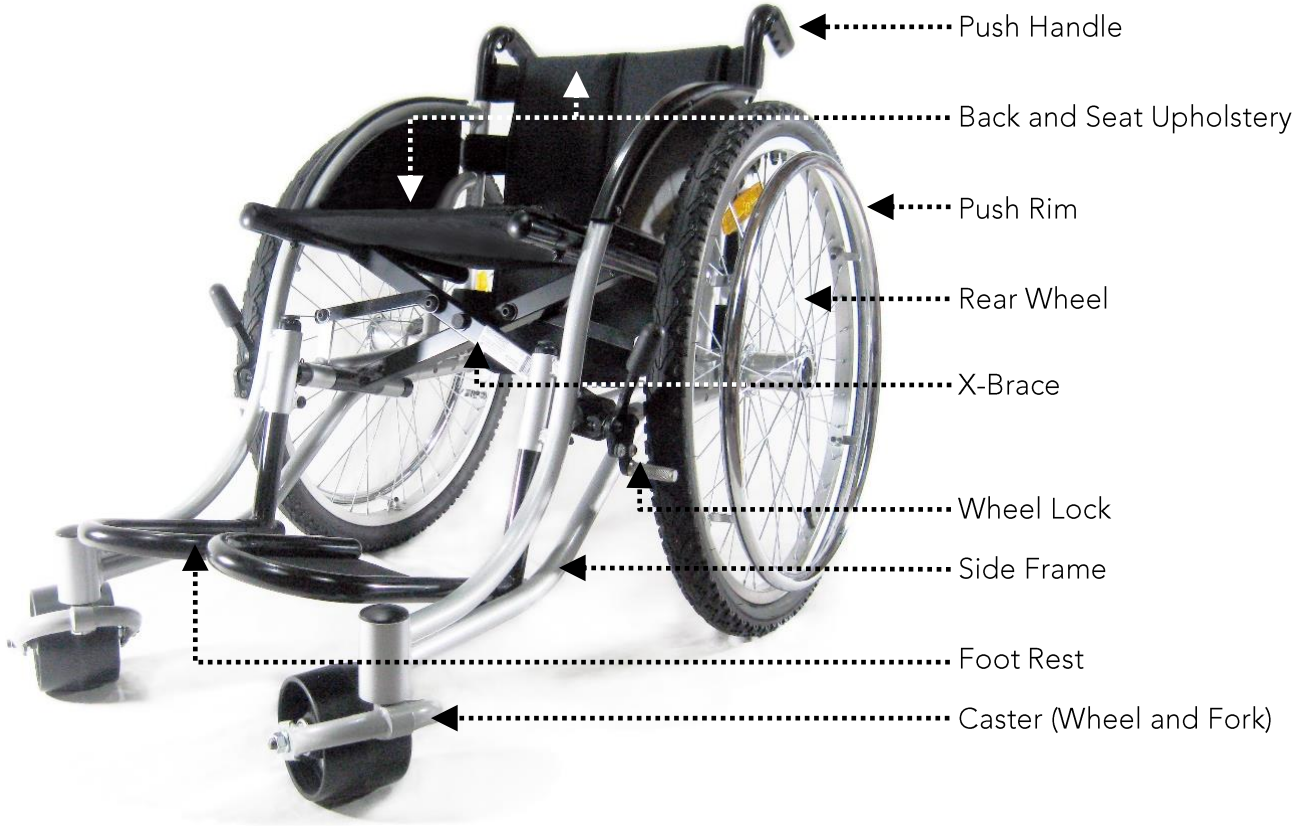
Your chair is designed and rigorously tested for riders up to 250 lb (114 kg) in weight. If you exceed this weight do not use your chair because the chair may be unstable and tip over. If you weigh more than 250 lb and have just bought your chair, please contact the Customer Service Team or an approved distributor for assistance.

For Those with Longer Legs

Your chair will fit most people. If you are taller, you may need to consult with a professional to ensure appropriate seating and positioning.

Key Components and Specifications

Upon receiving your chair, please make a note of how the components are adjusted so that you can easily adjust them in the future. We recommend that you write down key measurements on page 3 of this manual so you can refer to them when performing inspections or maintenance.



Specifications:*

Effective Seat Widths: **	14 (356), 15.5 (393), 17 (432), 18.5 (470)
Seat Depth: ***	14 (356), 16 (406), 18 (457)
Seat Height: ****	18.75 (476)
Seat Angle:	12 degrees
Seat to Back Angle:	90 degrees
Back Height:	17 (432), 15 (381), 19 (483)
Footrest Height from Front of Seat:	10 to 14.75 (254 to 375)
Rear Wheel Dimensions:	24 x 1.75 (70 x 45)
Rear Wheel Camber:	3 degrees
Rear Wheel & Caster Barrel Bearings:	6201 (12mm ID x 32mm OD)
Axles:	12 mm
Push Rim Diameter:	19 (483)
Front Wheel Dimensions:	4.3 in. diameter x 3.1 in. width
Front Wheel Bearings:	Standard bicycle hub and bearing
Overall Width:	9 in. (22.9) + Seat width
Overall Length:	Shortest 36 (914); longest 39 (990)
Wheelbase (Front to Rear Axle):	Shortest 19 (483); longest 22 (559)
Rear Wheel Position Adjustment:	3 positions
Weight (without rear wheels): *****	23 lb (10.4 kg)
Weight (with rear wheels): *****	33 lb (14 kg)

* Units in inches and millimeters unless specified. Dimensions are based on a new wheelchair, using an out of the box configuration and components.
** Seat width is defined as the distance between the insides of the Side Frames when the chair is opened fully.
*** 18-inch seat depth is available by installing the seat tube extenders.
**** Measured to the front of the seat tube using a 14 x 16" chair.
***** Measured using a 14 x 16" chair as supplied to the customer. Weight may change based on configuration. Weight includes footrests and excludes anti-tips and any cushion.

Key Features

A Longer Wheelbase

By placing your caster wheels under your footrests, the distance between the casters and rear wheels is maximized without making the chair longer overall or changing the height of your knees.

By placing the casters under, rather than behind your feet, your chair is less likely to tip forward during normal use. This caster position also helps when travelling over uneven terrain, such as doorway thresholds, floor expansion joints, uneven and cracked sidewalks and pavement, and even grass, dirt, and gravel paths and tracks.

Depending on the position of your rear wheels, your chair may be easier to push. This is because more weight is on the rear wheels, and less weight is on your front caster wheels. More weight on the rear wheels also gives you better traction on uneven ground and makes it easier to roll straight on a side slope.

It will take some time to determine the right wheel position for you. We recommend testing different rear wheel positions to learn which position suits your riding style and abilities.

⚠WARNING

- Use anti-tips when trying different rear wheel positions or make sure you have a person spotting you to prevent you from tipping over backwards.
- Always ride safely, within your limits, and use good judgment.

Foldable X-Brace

Your chair folds flat for easy transport and storage.

⚠Caution

- Keep your hands and fingers clear of moving parts to avoid injury.
- Keep your hand and fingers clear of the seat tubes and side frames when opening or closing the chair

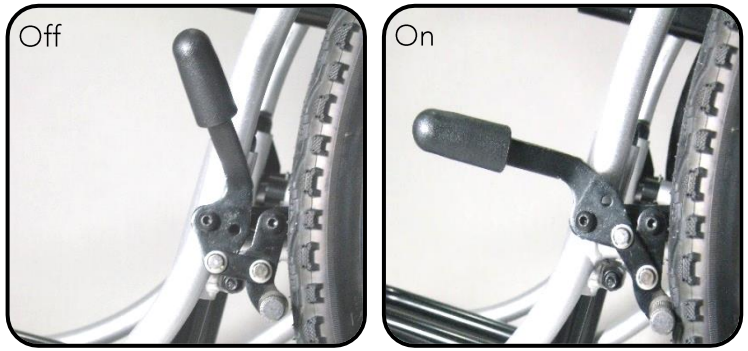
⚠WARNING

- DO NOT sit on or transfer into the chair unless it is fully open.

Rear Wheel Locks

Rear wheel locks are designed to help prevent a stationary wheelchair from moving. A chair that does not move can make it easier and safer to transfer, reach, shift your weight, etc.

DO NOT use your wheel locks as brakes. Your push-rims are usually your primary method of slowing and stopping your chair.



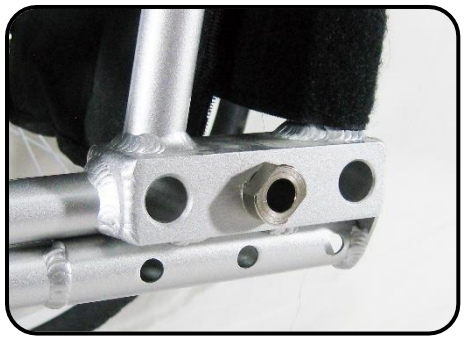
⚠WARNING

- REAR WHEEL LOCKS ARE NOT RUNNING BRAKES AND ARE NOT DESIGNED TO SLOW OR STOP A MOVING WHEELCHAIR. Only use the wheel locks to keep the rear wheels from turning when your chair is stationary.
- Using your wheel locks as brakes will damage the locks, damage your tires, and can prevent the locks from working when you need them.
- Ensure the lock arms press into the tires at least 1/8 inch (3 mm) when locked. If the lock arm does not contact the tire sufficiently, the wheel may turn when you do not expect it.
- Low pressure in a rear tire may cause the wheel lock on that side to slip and allow the wheel to turn when you do not expect it.

Adjustable Rear Wheel Position

Your chair has three rear wheels positions (Front, Middle, and Back).

The adjustable rear wheel position (middle position shown here) enables you to optimize the stability and performance of your chair based on your preferences.



It will take some time to determine the right wheel position for you. We suggest testing different rear wheel positions to learn which position suits your riding style and abilities.

It may be necessary to consult an appropriate healthcare professional to help find the best rear axle set-up for you.

⚠WARNING

- The farther forward you move your rear wheels, the more likely it is that your chair will tip over backward.
- Use anti-tips when trying different rear wheel positions.
- Please ride safely, within your limits, and use good judgment.

Quick Release Axles

Quick Release axles enable you to remove and install your wheels quickly. Removing your wheels is useful when you need to transport your chair in a vehicle.

⚠WARNING

- Ensure that both your quick-release rear axles are inserted fully and locked. Your axle is not locked until the quick-release button pops out fully.
- An unlocked axle may come off during use resulting in a fall, tip-over, or loss of control and cause severe injury to you and/or others.

Pneumatic Rear Tires

Your chair includes all-terrain pneumatic tires that fit on standard wheel rims. The tires are similar to bicycle tires and are easy to repair and replace.

The appropriate tire for you will depend on your needs and lifestyle. Higher pressure tires are harder and help the chair move faster, but may be less comfortable, harder to push on uneven terrain, and can be slippery on wet pavement. Lower pressure tires are softer and may be more comfortable on uneven terrain, but may be harder to push.

We recommend continuing to use pneumatic tires similar to those we supplied with your chair, but your wheel rims and tires can be changed to suit your needs. For example, if you will be mostly riding indoors or in well-paved urban environments light-weight tires and rims may be suitable. Solid tires may also suit your lifestyle.

⚠CAUTION

- Use a pressure gauge and check weekly for proper inflation level, as listed on the tire sidewall.

⚠WARNING

- DO NOT use this chair if any of the tires are under- or over-inflated.
- DO NOT over-inflate your tires as they may burst.
- Ensure that any replacement tires are 24 inches diameter when fully inflated. Some wheels are smaller or larger, which can affect the stability of your chair.
- Low pressure in a rear tire may cause the wheel lock on that side to slip and allow the wheel to turn when you do not expect it.
- Low tire pressure on one side may cause the chair to turn to one side, make it harder to propel in a straight line, and result in a loss of control.

Cambered Rear Wheels

Your wheels tilt inward at the top and outward at the bottom, giving approximately 3 degrees of camber.

Your chair has cambered wheels because Wheel camber makes it easier to propel using the push rims because they are in line with your shoulders, closer to you, and angle outwards slightly. Camber can also improve the side to side stability of your chair because the chair is wider at the bottom without making your chair any wider overall.

⚠WARNING

- Please ride safely, within your limits, and use good judgment.

RoughRider Caster Wheels

The unique front caster wheel design is flexible and provides a smooth ride over many types of terrain including doorway thresholds, floor expansion joints, uneven and cracked sidewalks and pavement, and even grass, dirt, and gravel paths and tracks.

The V-tire profile minimizes the area of the wheel in contact with hard surfaces to reduce friction and make it easier to turn, while maximizing the area of contact over soft ground for greater "flotation."

The caster wheel bearings are similar to bicycle hub bearings and are easy to clean and replace.

⚠WARNING

- Please ride safely, within your limits, and use good judgment.

Footrests

Your footrests are adjustable to accommodate users of different heights and fold out of the way for easier transfer.

⚠WARNING

- Do not lift your chair by the footrests. This may damage the footrests or footrest clamps.
- Do not sit or stand on the footrests. These actions may damage the footrests or footrest clamps.

Calf Straps, and Lap and Positioning Belts

Your calf strap helps prevent your feet falling back and off the footrests.

An appropriate lap (or pelvic support belt) is not provided, but may be purchased and used with your chair.

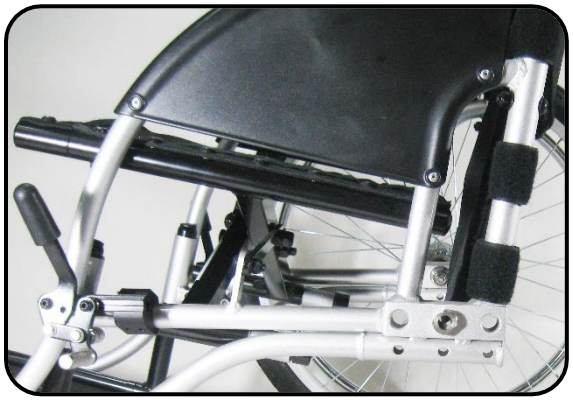
A seat positioning belt may be useful to improve your control and keep your buttocks seated in the chair. A lap belt can also help you feel more secure when riding your chair.

It may be necessary to consult an appropriate healthcare professional to determine what straps and belts are right for you.

⚠WARNING

- If you have limited sensation in your calves, hips, or waist please work with an appropriate healthcare professional and use a calf strap suitable for your needs.
- The belts must not be tight. You should be able to slide your open hand, flat, between you and the belt. Make sure you can easily remove the belts in an emergency.
- Positioning belts should only be used when provided by an appropriate healthcare professional and only to help support your posture. Improper use of these belts may cause severe injury or death.
- Your chair is not designed to support you when comatose or restrain you when agitated.

Seat Angle



Your chair has 12 degrees of seat tilt, similar to a car seat. If you use other chairs that have a flat seat, this tilt may feel unusual at first.

Your chair has seat tilt because seat tilt makes sitting feel more natural and comfortable; the back-tilted position helps keep your trunk upright. Seat tilt can also help you resist slipping forward or falling forward out of the chair if you are stopped suddenly by a bump.

⚠WARNING

- It may be necessary to consult an appropriate healthcare professional help find the best seat angle for you.

Seat and Back Upholstery

Your chair uses a sling-style, fabric seat designed specifically for your chair width. It should be used with a cushion to avoid injury to you and damage to your chair.

Your back fabric can be adjusted for your comfort.

Your seat back-fabric is adjustable for your comfort.

⚠WARNING

- Sling seats are not intended to be used as a direct seating surface, and should be used with a cushion to avoid injury to yourself or damage to your chair.
- Worn or torn seat and seat back fabric should be replaced as soon as possible.
- Seat Upholstery will stretch and weaken with age and use. Look for fraying, thin spots, or stretching of fabrics especially at edges and seams.
- Washing and excess moisture will reduce the flame-retardant qualities of the fabric.
- "Dropping" into your chair, from a standing position or while transferring, will weaken and stretch your seat fabric and you may need to replace the seat upholstery more often.

Cushions

Your chair can be used with a wheelchair or flotation (pressure management) cushion. It may be necessary to consult an appropriate healthcare professional to find the right cushion for you.

⚠WARNING

- If you do not use a suitable cushion, you may develop pressure sores.
- If you have limited feeling in your buttocks, you should use a high-quality pressure management cushion prescribed or provided by an appropriate healthcare professional.
- You should always perform regular pressure relieving exercises.
- Make sure your footrests are well adjusted so that your weight is evenly distributed on the cushion.

Adjustable Backrest Height and Push Handles

Your backrest height can be changed base on your needs.

Push handles are useful when you need assistance. The height of your push handles is adjusted when you change the backrest height.

⚠WARNING

- If you adjust the back height, ensure all fasteners are reinstalled and tightened sufficiently.
- Check to make sure your push handle grips will not rotate or slip off.

Anti-tips

Anti-tip tubes can be installed to help keep your chair from tipping over backward during normal use.

You may not need to use anti tips as you can move your rear wheel backward. Moving your rear wheel backward minimizes the weight of you chair and prevents you needing to manage the anti-tips as you ride over different terrains and obstacles.

If you have to climb or descend a curb, or overcome an obstacle it may be necessary to rotate the anti-tip tubes up and out of the way. This reduces the risk of your chair getting stuck and/or become unstable.

⚠WARNING

- If your anti-tips are set more than 2 inches (50mm), above the ground they may not prevent you tipping over backwards.
- Anti-tips may catch common obstacles and cause you to fall or tip forwards or sideways.
- A fall, tip-over, or loss of control may occur and cause severe injury to you and/or others.

Common Modifications

Optimal Riding for Amputees

Removing the footrest(s) minimizes the weight of your chair. You can remove one or both footrests from your chair unless you use them to get in and/or out of the seat.

⚠WARNING

- Removing your footrests may make your chair more likely to tip backwards. Move your rear wheels back to prevent yourself from tipping backward.

Optional Components

Motorized attachments

Your chair has not been tested with motorized or powered accessories.

⚠WARNING

- If you choose to use such attachments please use them as described by their manufacturer and remember you use them at your own risk.

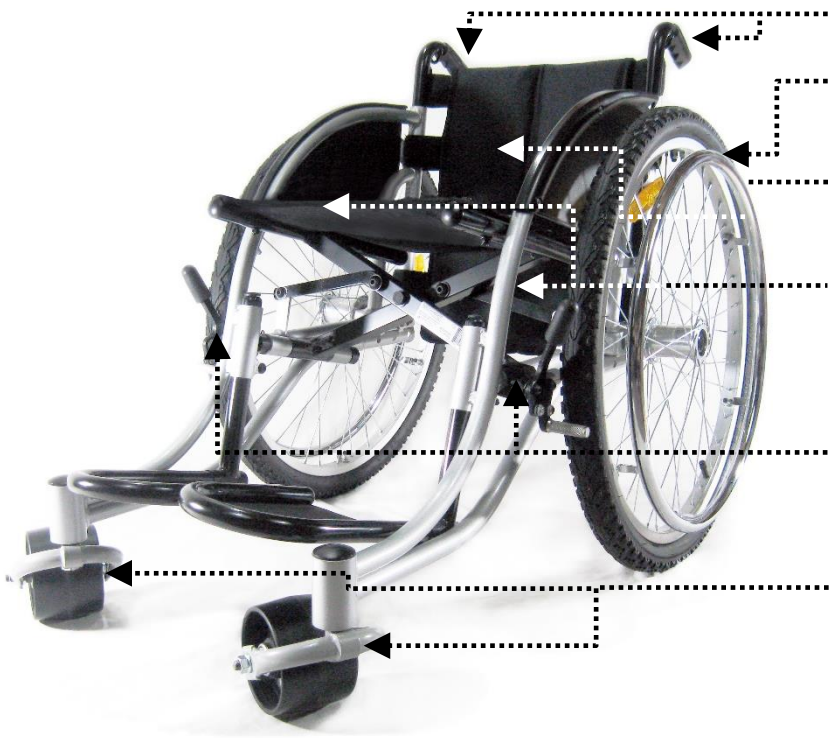
Additional Resources

Refer to www.roughrideramerica.com for videos providing information about your chair.

4 Get Ready to Ride

Out of the Box Inspection

Your chair should have reached you without damage. Use the following checklist to determine if you chair may have been damaged in shipping:



1. Inspect your push handle hand grips for looseness.
2. Check your tire pressure. Inspect rear wheels for cracked rims, bent or broken spokes, and damaged push rims.
3. Inspect the seat and back upholstery for rips, holes, sagging and loose, protruding, or broken hardware.
4. Inspect your chair for unexpected bending in the side frame or X-brace.
5. Inspect your chair for loose or missing nuts and bolts.
6. Check the wheel locks are not loose, prevent your chair from moving when engaged, and are easy to engage. Check that the wheel locks do not interfere with tires when disengaged.
7. Inspect the front caster wheel axles for proper tension by spinning caster wheel. Your caster should spin freely, and come to a gradual stop.
8. Check your chair rolls straight and does not pull to one side.

⚠WARNING

- If you think your chair has been damaged during shipping, please contact the RoughRider America Customer Support Team.

5 Setting up Your Wheelchair

It may be easier to set up your chair when you are not sitting in it. To make more precise adjustments you may need to sit in your chair. To make these adjustments we recommend seeking assistance from someone who can more easily access the nuts, bolts, and straps.

⚠WARNING

- DO NOT use your chair unless you have set your chair up appropriately, performed the Critical Safety Checks (pg. 28), and **you** are satisfied your chair is safe for you to use.

Folding and Unfolding Your Wheelchair

Folding

1. Engage the wheel locks and stand or transfer out of your chair, if appropriate.
2. Flip the footrests up against the side frames.
3. Pull up on the seat fabric until the chair sides come together.

Unfolding

1. Pull the push handles apart to open the chair fully.
2. Flip down the foot rests.
3. Sit or transfer into your chair, if appropriate, and disengage the wheel locks.

⚠CAUTION

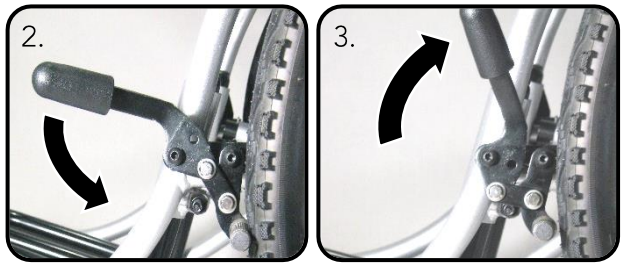
- DO NOT place hand or fingers between the seat tubes and side frames when opening or closing your chair.
- Keep hands and fingers clear of moving parts to avoid injury.
- Ensure the seat tubes do not hook over the side frames. In the event they do, refold the chair and open the chair using the push handles.

⚠WARNING

- DO NOT sit on or transfer into your chair unless it is fully open.

Using Your Wheel Locks

1. Ensure the chair is not moving before engaging the wheel locks.
2. To engage, push the wheel lock handle forward.
3. To disengage, pull the wheel lock handle backwards.



⚠ CAUTION

- If the wheel locks are hard to operate and push too much into the tires, the wheel locks may be too close to the tire.

⚠ WARNING

- DO NOT attempt to stop your chair with the wheel locks while your chair is moving.
- Your wheel locks are only for use as parking brakes.
- Adjust the wheel locks after you make any change to the rear wheel position.
- Ensure the lock arms press into the tires at least 1/8 inch (3mm) when locked.

Checking and Adjusting Your Pneumatic Tire Pressure

Checking the pressure of your tires.

1. Use a pressure gauge and check weekly for proper inflation level, as listed on the tire sidewall.

For instruction on checking your tire pressure please go the section on Tire Maintenance (pg. 37)

⚠ WARNING

- DO NOT use this chair if any of the tires are under- or over-inflated.
- DO NOT over-inflate your tires as they may burst.
- Low pressure in a rear tire may cause the wheel lock on that side to slip and allow the wheel to turn when you do not expect it.
- Low tire pressure on one side may cause the chair to turn to one side, make it harder to propel in a straight line, and result in a loss of control.

Changing the Rear Wheel Position

Selecting the right wheel position for you:

Your chair has 3 rear wheel positions: Front, Middle, and Back. As your skill level increases with practice, you can move the wheel position forward.

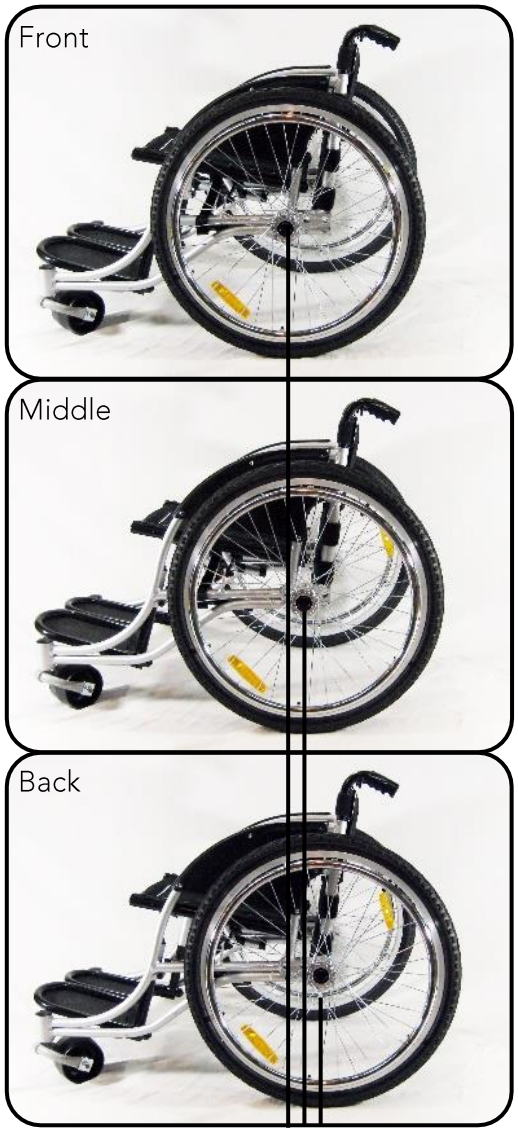
With your rear wheels in the Front position there is less weight on the front casters. This means:

- Your chair will be easier to propel and push.
- Your chair will resist turning downhill on a side slope.
- It will be easier to go over small obstacles.
- It will be easier to perform wheelies and tilt the chair backwards.
- Your chair will be more likely to tip backward.

With your rear wheels in the Back position, the list above is reversed as more weight is on the front casters.

⚠WARNING

- It may take some time to determine the right wheel position for you. We suggest working with an appropriate healthcare provider to test different rear wheel positions to learn which position meets suits your riding style and abilities.
- We strongly recommend using anti-tips when trying different rear wheel positions.
- Remember to adjust your wheel locks after you make any change to the rear axle position.
- Please ride safely, within your limits, and use good judgment.

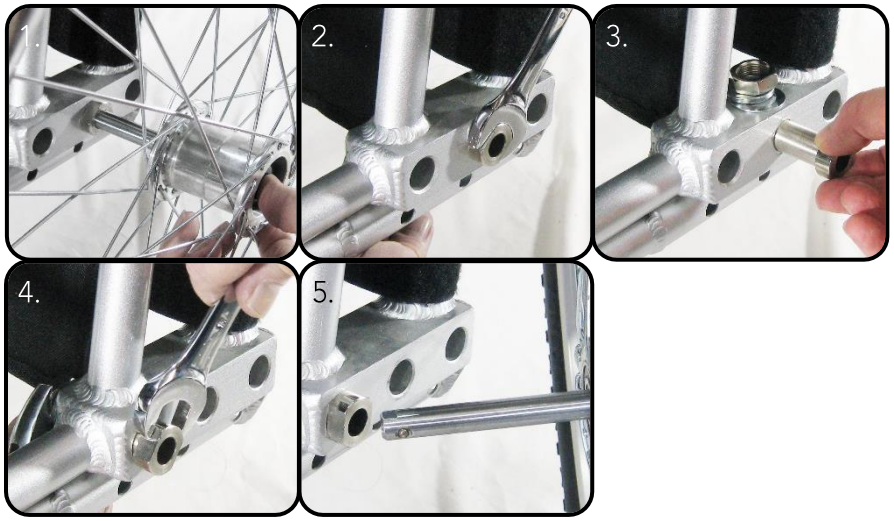


Adjusting the Rear Wheel Position

To adjust your rear wheel position:

1. Remove the rear wheel.
2. Loosen the Axle Sleeve.
3. Move the sleeve to the desired location.
4. Tighten the sleeve.
5. Insert the rear wheel.

Follow the instructions for adjusting the rear wheel locks after you make any change to the rear wheel position.



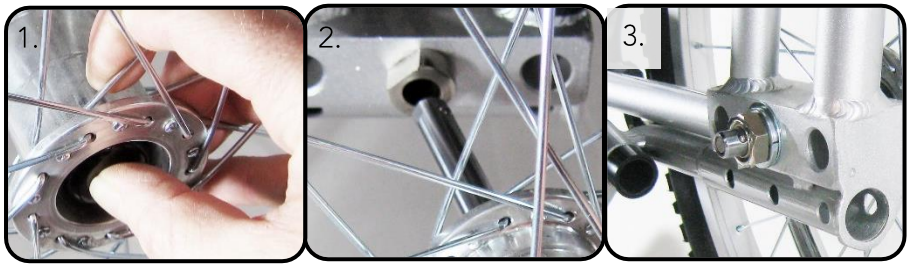
⚠WARNING

- Ensure the axle sleeve is not loose in the hole, the lock washer is fully compressed, and the sleeve nut is tight.

Attaching and Removing the Rear Wheels (Quick Release Axle)

Attaching your rear wheels:

1. Press the quick-release button fully.
2. Insert the axle through hub of rear wheel.
3. Keep the quick-release button depressed and slide the axle into and through the axle sleeve until the locking pins are exposed on the other side of the axle sleeve. This will lock the axle in axle sleeve.
4. Release quick-release button. The axle is not locked until the quick-release button pops out fully.



If your axle does not lock or is loose, increase or decrease axle length slightly by adjusting the locknut on the end of the quick-release axle. For instructions on adjusting your axles, please go to the section Replacing your quick-release axles (pg. 47).

⚠WARNING

- DO NOT use your chair unless you are sure both quick-release axles are locked in the axle sleeves. An unlocked axle may come off during use and cause a fall.
- Check that the axle is locked by trying to pull your wheel away from the Side Frame. The distance between the wheel and the side frame should not change.

Adjusting the Seat Depth

Your seat depth can be changed by 2 inches using the seat tube extenders supplied with your chair. To adjust your seat depth:

1. Determine your desired seat depth.
2. Loosen the nuts and bolts at the front of the seat.
3. Attach or remove seat extenders, as necessary.
4. Tighten the nuts and bolts at the front of the seat.

⚠WARNING

- Your seat should support your upper legs, but not rub against the back of your lower legs.
- If you are uncomfortable, or you are experiencing difficulties maintaining good posture, work with an appropriate healthcare professional to help determine the appropriate seat length for you.

Adjusting Your Footrest Height

Your footrests must be at the appropriate height to help you maintain a good sitting position. Check to make sure that your footrests are at the proper height for your best sitting posture.

1. Loosen the Footrest Clamp nut and bolt so the Footplate can be moved up and down easily.
2. Move the Footplate to the desired height. Your feet should rest lightly on the footrests when you are sitting in your best position in the seat and you should have even pressure over the entire surface of your cushion.
3. Tighten firmly the Footrest Clamp nut and bolt. Once the clamp is tightened firmly, the footplate should fold, but should not move up and down.
4. Use a permanent marker to mark the side frame at top of the footrest tube. This will make it easy to check the footrest height in the future.

⚠WARNING

- If you are uncomfortable, are experiencing difficulties maintaining good posture, or have poor or no sensation in your lower body you should work with an appropriate healthcare professional to help determine and set your footrest height.
- After adjusting the footrest height, ensure the footrest clamps are securely tightened. Tight clamps will prevent unexpected changes to the footrest height.
- Ensure the footrests do not touch the caster forks. Interference between the caster forks and the footrest will prevent the forks from rotating and make the chair difficult to turn.
- Ensure the top of the footrest tube does not touch the X-Brace seat tubes. Interference with the seat tubes may prevent the chair from opening fully.

Changing the Back-fabric Tension

The tension of your seat back fabric can be adjusted using the adjustable Velcro straps.

1. Loosen or tighten the straps to create looser or tighter fabric tension.

⚠WARNING

- If you are uncomfortable, or you are experiencing difficulties maintaining good posture, you should work with an appropriate healthcare professional to help determine and the appropriate seat length for you.

Calf Straps, and Lap and Positioning Belts

Your calf strap helps prevent your feet falling back and off the footrests.

1. Calf Strap – Attach Calf Straps to Footrest Adjustment Tubes.
2. Lap Belt – A lap belt can be fitted to side frame.
3. Positioning Belts – If you need positioning belts, we recommend working with an appropriate health processional to determine positioning strap needs and for help installing them on your chair.

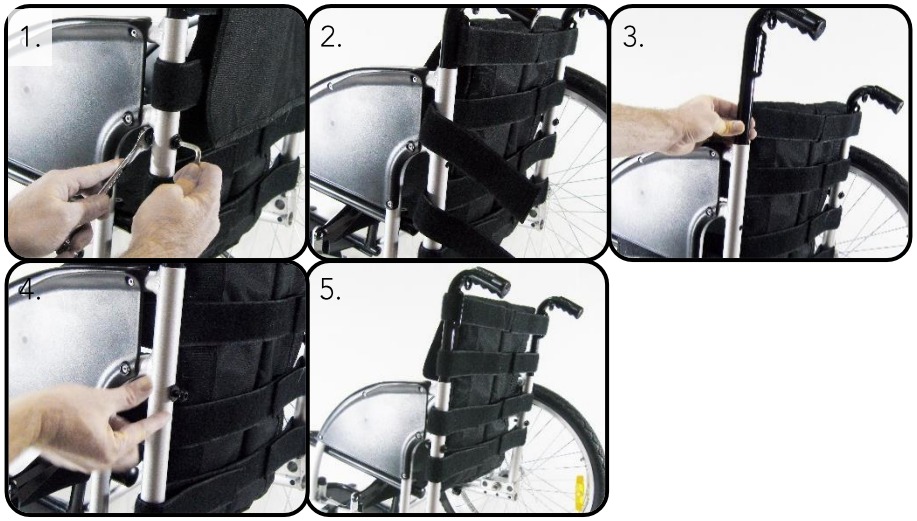
⚠WARNING

- If you are uncomfortable, or you are experiencing difficulties maintaining good posture, you should work with an appropriate healthcare professional to help determine and the appropriate straps for your needs.

Adjusting the Push Handles

Your push handles can be adjusted to change the backrest height

1. Loosen and remove the push handle nut and bolt on both of the seat back tubes.
2. Loosen back fabric straps.
3. Increase the push handle height.
4. Insert and tighten firmly the push handle nut and bolt.
5. Adjust the back-fabric straps to the desired tension.



⚠WARNING

- If you are uncomfortable, or you are experiencing difficulties maintaining good posture, you should work with an appropriate healthcare professional to help determine and the appropriate straps for your needs.

Attaching, Adjusting, and Removing Anti-tips

Inserting your anti-tips into the side frame

1. Press the anti-tip tube pins so that the tops of the pins are flat with the surface of the anti-tip tube.
2. Point the anti-tip wheels down (towards the ground).
3. Insert the anti-tip tube into the anti-tip receiver in the side frame.
4. Align the anti-tip tube pins with the locating holes in the anti-tip receiver. The pins will spring into the locating holes when correctly aligned.
5. Repeat this process for the second anti-tip.

To improve your ability to overcome obstacles and climb curbs, your anti-tips can be pointed upwards.

1. Press the anti-tip tube pin so the tops of the pins are flat with to the surface of the anti-tip tube. The pins will need to be pushed through the locating holes.
2. Turn anti-tip tube up (pointing away from the ground).
3. Align the anti-tip tube pins with the locating holes in the anti-tip receiver. The pins will spring into the locating holes when correctly aligned.
4. Repeat this process for the second anti-tip.

⚠WARNING

- Ensure the anti-tips are secure by attempting to rotate the anti-tip tube. The anti-tip tube should not rotate or move in or out of the anti-tip receiver.

Additional Resources

Refer to www.roughrideramerica.com for videos providing information about your chair.

6 Riding your chair

Critical Safety Checks

Regardless of how often you use your chair, critical safety checks should always be performed before you use your chair.

1. Check your pneumatic tires for proper inflation.
2. Check the quick-release axles are fully engaged and the rear wheels are not loose.
3. Check that the wheel locks are easy to engage and that the wheel locks prevent the chair from moving when engaged.
4. Check for noise, vibration, or changes in how the parts of the chair function. Inspect for loose or missing hardware on side frame and X-brace.
5. If you are using anti-tips, check they are locked in place.

⚠WARNING

- DO NOT use your chair unless you have performed the Critical Safety Checks and are satisfied your chair is safe to use.

Knowing Your Capabilities and Limits

The first step in learning how to ride your chair is to know its capabilities and limitations. You also need to know your own capabilities and limitations. This knowledge will help you decide what you can do on your own and when you will need to ask for help.

⚠CAUTION

- Until you gain experience riding your chair, we recommend that you wear a safety helmet. A good helmet will protect the back of your head and not restrict your vision.

⚠WARNING

- Find someone who can help prevent you from falling or tipping over while you practice riding in your new chair. Have a person with you at all times while you practice.
- Your helper should stand where they can catch you or the chair and stop you from falling. The safest way this can be done is to have your helper hold a strap or rope looped under the push handles. This configuration minimizes the stress on the helper's back, should he or she need to catch your chair.

Where Can You Go in Your Wheelchair?

Your chair is designed to perform well on a wide range of surfaces and under a wide range of environmental conditions. To maximize your capabilities and reduce the risk of traversing obstacles please do the following:

- Keep a lookout for danger and look well ahead of your chair in the direction you are riding or turning.
- Make sure the floors where you live and work and ride frequently are level and free of obstructions.

⚠WARNING

- ALWAYS be aware of your riding skills and personal limitations. Please ride safely, within your limits, and use good judgment.
- Because of the great variety of surfaces and obstacles you will encounter, your chair will not be stable in all circumstances.
- Riding over curbs or obstacles can cause tipping, which may result in serious injuries.
- Use extreme caution when traversing uneven surfaces and slopes.
- If you have any doubt that you can safely navigate a surface or obstacle, ask for help.
- When using sidewalks/pavements, follow the laws that apply to pedestrians
- Avoid using bicycle lanes. Cyclists may not expect to see you and may find it difficult to see you.
- Avoid using your chair in streets and roads where motor vehicles (motor cycles, cars, trucks, buses, etc.) are present whenever possible.
- Be alert to the dangers of vehicles in parking lots and when cross roads. Your height when seated means motorists may find it difficult to see you.
- Injuries can occur when using any chair, including your RoughRider Aurora. You ride at your own risk. Please ride safely, within your limits, and use good judgment.

Harder surfaces

Your chair may be used on many types of harder surfaces like roads, sidewalks, and hard flooring.

⚠CAUTION

- Your casters and rear tires are unlikely to mark most hard surfaces under normal use. Avoid skidding or dragging your wheels across surfaces as this may damage and mark these surfaces and damage your casters and tires.

Softer surfaces

Your chair may be used on many types of softer surface including grass, firm sand, and firm gravel and dirt.

⚠ CAUTION

- You may get stuck in some soft ground and require assistance.

⚠ WARNING

- Ride slowly. You may encounter obstacles you cannot see.
- Please ride safely, within your limits, and use good judgment.
- Use anti-tips to reduce the chance you will tip over backwards.

Slippery Surfaces

Avoid using your chair on slippery surfaces, such as ice and wet and/or highly polished flooring. If you must ride on a slippery surface, ensure the surface is flat, avoid turning, move at a slower speed than you might normally travel.

⚠ WARNING

- Slippery surfaces may cause you to lose control of your chair, skid uncontrollably, and result in serious injuries to you and damage to your chair.

Hot, cold, dry, damp and wet environments

Your chair can be used in environments where the temperature and humidity are suitable for you to go without special clothing or personal protection.

Your chair uses parts (bearings, nuts and bolts) made of steel that will rust if submerged in water for prolonged periods or exposed to moisture and not cleaned and dried after. To prolong the life of your chair, always clean and dry your chair after use in dirty, damp, and wet environments.

⚠ WARNING

- DO NOT use this chair to enter environments that require special protective clothing or protection from environmental hazards like heat, cold, electricity.
- Your chair does not float. Please use your chair carefully around bodies of water.

Maintaining Your Center of Balance

The point at which you can be tipped from you chair depends on your physical ability, riding skill, center of balance, the stability of your chair, the type of terrain, and the presence of a slope and potholes. Changes to these and other factors can increase or decrease the risk of a fall or tip over.

Many things can change the center of balance while using your chair.

Common activities include:

- Riding up, down, and across slopes.
- Riding over obstacles like door thresholds, sidewalk cracks, etc.
- Climbing or descending a curb or step.
- Dressing and changing clothes.
- Reaching or leaning.
- Transferring into or out of your chair.

Common items include:

- Your rear wheel position.
- The presence or absence of anti-tips.
- Items hanging behind or in front of your chair, like backpacks.
- Items hanging under your chair, like under-seat bags.

Approximate Center of balance

The most important adjustment you can make to your chair that will impact your center of balance is the position of the rear wheels.

- The more you move the rear wheels forward, the more likely your chair will tip over backward. The more you move the rear wheels backwards, the less likely your chair will tip over backward.

⚠WARNING

- Refer to the Section Setting up Your Wheelchair (pg. 20) for information on determining the right wheel position for you.
- Use anti-tips, especially when you are learning to ride and setting up your chair.
- Avoid leaning over the sides or back of your wheelchair. Request assistance or carefully use an extension device to extend your reach.
- Use caution when transferring in or out of the wheelchair. Ensure your wheel locks are engaged and reduce the transfer distance as much as possible.

Adjusting Your Center of Balance:

Small changes to your body position can affect or help you maintain your center of balance.

1. Lean your upper body FORWARD slightly as you go UP a slope or obstacle.
2. Press your upper body BACKWARD as you go DOWN a slope or obstacle.
3. Lean your upper body UP (or into) the slope slightly as you go ACROSS a slope.

⚠ WARNING

- DO NOT push or pull on an object (such as furniture or a door jamb) to propel your chair.
- If your chair has anti-tip tubes, do not go over an obstacle without help.
- Keep both of your hands on the push rims as you go over an obstacle.
- Approach obstacles at 90' so that your wheels contact the obstacle at the same time.

Motor Vehicle Safety, Riding Public Transportation

Your chair is **not** equipped with a transit option.

We do not recommend that you sit in your chair while in a moving vehicle. In the event you must use your chair in a moving vehicle, always use a seatbelt and ensure the chair firmly secured to the vehicle using straps.

⚠ CAUTION

- If you are a frequent user of public transit, please consider working with the transit operator and driver to determine how best to travel and secure your chair.

⚠ WARNING

- DO NOT transport this chair in the front seat of a vehicle. It may move and impede the driver. Secure your chair so that it cannot move.
- During an accident or sudden stop, you may be thrown from the chair or with your chair. Wheelchair seat belts, positioning belts, etc. will not prevent this. Further injury may even result from the belts or straps.
- Move to an approved vehicle seat. Follow applicable traffic laws, and secure yourself with appropriate safety equipment, e.g., seat belts, harnesses, etc.

Escalators and Moving Walkways

⚠WARNING

- DO NOT use your chair on an escalator, even with assistance.
- We do not recommend using your chair on moving walkways. If you choose to do so, use care, follow any rules.

Weight Training and Transporting Heavy Loads

⚠WARNING

- Your chair is not designed for weight training and similar physical activities. It is unsafe to use as a chair while weight training.
- Your chair is not designed for weights in excess of 250 lb (114kg) and may be damaged when weights exceeding this amount are applied to chair.
- Weight training and moving heavy loads in your chair changes substantially the stability of the chair, may exceed the weight capacity of your chair, and may cause tipping.

Additional Resources

Refer to www.roughrideramerica.com for more information about your chair.

7 Cleaning and Maintaining Your Chair

Routine Cleaning

Keeping your chair clean and dry helps keep the upholstery from weakening, and cleaning also prevents damage caused by dirt or sand scraping against the chair's moving parts.

1. Wipe around wheel axles and moving parts WEEKLY with a slightly damp (not wet) cloth to remove dirt, and debris. Dirt and water can be especially damaging to these areas. Wipe off, blow away any fluff, dust, dirt, and unwind string and hair from axles and other moving parts.
2. Clean the chair frame surfaces (side frames, X-brace, caster forks) with mild soap or detergent at least MONTHLY. You can further protect the paint and appearance of your chair by applying non-abrasive auto wax every three months.
3. Hand-wash your fabric, as necessary; machine washing may damage fabric and remove fire retardant coatings. Drip-dry your fabric; machine drying will damage fabric

If your chair gets wet and the bearings get dirty regularly, you may need to clean and maintain your chair with greater frequency.

Routine Inspections

Inspecting your chair for damage is a good thing to do while you are cleaning it. Inspections may be easier when you are not sitting in your chair. To inspect your chair:

1. Check for no holes in the upholstery.
2. Cracks in the welds and tubes.
3. Bends in the tubes.
4. Loose nuts or bolts.
5. Bent axles.
6. Uneven footrests.
7. Loose handgrips.

⚠ WARNING

- If you find major structural damage like cracks or bends, you should stop using your chair. Contact the RoughRider America Customer Support Team for additional help.

Maintenance Instructions

With normal use and regular maintenance, your chair is expected to provide you with wheeled mobility across thousands of miles of varying terrain types.

We have aimed to provide you with sufficient information to maintain your chair. Additional information is available at www.roughrideramerica.com.

Routine Maintenance

Routine maintenance can help prevent breakdowns and excessive wear. It will make your chair last longer. We have provided a calendar showing when to do basic maintenance tasks. For how to do the specific maintenance go to the corresponding detailed descriptions.

⚠ CAUTION

- The Routine Maintenance Schedule (pg. 36) is intended to support everyday use of your chair in urban and suburban settings. If you use your chair in rural settings or do not use your chair every day, you many find your chair needs more or less frequent maintenance.

Wear and Tear Items

Wear and tear is to be expected, and some parts of your chair will need to be replaced every few years, or more frequently, depending on how and where you use your chair. These items include, but are not limited to:

- Upholstery, straps and belts
- Tires
- Caster wheels
- Bearings

Where to Get Replacement Parts

If you purchased your chair directly from RoughRider America, and require replacement parts, please contact the RoughRider America Customer Support Team for additional help.

If you purchased your chair from an authorized dealer, this dealer can answer most of your questions. You may also choose to get bearing and tires from another appropriate supplier.

⚠ CAUTION

- If you choose to replace your tires and bearings, we recommend buying recognized, high quality brands.
- If you choose to replace your tires and bearings, an appropriate healthcare professional or trained and experienced bicycle mechanic may be able to assist.

Additional Resources

Refer to www.roughrideramerica.com for videos providing information about your chair.

Routine Maintenance Schedule

We recommend you maintain your chair as described below:

	Wheelchair Part	What to Do	Pg. No.
Weekly	Tire Pressure	Check tire pressure. Add air when needed. Replace tires and tubes, as necessary.	37
	Wheel locks	Check position. Adjust to correct position, if necessary. Check nuts and tighten when wheel locks are not holding chair in position, or when wheel locks become difficult to lock.	38
Monthly	Cushion*	Check for cleanliness or breakdown of foam and structure. Clean as needed.	39
	Bearings	Lubricate bearings in caster wheels, caster barrels, and rear wheels, and anti-tips wheels with medium- to heavy-weight oil.	40
	Upholstery, calf straps, seat belts**	Check for damage (rips, tears etc.), wear, dirt, and sagging. Clean mild soap and water or replace as necessary.	40
	Push Handle Hand grips	Check for looseness and deterioration. Replace if looseness or deterioration is found. Clean grip surface mild soap and water, if desired.	42
Every 2 Months	Wheel locks	Lubricate Wheel Locks with medium- to heavy-weight oil.	38
	Spokes	Inspect and tighten spokes to true the wheels. Every other month, when spokes are broken or loose, or if wheels wobble when spinning.	43
	Nuts and Bolts	Inspect and tighten all nuts and bolts.	45
	Quick-release axles and axles sleeves	Clean and lubricate your quick-release axles. Inspect your axles for function, wear, cracks and bends. Inspect sleeves for looseness and ovalized holes.	46
	Caster Forks	Inspect caster wheel axles and anti-dropout tabs for damage.	48
	Push rims	Ensure they are secured to the rear wheels. If loose, have them tightened by a qualified technician. Check for rough edges or peeling paint, if present.	48
	Anti-tips	Check for looseness, damage (bending, cracking), and loose parts.	49
Every 6 Months	Wheels	Rear Wheels – Inspect for heavily worn tread and bald tires. Caster wheels – inspect for flat spots, worn V-ridge, torn wheel edges.	37, 48
	Bearings	Thorough Bearing Maintenance: Clean and repack with grease 2 – 3 times / year if living in rough rural environments; 1 time / year otherwise.	40
	Other moving parts/surfaces	Lubricate footrest pivot, folding stabilizer pivots, spoke threads, X-brace pivot, and pivot tube with medium- to heavy-weight oil.	49
	Frame, X-brace, Caster Fork, Footrests	Check for damage (bending, cracking).	51

* Follow the introductions provided with your cushion regarding cleaning and maintenance.

** If installed.

Tire Maintenance

Tire Pressure

Maintaining the correct tire pressure:

- Increases the life of the tires, saving you time and money.
- Decreases the rolling resistance and saves you energy.
- Keeps your wheel locks working properly.

Check you tire pressure regularly.

- To check your tire pressure precisely, we recommend using a tire pressure gauge. The pressure on the gauge should be the same as specified on the sidewall of the tire.
- You can also check your tire pressure by pressing with your thumb across the width of the tire. You should be able to barely depress the tire at least 1/8 inch (3 mm).

Add air (inflate) using an air pump, or release air (deflate), as necessary.

Puncture Repair

Your chair includes pneumatic tires that are similar to bicycle tires and are easy to repair and replace.

We recommend carrying the following items when you use your chair:

- A pump
- Rubber cement for tire patches
- Sandpaper (cloth backed 60 grit works well)
- Tire patches with tapered edge
- Spare valve cap, preferably the metal type with built-in wrench for valve core
- Spare valve core, if using inner tubes with replaceable cores (not shown)

⚠ CAUTION

- We recommend working with a wheelchair repair service or experienced and trained bicycle mechanic to repair or replace your tire and/or tube.

Repairing or Replacing Tires and Tubes

When a tire gets very worn, or the tire is brittle or cracked, it is more likely to go flat.

We recommend replacing your tires and tubes every three years, or sooner if they are damaged.

⚠CAUTION

- We recommend working with a wheelchair repair service or experienced and trained bicycle mechanic to repair or replace your tire and/or tube.

⚠WARNING

- DO NOT use this chair if any of the tires are under- or over-inflated.
- DO NOT over-inflate your tires as they may burst.
- DO NOT try to repair a damaged tire.
- Ensure that any replacement tires are 24 inches diameter when fully inflated. Some wheels are smaller or larger, which can affect the stability of your chair.
- Use a pressure gauge and check weekly for proper inflation level, as listed on the tire sidewall.
- Low pressure in a rear tire may cause the wheel lock on that side to slip and allow the wheel to turn when you do not expect it.
- Low tire pressure on one side may cause the chair to turn to one side, make it harder to propel in a straight line, and result in a loss of control.

Wheel Lock Maintenance

Loose wheel locks or wheel locks that are not adjusted correctly may allow your rear wheels to rotate, and can result in the chair moving and you falling while getting into or out of your chair.

Maintaining Your Wheel Locks

It should be very difficult to move your wheels when they are locked.

1. Check your tire pressure is correct.
2. Loosen the bolts that secure the clamp to the side frame.
3. Move the wheel lock into the engaged position.
4. Push the lock bar into the treaded surface of the tire at least 1/8 inch (3mm). If the lock arm does not contact the tire sufficiently, the rear wheel may turn unexpectedly.
5. Hold the lock in this position and retighten the lock clamp.

Replacing Your Wheel Lock(s)

When a wheel lock is bent, does not remain engaged, or is otherwise damaged it should be replaced.

⚠CAUTION

- If the wheel locks are hard to operate and push too much into the tires, the wheel locks may be too close to the tire.

⚠WARNING

- DO NOT repair a damaged wheel lock.
- Ensure the lock arms press into the tires sufficiently when engaged to prevent your rear wheels turning (at least 1/8 inch (3mm)). If the lock arm does not contact the tire sufficiently the wheel to turn when you do not expect it.
- Adjust the wheel locks after you make any change to the rear wheel position.
- Low pressure in a rear tire may cause the wheel lock on that side to slip and allow the wheel to turn when you do not expect it.

Cushion

Follow the instructions provided by your cushion Manufacturer. A cushion that is worn unevenly or otherwise damaged can be uncomfortable or dangerous as it can cause uneven pressure on your body.

Cleaning your Cushion

Follow the instructions provided by your cushion Manufacturer.

⚠WARNING

- DO NOT use bleach when washing the cushion or cushion cover.
- Ensure the all parts of your cushion are dry before using your chair.
- DO NOT wash any parts of your cushion in a washing machine

Replacing Your Cushion

By inspecting your cushion regularly, you will know when it should be replaced.

When your cushion no longer feels soft and comfortable to sit on, it should be replaced.

⚠WARNING

- DO NOT repair a damaged cushion.
- If you have poor or no sensation in your lower body, work with an appropriate healthcare professional to help select a suitable pressure relief cushion. Maintain and repair this cushion following their instructions

Bearings

Your chair has bearings in the caster wheels, caster barrels, and rear wheels. Maintaining your bearings will help your chair roll more easily and help them last longer.

Maintaining Your Bearings

Wipe the dust and dirt off of your bearings:

1. Rear wheel bearings
2. Caster barrel
3. Caster wheel

Lubricate your bearings with oil. Heavier oil is better. The best oil to use is 90 or 140 weight gear oil; the next best is 20 weight electric motor oil.

⚠ CAUTION

- Penetrating oils should only be used for cleaning your bearings. Common penetrating household lubricants and degreasers like WD40 should not be used for lubrication.
- Use of penetrating lubricants can damage the seals and remove grease.
- Bearing life will be significantly shortened if you use your chair with ungreased bearings.

Replacing Your Bearings

If your bearings do not move easily, you may have to replace either the balls or the whole bearing.

Your rear wheels and caster barrels use common sealed bearings. If these bearings do not move easily after being thoroughly cleaned, replace the entire bearing.

Your Caster wheels use common bicycle bearings. Inspect the balls, cups, and cones for damage. If the surfaces that the balls roll on are obviously rough or broken, or the balls are broken or cracked, these parts should be replaced.

⚠ CAUTION

- If you choose to replace your bearings, we recommend buying bearings from a recognized, high quality brand.
- If you choose to replace your bearings, an appropriate healthcare processional or bicycle mechanic may be able to do assist.

⚠ WARNING

- DO NOT repair damaged bearings.

Upholstery

Seat, Back-fabric, Calf Straps, and Seat and Positioning Belts (if installed)

Keeping your upholstery clean and dry will help your upholstery last longer. Dirt and moisture like sweat, food, drink, dust, mud, or other substances can cause the upholstery to wear more quickly. If the upholstery stays wet, it may stretch more easily.

Upholstery that is worn unevenly or otherwise damaged can be dangerous as it can:

- Cause uneven pressure on your body.
- Cause you to sit in an uncomfortable position.
- Rip suddenly and cause you to fall out of the chair.

Moisture can also cause fasteners, which hold the upholstery to the frame, to rust.

⚠CAUTION

- Your upholstery is not expected to last as long as the frame of your chair and will have to be replaced over time.

Inspecting Your Upholstery

By inspecting your upholstery regularly, you will know when it needs to be replaced. Inspect your upholstery for tears, wear, dirt, or any metal parts sticking through the upholstery that could injure you.

1. Make sure all bolts or screws that hold the upholstery in place are there.
2. Replace any missing bolts to make your upholstery last longer and prevent injury from upholstery failure.

Cleaning Your Upholstery

Wipe the upholstery down without removing it from the chair. The upholstery can be cleaned by hand with mild detergent or soap and water or spray disinfectant using a sponge.

⚠CAUTION

- We do not recommend removing your upholstery for cleaning.
- If you wipe your upholstery, be careful not to leave the seat screws and other movable parts of the chair wet. This may cause these parts to rust.

⚠WARNING

- DO NOT use bleach when washing your upholstery.
- DO NOT wash your upholstery in a washing machine.
- Ensure the upholstery is completely dry before using your chair.
- If you do remove your upholstery for cleaning, wash it by hand and allow it to dry completely before putting it back on the chair.
- Ensure all the seat rail fasteners are correctly and completely reinstalled.

Replacing Your Sling Seat and Back Fabric

The seat and back fabric should be tight when the chair is open. If the fabric stretches, your seat will get wider.

If your seat is more than 1 inch (25 mm) wider than your original seat width, you may need to replace your seat fabric.

⚠WARNING

- DO NOT repair your upholstery. You chair uses special, high denier fabrics that are designed to resist stretching and are fire resistant, when maintained as recommended.
- Damage to your upholstery will weaken it, and may put you and those around you at risk of injury.

Replacing Calf Straps, and Seat and Positioning Belts (if installed)

Straps and belts are damaged and should be replaced when they no longer function, are torn, have holes, or no longer provide a supportive, wide surface.

⚠WARNING

- If positioning straps are being used, you should work with a qualified healthcare professional to determine inspection and cleaning routines.
- Replace straps and belts that cause uneven pressure on your body.
- Straps that are damaged may not function as expected, break unexpectedly, and may put you and those around you at risk of injury.

Push Handle Handgrips

If your hand grips are dirty and slippery, they should be cleaned with mild soap and water.

Check your handgrips regularly by twisting and pulling on them as if you are trying to remove them from the push handles.

⚠WARNING

- Loose handgrips may cause serious injury if they slip off while the chair is being pulled or lifted. The risk is especially high when pulling your chair up stairs, curbs, and over other obstacles.
- If you can pull the handgrips off, they must be re-secured immediately.
- If strong adhesive cannot be found, remove the handgrips completely and be careful when lifting the chair by the bare handles.

Replacing Your Push Handle Handgrips

If you choose to reinstall your hand grips, use a very strong adhesive. A very good adhesive is heavy duty contact cement that is made especially for installing automobile weather-stripping. Handgrips that cannot be re-installed securely should be removed.

Handgrips that cannot be held securely and comfortably should be replaced.

⚠CAUTION

- We recommend working with a wheelchair repair service or an experienced and trained bicycle mechanic to re-install your handgrips.

⚠WARNING

- DO NOT try to repair damaged handgrips.

Rear Wheels (Rims, Spokes, and Hubs)

Rims

Inspect visually your wheel rims for dents, bends, and cracks.

Your rear wheels should not touch or rub against the back tubes or the sides of your chair. This may indicate your wheel is out of alignment, or your axle is bent and needs to be immediately replaced.

⚠CAUTION

- We recommend working with a wheelchair repair service or an experienced and trained bicycle mechanic to help realign your wheel.

Replacing Your Wheel Rims

⚠WARNING

- DO NOT use your chair if either of the rear wheel rims are dented or cracked.
- DO NOT try to repair a dented or cracked wheel rim.
- If you choose to replace your wheel rims, we recommend buying rims as good as or better than those provided with your chair.
- If you choose to replace your wheel rims, an appropriate healthcare processional or bicycle mechanic may be able to assist

Spokes

To check your spokes, go around the wheel squeezing pairs of spokes together with your fingers.

- If a spoke bends when you pull it gently, it needs to be tightened. Tighten each loose spoke at the nipple, i.e., where they meet the wheel rim with a spoke wrench one quarter turn at a time.
- If a spoke does not give at all, it may be too tight. Loosen it by turning the spoke nipple the opposite direction.

⚠CAUTION

- We recommend working with a wheelchair repair service or an experienced and trained bicycle mechanic to help maintain your spokes.

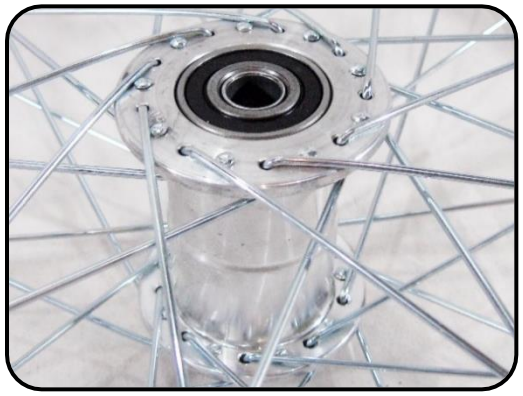
Replacing Broken Spokes

Broken spokes should be replaced to help prevent your wheel losing alignment. We recommend working with a wheelchair repair service. A trained and experienced bicycle mechanic may also be able to replace the broken spoke.

⚠WARNING

- DO NOT try to repair broken spokes.
- If you have one or more broken spokes, you should stop using your chair or use it carefully until the spokes can be replaced.

Hubs



Your hubs are unlikely to experience damage, if you maintain your tires, rims, and spokes as described.

Inspect visually your hubs for dents, bends, and cracks.

⚠ CAUTION

- We recommend working with a wheelchair repair service or an experienced and trained bicycle mechanic to help maintain your hubs.

Replacing Hubs

Damaged hubs should be replaced with equivalent parts.

⚠ WARNING

- DO NOT use your chair if your hub is dented, bent, or cracked.
- DO NOT try to repair broken hubs.

Nuts and Bolts

Your chair has been designed with a minimum number of nuts and bolts.

Over time and miles of travel, your chair will experience vibrations and torque that can cause the nuts and bolts to loosen. Loose fasteners allow unwanted extra movement in the chair and this movement makes pushing your chair more difficult. Loose fasteners also make other parts, like the wheel locks, hard to use.

Tightening Nuts and Bolts

Tightening loose nuts and bolts will prevent parts from getting lost or broken, and will help your chair roll more easily. Inspect your chair for loose nuts and bolts. If loose, tighten them with a wrench. Lock nuts should be replaced if you notice they are becoming loose, or are loose.

⚠ CAUTION

- Avoid using pliers or adjustable wrenches to tighten nuts and bolts. These tools are more likely to slip and damage the bolt head and nut.
- You should not have to use too much force to tighten a nut. If tightening is difficult, then the nut may be cross-threaded on the bolt. If you tighten a cross-threaded nut, you can damage the threads of the bolt.

⚠ WARNING

- Loose nuts and bolts can cause critical chair parts, like the wheel locks, backrest tubes, and X-brace to not function correctly, putting you and others at risk of serious injury.

Replacing Nuts and Bolts

Your chair uses "nylock" lock nuts in multiple locations. Lock nuts are harder to turn than regular nuts and should not become loose during normal chair use.. If the lock nut is easy to turn, it has lost most of its locking capacity and should be replaced.

Bolts that are worn, bent, cracked, rusting, or have damaged threads should be replaced.

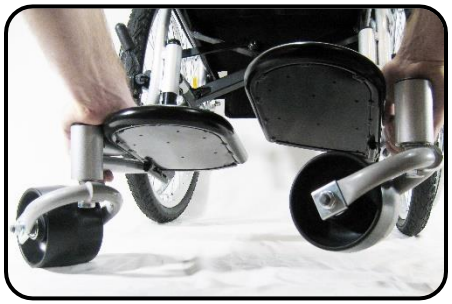
⚠ CAUTION

- We recommend working with a wheelchair repair service or an experienced and trained bicycle mechanic to help maintain and replace your nuts and bolts.

⚠ WARNING

- DO NOT try to repair damaged nuts and bolts.
- Damaged nuts and bolts should be replaced with equivalent parts (e.g., diameter, length, thread count, and hardness).

X-Brace Center Bolt



The center bolt of the X-brace should not bring the center of the X-brace together tightly.

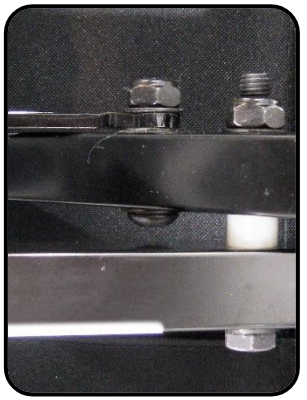
You should be able to hold one caster wheel down and lift the other approximately 3/4 inch (2 cm) above the ground with little effort.

The nuts securing the stabilizers to the X-brace should not be overtightened or the chair will become difficult to fold.

⚠ WARNING

- The locknut used to keep the Center Bolt from falling out should be very secure and hard to turn.

Stabilizer Bars



The nuts securing the stabilizers to the X-brace should not be overtightened or the chair will become difficult to fold.

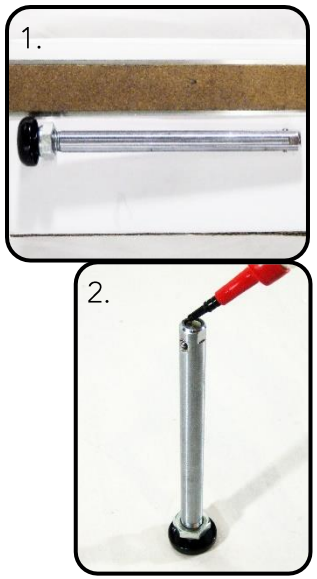
⚠ WARNING

- The locknuts used to keep the stabilizer bars from falling out should be very secure and hard to turn.

Quick-release Axles and Axle Sleeves

Your quick-release axles connect your rear wheels to the side frame, and are critical to your safety.

1. Inspect your axles for function, wear, cracks and bends. Inspect rear wheel sleeves for looseness and ovalized holes.
2. Use medium- to heavy-weight oil to lubricate all the moving parts of your quick-release axles. Heavier oil is better. The best oil to use is 90 or 140 weight gear oil; the next best is 20 weight electric motor oil.



⚠CAUTION

- Penetrating oils should only be used for cleaning. Common penetrating household lubricants and degreasers like WD40 should not be used for lubrication.

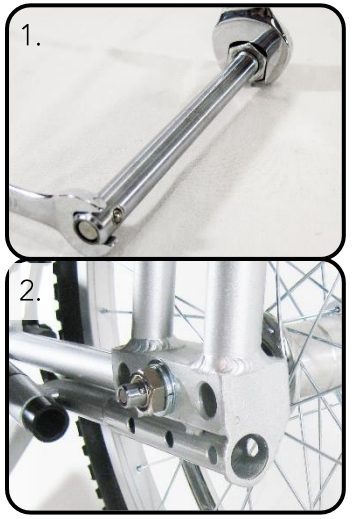
⚠WARNING

- If you find major structural damage to your axle, like cracks, bends, or corrosion you should stop using your chair.

Adjusting your quick-release axles

If the wheel and axle will not lock into the axle sleeve, the axle may require adjustment. Continue making small nut adjustments until it securely locks.

1. Turn the nut on the quick release axle counter-clockwise approximately 1/4 revolution and try to lock the axle into the sleeve. If it doesn't lock, continue making small adjustments.
2. If the axle and rear wheel are loose, turn the nut on the quick release axle clockwise approximately 1/4 revolution until the axle locks firmly into the sleeve.



⚠WARNING

- DO NOT use this chair unless you are sure both quick-release axles are locked in the axle sleeves. An unlocked axle may come off during use and cause a fall.

Replacing your quick-release axles

Your axles should only be replaced with equivalent parts.

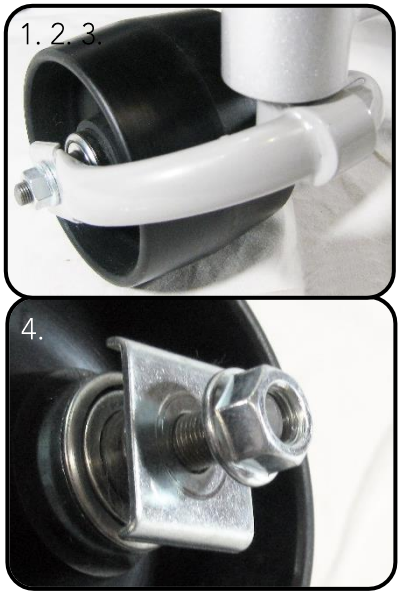
⚠WARNING

- DO NOT try to repair damaged axles.
- If you find major structural damage to your axle, like cracks, bends, or corrosion you should stop using your chair and replace your axle immediately.

Casters

Your casters and caster wheels work well on many types of terrain, but will get dirty and require maintenance.

1. Inspect and maintain your bearings, as described Bearings (pg. 40) section above.
2. Inspect your caster wheels for flat spots, worn V-ridges, holes, and torn wheel edges.
3. Inspect caster fork and wheel axles for bends and cracks.
4. Check the anti-dropout tabs are present and that they continue to retain the caster wheel, if the caster axle nuts are loose.



⚠ CAUTION

- We recommend working with a wheelchair repair service or an experienced and trained bicycle mechanic to help maintain and caster wheel bearings.

⚠ WARNING

- If the anti-dropout tabs are missing or not working, you should stop using your chair, or use it carefully until the parts can be replaced.

Replacing your Casters

Over time the "V" shape of your caster wheel will begin to flatten, and it may become more difficult to turn on harder surfaces. Depending on your riding style, use environment, and maintenance frequency you may need to replace your caster wheels occasionally.

If you find major damage to your caster wheel, you should stop using your chair or use it carefully until the wheel can be replaced.

If you find major structural damage like cracks or bends in the caster axle, or caster fork you should stop using your chair.

⚠ WARNING

- DO NOT try to repair any parts of the caster.

Anti-tips

Anti-tips must work reliably, and support you if you tip backwards.

Check your anti-tips for damage (bending, cracking), loose parts, secure pin engagement.

Use medium- to heavy-weight oil to lubricate all the anti-tip wheel axles. Heavier oil is better. The best oil to use is 90 or 140 weight gear oil; the next best is 20 weight electric motor oil.

⚠CAUTION

- Penetrating oils should only be used for cleaning. Common penetrating household lubricants and degreasers like WD40 should not be used for lubrication.

Replacing Your Anti-tips

Your anti-tips should only be replaced with equivalent parts.

⚠WARNING

- DO NOT try to repair damaged anti-tips.
- If you find major structural damage like cracks or bends, you should stop using your anti-tips until they can be replaced. If you require anti-tips to prevent you from tipping over, you should stop using your chair.

Push Rims

Your push rims help you propel, steer, and stop your chair.

1. Ensure your push rims are firmly secured to the rear wheels.
2. Check your push rims for rough edges, nicks, scratches, or peeling surface finishes, if present.
3. Inspect visually the push rims for bending, cracking.
4. Carefully smooth rough surfaces and remove peeling paint.

⚠WARNING

- If you find major structural damage like cracks in the hand rims, you should stop using your chair or use it carefully until the push rims can be replaced.

Replacing Your Push Rims

Your push rims should only be replaced with equivalent parts.

⚠WARNING

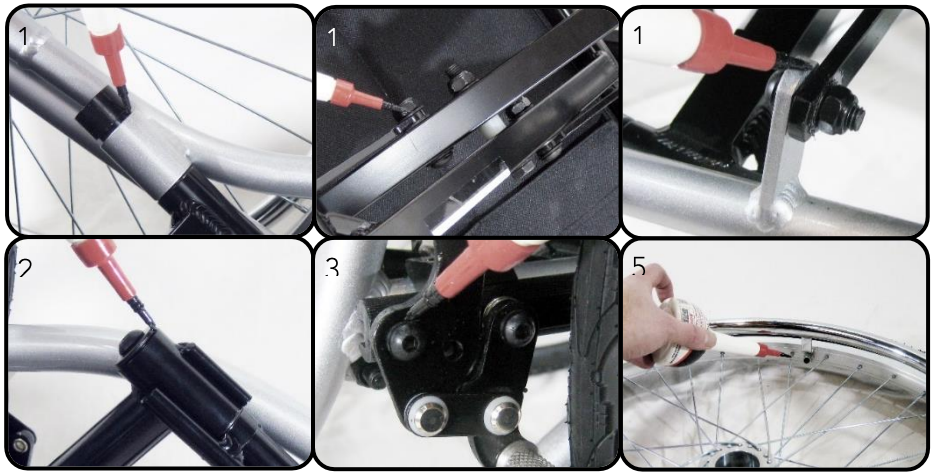
- DO NOT try to repair damaged push rims.

Lubricating Other Moving Parts/Surfaces

Consistently lubricating all the moving parts of your chair will help keep operating smoothly and efficiently. Use medium- to heavy-weight oil. Heavier oil is better. The best oil to use is 90 or 140 weight gear oil; the next best is 20 weight electric motor oil.

Apply oil to each of the following parts one drop at a time until the area is saturated and the part moves smoothly. Wipe away any excess oil once lubrication is complete.

1. X-brace pivot tubes, center pivot, and folding stabilizer pivots
2. Footrest pivot tubes
3. Wheel locks pivots
4. Bearings: Rear wheel, caster wheel, and caster barrel
5. Spokes nipples



When your chair is folded, rub candle wax onto the contact surfaces between seat tubes and side frame. The wax will make folding easier and help prevent the paint scraping off.

1. Apply Wax to the areas where the seat tubes and side frame touch.

⚠ CAUTION

- We recommend working with a wheelchair repair service or an experienced and trained bicycle mechanic to help lubricate your chair.

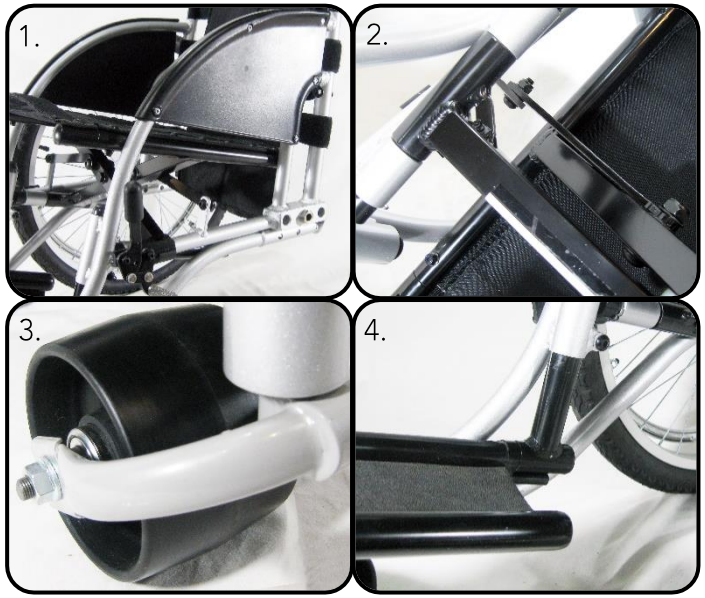
⚠ WARNING

- DO NOT lubricate the wheel lock arm. The lock arm must engage firmly with the rear wheel and not slip.
- Penetrating oils should only be used for cleaning. Common penetrating household lubricants and degreasers like WD40 should not be used for lubrication.

Inspecting the Side Frames, X-brace, Caster Forks, and Footrests

Inspect visually the tubes and welds of your chair for bending, cracking. Tubes and weld points include:

1. Side Frame
2. X-brace
3. Caster Forks
4. Footrests



⚠WARNING

- If you find major structural damage like cracks or bends, you should stop using your chair.

Replacing Your Side Frames, X-brace, Caster Forks, and Footrests

If you purchased your chair directly from RoughRider America, our Customer Support Team can help find replacement parts. If you purchased your chair from a distributor, please contact them about replacement parts.

⚠WARNING

- DO NOT try to repair damaged side frames, X-brace, caster forks, and footrests.

Troubleshooting Table

Chair does not roll straight	Chair " 3 wheels"	Chair squeaks, rattles, and/or feels loose	Chair does not turn easily	Chair feels like it will tip backwards	Rear Wheels rub on frame	Proposed Solution
✓	✓		✓	✓	✓	Make sure the tire pressure in both rear tires is correct and equal. Check the rear tires have equivalent amounts of wear.
		✓			✓	Make sure rear wheels are aligned, and all spokes and nipples are tight.
				✓		Move rear wheel sleeve and rear wheel backward one hole. Install anti-tips
✓		✓	✓			Inspect bearings. Clean or replace dirty or damaged bearings.
	✓	✓	✓			Make sure all nuts and bolts are sufficiently tight.
✓	✓		✓			Make sure all X-brace nut and bolt is not over or under tightened.
✓	✓	✓	✓	✓	✓	Check side frame and/or X-brace for bending, cracking, broken tubes or other damage. Do not use the chair and replace damaged parts, if possible
✓	✓	✓	✓			Check caster fork for bending, cracking, broken tubes or other damage. Do not use the chair and replace damaged parts, if possible

Additional Resources

Refer to www.roughrideramerica.com for more information about maintaining your chair.

8 Is Your Chair Beyond Repair?

Your chair is designed to last many years, when maintained appropriately. We recommend you follow the described Maintenance Schedule on pg. 36.

We do not recommend you repair any parts of your chair.

There are circumstances where damage to your chair cannot be seen. If you think a part of your chair is worn out or damaged, we recommend replacing the parts with one supplied by RoughRider America or an Authorized dealer.

⚠WARNING

- DO NOT use any chair that has been involved in a motor vehicle accident. The frame and other components may have been damaged due to the accident. This damage may not be visible.

9 Recycling and Disposal

Your chair is manufactured using a variety of materials, some of which can be recycled such as the side frames and X-brace. Please consider separating and recycling these components in a suitable manner.

Please dispose of your chair properly and according to local laws and regulations. Your chair should not be disposed of as ordinary household waste. Please take your chair to an approved collection or recycling point designated by your local or state government.

10 Limited Warranty

Limited Lifetime Warranty:

The anticipated useful service time of your wheelchair is five years. However, RoughRider America guarantees the frame and X-brace against defects in material and workmanship for as long as the original owner/purchaser owns the chair.

This warranty does not apply if:

- The chair is subject to abuse.
- The chair is not maintained as recommended in the Owner's Manual.
- The chair is transferred to a person different from the original /purchaser.

This warranty does not apply to:

- Punctures
- Tears
- Burns

One Year Warranty

We warrant all RoughRider America-made parts and components of this wheelchair against defects in materials and workmanship for one year from the date of purchase by the original owner. RoughRider America will, at its option, repair or replace all RoughRider America-made parts and components without charge.

Other warranties including implied warranties of merchantability and warranties of fitness for particular purpose are excluded.

There are no warranties that extend beyond what is described here. Remedies for breach of express warranties are limited to repair of replacement of the covered parts. In no event shall damages for breach of any warranty include any consequential damages or exceed the cost of non-conforming goods sold.

If you purchased your wheelchair directly from RoughRider America, claims and repairs should be processed through the RoughRider America Customer Support Team.

If you purchased your wheelchair from an authorized dealer, claims and repairs should be processed, through this dealer.

Limitations

We do not warrant:

- Tires and tubes.
- Damage from neglect, accident, misuse, or from improper installation or repair.
- Products modified without the written consent of RoughRider America.
- Damage from exceeding the weight limit.

If the original chair serial number tag is removed or altered, this warranty is void.

This warranty applies in the USA only. Check with your authorized RoughRider America dealer to find out if international warranties apply.

This warranty applies only to the first consumer purchase of this wheelchair through RoughRider America or an authorized RoughRider America dealer. This warranty does not cover use of the chair by organizations. This warranty does is not transferable.

This warranty does not cover use of the chair by organizations in multi-user applications.

What you must do

While this warranty is in effect, you must obtain from RoughRider America or your authorized RoughRider America dealer prior approval for return or repair of covered parts.

Return the wheelchair or part(s), freight pre-paid, to the address provided you by RoughRider America.

Pay the cost of labor to repair, remove, or install parts.

Notice to Consumer

If allowed by law, this warranty is in place of any other warranty (written or oral, express or implied, including a warranty of merchantability, or fitness for a particular purpose).

This warranty gives you certain legal rights. You may also have other rights that vary from state to state or province to province.

Additional Information about this Warranty

None.