

OWNER'S MANUAL

OWNER'S MANUAL AND ASSEMBLY INSTRUCTIONS

for Novara Afterburner trailer cycles
1st Edition, 2007

⚠ WARNING:

This Manual contains important safety, performance and service information.
Read it before you take the first ride with your new trailer cycle, and keep it for reference.

If you have any questions or do not understand any information in this Manual, take responsibility for your safety and consult with your local REI store or professional bike mechanic.

GA5639.2

CONTENTS

GENERAL CAUTION ABOUT CYCLING AND THE FORMAT OF WARNINGS IN THIS MANUAL 1

A SPECIAL NOTE TO THE LEAD CYCLIST 2

1. ASSEMBLY & OPERATION 4
- A. Assembly instructions 4
- B. Attaching the Afterburner to the lead bike 6
- C. Riding techniques 9
- D. Unfolding and folding the Afterburner 10
- E. Storage 10

2. SAFETY CHECKS BEFORE EACH USE 11

3. GENERAL SAFETY GUIDELINES 12
- A. The basics 12
- B. Riding safety 13
- C. Do not use the Afterburner for off-road riding 14
- D. Do not use the Afterburner in inclement weather 14
- E. Do not use the Afterburner for night riding 14
- F. Changing components or adding accessories 15

4. TECH 15
- A. Wheel removal and installation 15
- B. Tires and tubes 16

5. SERVICE 17
- A. Service intervals 17
- B. If your trailer cycle sustains an impact 18

GENERAL CAUTION ABOUT CYCLING AND THE FORMAT OF WARNINGS IN THIS MANUAL

Like any sport, cycling involves risk of injury and damage. By choosing to use a trailer cycle, you assume the responsibility for that risk, so you need to know — and to practice — the rules of safe and responsible riding and of proper use and maintenance. Proper use and maintenance of your trailer cycle reduces risk of injury.

This Manual contains many "Warnings" and "Cautions" concerning the consequences of failure to maintain or inspect your trailer cycle and of failure to follow safe cycling practices.

- The combination of the ⚠ safety alert symbol and the word **WARNING** indicates a potentially hazardous situation which, if not avoided, could result in serious injury or death.
- The combination of the ⚠ safety alert symbol and the word **CAUTION** indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury, or is an alert against unsafe practices.
- The word **CAUTION** used without the safety alert symbol indicates a situation which, if not avoided, could result in serious damage to the trailer cycle.

Many of the Warnings and Cautions say "you may lose control and fall." Because any fall can result in serious injury or even death, we do not always repeat the warning of possible injury or death.

Because it is impossible to anticipate every situation or condition that can occur while riding, this Manual makes no representation about the safe use of the trailer cycle under all conditions. There are risks associated with the use of any trailer cycle which cannot be predicted or avoided, and which are the sole responsibility of the lead cyclist.

A SPECIAL NOTE TO THE LEAD CYCLIST

You are responsible for the activities and safety of your passenger, and that includes making sure that:

- *the trailer cycle is properly fitted to the lead bicycle;*
- *the trailer cycle is properly adjusted for the passenger's size;*
- *the trailer cycle is in good repair and safe operating condition;*
- *you and your passenger have learned and understand the safe operation of the trailer cycle; and*
- *you and your passenger have learned, understand and obey not only the applicable local motor vehicle, bicycle and traffic laws, but also the common sense rules of safe and responsible bicycling.*

As the adult operator, you should read this Manual, as well as review its warnings and the trailer cycle's functions and operating procedures with your passenger, before letting your passenger ride the trailer cycle.

This Manual provides information on the trailer cycle only. You should refer to the user manual and instructions for the lead cycle for information on its correct and safe operation.

This Manual should accompany the Afterburner if you ever loan or give your Afterburner to another person to use. The contents of this Manual are also available online, at www.rei.com/novara.

⚠ **WARNING:** Make sure that you and your passenger always wear an approved bicycle helmet when riding; also make sure that your passenger understands that a bicycle helmet is for cycling only, and must be removed when not riding. Impacts to a bicycle helmet during play may damage its ability to provide its designed protection in a bicycle accident, which could result in serious injury or death.

⚠ WARNING: YOU MUST ENSURE THAT YOU, YOUR PASSENGER AND THE LEAD BIKE ARE COMPATIBLE WITH THE AFTERBURNER

LEAD BIKE: The Afterburner is designed for upright bikes with 26" wheels (generally mountain bikes) or 27"/700c wheels (generally road bikes).

- The minimum height of area of the seatpost where the Afterburner hitch is mounted should be 30" (760mm).
- Clearance between the bottom of the hitch and the rear tire, panniers or rack of the lead bicycle should be at least 3.5".

⚠ **WARNING: Do not attach the Afterburner to bikes that cannot support these dimensions. They ensure proper clearance for the Afterburner's pedals when cornering as well as adequate clearance between the Afterburner frame and the lead bicycle.**

The lead bike's seatpost is critical to the safe operation of the Afterburner because it provides the structural integrity of the connection between the lead bike and the Afterburner. The lead bike's seatpost:

- must be round and straight over the entire section that the hitch will clamp to;
- must have a minimum diameter of 26.6mm and a maximum diameter of 31.6mm (most seatposts will have this dimension marked on them).
- must have at least 3" (75mm) of seatpost available for clamping;
- must be sound and free of dents, cracks, deep scratches or any other damage; and
- must be able to withstand the clamping forces of the Afterburner hitch. Aluminum seatposts with a wall thickness exceeding 1.75mm are best. Do not use the Afterburner with carbon fiber, titanium, steel or "superlight" aluminum posts. The high clamping forces of the Afterburner hinge can distort, crack, dent and otherwise damage these posts.

⚠ **WARNING: Attaching the Afterburner to a lead bike with an inappropriate or damaged seatpost can result in a connection failure — causing the trailer to move out of position or separate from the lead bike. This can cause loss of control, which may result in severe personal injury or death to the lead bike rider and/or passenger.**

PASSENGER WEIGHT AND RIDING ABILITY: Do not tow passengers on the Afterburner who are not already able to ride a small bicycle with or without training wheels, as they lack the skills and understanding to be safe riders.

- Passengers must weigh less than 75 pounds, which is the maximum weight the Afterburner is able to support.
- Passengers must weigh less than 50% of the weight of the lead bike rider. If the passenger's weight is closer than that to the lead bicycle rider's weight, the bike can become hard to control.

⚠ **WARNING: Do not carry children who, due to age, size or disability, are unable to balance themselves on the Afterburner seat.**

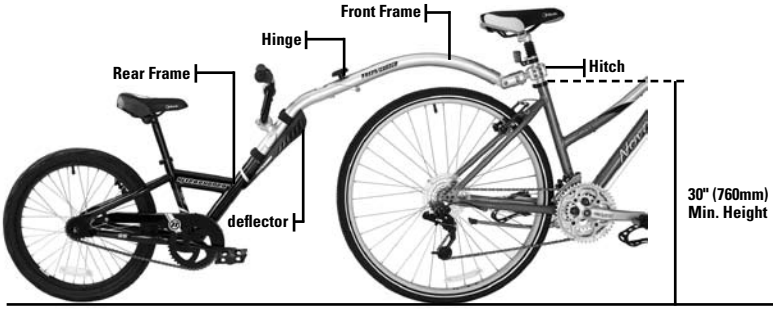
1. ASSEMBLY & OPERATION

A. Assembly Instructions

The box contains:

1. Afterburner trailer cycle
2. Pedals
3. Handlebar
4. Seat and post
5. Reflector
6. Safety flag
7. Deflector

Before beginning, make sure that you have all of the parts.



You will need these tools to assemble the Afterburner correctly:

1. Adjustable wrench
2. Utility knife
3. 5mm Allen wrench
4. Screwdriver (flat head)
5. Tape measure (36"+)

Do not try to assemble the Afterburner without these tools, and don't try to substitute others.

Before assembly, remove all protective packaging. You will also need to unfold the Afterburner before assembly; please refer to Section 1.D on page 10 for unfolding instructions.

1. Install handlebar:
Remove bolts from handlebar stem. Place handlebar in stem, replace bolts and tighten.
Adjust the handlebar at the correct height/angle for your passenger. When correctly adjusted, the passenger should be able to hold the handlebars comfortably while sitting upright with arms bent at the elbows.

2. Install seat:
Insert seatpost into Afterburner frame. Be sure that seatpost is inserted at least 2.5" into the Afterburner frame, past minimum insertion line marked on the seatpost.



minimum insertion
Seatpost must be inserted far enough that no lines can be seen.

⚠ **WARNING:** The minimum insertion line must be completely inserted into the frame and should not be visible. Failure to insert the seatpost that far will make the seat assembly weak and unstable, and the seatpost could bend or break and cause serious injury to the passenger.

Tighten seatpost binder bolt with a 5mm Allen wrench or with the quick-release lever.

3. **Install pedals:**
   Look for the letter R or L stamped on the pedal spindle.
   Thread the pedal marked R into the crank arm on the right (chain side) of the Afterburner.
   Start turning the pedal spindle in a clockwise direction by hand to avoid stripping the threads. Tighten pedal securely.
   Thread the pedal marked L into the crank on the left side of the Afterburner
   Start turning the pedal spindle in a counterclockwise direction by hand. Tighten pedal securely.
4. **Install deflector:**
   Open strap on deflector. Place deflector on bottom of downtube (see page 4) so the tube fits into the groove on the deflector. Wrap straps around the tube and fasten the straps.
5. **Install reflector:**
   Remove screw on reflector and slide reflector's clamp onto left seatstay. Tighten clamp.
6. **Inflate tire to 35 psi.**

CAUTION: After 5 hours of riding, inspect all components for proper adjustment. See section 2, Safety Checks, on page 11 for details.

B. Attaching the Afterburner to the Lead Bike

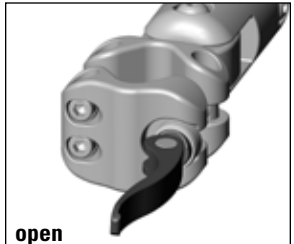
Attaching and separating the Afterburner is most easily done when both the lead bike and the Afterburner can be leaned against or supported by the same surface. You may also find it helpful to have someone holding one or the other while becoming familiar with the Afterburner's installation.

From the front, the hitch has two visible bolts and a quick-release lever.

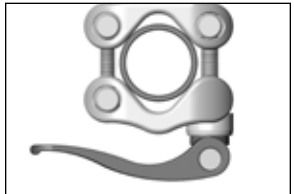
a. The two 5mm bolts are used primarily for adjusting the size of the hitch to accommodate different diameters of seatposts.

b. The quick-release lever provides the high clamping power that the Afterburner requires for safe and reliable operation. Once set up properly for a bike, it also allows the Afterburner to be installed and removed without tools.

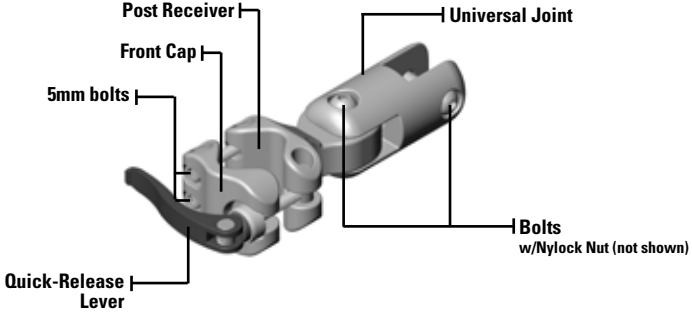
1. Open the quick-release lever by pulling it away from the front cap, so that the word "OPEN" is visible. Spin the lever counterclockwise until it can clear the safety recess in the cap and move to the outside. It does not need to be removed all the way.
2. Remove all accessories attached to the lead cycle's seat and seatpost and install them elsewhere on the lead cycle or leave them off while the Afterburner is attached.
3. Insert the seatpost between the hitch's front cap and the post receiver. Replace the quick-release lever back in the safety recess and spin it clockwise until it contacts the front cap with the word "CLOSED" displayed.



open
quick-release lever

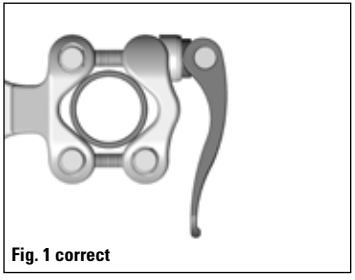


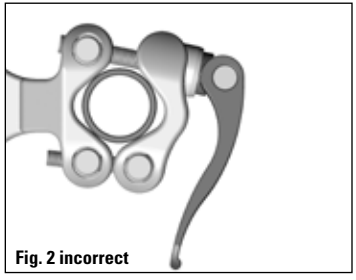
closed
quick-release lever



4. Look down from above to make sure that the distances between the front cap and post receiver are roughly equal on both sides (Fig. 1). This allows the Afterburner hitch to function optimally.

    a. The front cap should NEVER contact the post receiver on either side when properly installed (Fig. 2). If it can only be adjusted this way, the seatpost is not compatible with the hitch and should not be used.


Fig. 1 correct


Fig. 2 incorrect

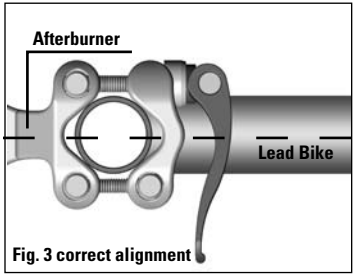


Fig. 3 correct alignment

    b. The hitch should always be installed and operated in line with the center of the lead bike (Fig. 3). Riding with the hitch off-center will force the passenger to ride with a "tilt" and can be dangerous if more than a couple degrees off.

5. Adjust the hitch by threading the quick-release lever and the two 5mm bolts as necessary to get the hitch in solid contact with the post with the front cap evenly spaced off of the post receiver.

6. Open the quick-release lever so that the word "OPEN" is visible. Using a 5mm wrench, give each of the bolts ½ turn in a clockwise direction.

7. Close the quick-release lever so that the word "CLOSED" is visible. It should require moderate effort to close. A person of average hand strength should need to wrap their fingers around part of the hitch or post for leverage. The lever should leave a clear imprint in the palm of your hand.

8. If the quick-release lever cannot be pushed all of the way to a position where the lever contacts either the seatpost or front cap, the hitch has not been installed correctly. You will need to re-open the lever and rotate the lever counter-clockwise until it can be closed into contact with either the front cap or post.

⚠ **WARNING: Securely clamping the hitch takes considerable force. If you can fully close the quick-release without wrapping your fingers around the hitch or post for leverage, and the quick-release lever does not leave a clear imprint in the palm of your hand, the tension is insufficient, and the Afterburner will be unsafe to operate. Open the lever and re-adjust the tension as described on the next page.**

9. If this tension adjustment is insufficient, you may use the 5mm bolts to adjust by turning them in ¼ turn increments counterclockwise and trying to close again. If you need to adjust them more than twice, you may need assistance with installing the hitch. Re-read and re-perform steps 5–8 again and if you still have trouble you may need to consult your local REI store or a professional bike mechanic for assistance.
10. If the hitch is successfully installed, it will be impossible to rotate it about the seatpost by pushing on the tow bar.
11. Conduct a test ride without a passenger after installation is complete.
12. Adjust the Afterburner seat to the correct height for your passenger. Loosen the seatpost binder bolt or quick-release lever, adjust the seat height and retighten.

    To check for correct seat height:
    - Have the passenger sit on the seat.
    - Place the heel of one of the passenger's feet on a pedal in the down position.
    - If the passenger's hips must rock for the heel to reach the pedal, lower the saddle.
    - If the passenger's leg is bent more than 20º at the knee with the heel on the pedal, raise the saddle.

When correctly adjusted, the passenger's feet should rest on the pedals at their lowest position with the passenger's knee bent slightly. Check to make sure that the minimum insertion line on the seatpost is not showing.

⚠ **WARNING: The minimum insertion line must be completely inserted into the frame and should not be visible. Failure to insert the seatpost that far will make the seat assembly weak and unstable, and the seatpost could bend or break and cause serious injury to the passenger.**

13. Adjust the Afterburner seat to the correct angle by loosening the seat clamp bolt with a wrench. Adjust as necessary. Make sure seat and clamp are fully inserted over post and re-tighten while maintaining equal visible threading of clamp bolt on each side. Most riders prefer a horizontal seat.

    ⚠ **WARNING: After any adjustment to seat angle, be sure that the seat angle adjusting mechanism is properly tightened before riding. A loose clamp or seatpost binder can cause damage to the seatpost or can cause the passenger to lose control and fall. A correctly tightened seat angle adjusting mechanism will allow no seat movement in any direction. Periodically check to make sure that the seat adjusting mechanism is properly tightened.**



minimum insertion
Seatpost must be inserted far enough that no lines can be seen.

14. Install the flag on the Afterburner chainstay. Always use the flag, which makes the trailer cycle more visible to other people and particularly to cars and trucks.
15. The hitch should be checked periodically for resistance to rotation.

Removal

1. Open the quick-release lever by pulling it away from the front cap, so that the word "OPEN" is displayed. Then spin the lever counterclockwise until it can clear the safety recess in the cap and move to the outside. The quick-release lever does not need to be removed.
2. The hitch is designed so that the seatpost can now be maneuvered out of the hitch past the quick-release lever and front cap.

Re-installation

1. If the Afterburner is being re-installed on the same bicycle as before and the hitch has not been adjusted while in storage, re-install using steps 6 through 11 above.
2. If you are unsure of the previous installation or haven't used the Afterburner in a while, start from step 1 on page 6.

C. Riding Techniques

First Time Out: When you put on your helmet to take your first familiarization ride on your new Afterburner, be sure to pick an open, level environment that is free of cars, other cyclists, obstacles and other hazards. Ride to become familiar with the controls, features and performance of your new Afterburner.

Different Riding Techniques: Riding with the Afterburner attached to your bicycle will feel quite different from regular cycling. Take it easy until you get used to the feel. Be careful to notice the following:

1. The Afterburner effectively makes you one long bicycle. You will not be able to turn as sharply as you can with just your bike. Watch for obstacles, and plan your turns so that you can make them wide and smooth.
2. Any motion that you make on your bike will be felt by your passenger on the Afterburner. Be careful to accelerate and climb hills slowly and smoothly. Swaying from side to side may cause your Afterburner passenger to let go and fall off the Afterburner and be seriously hurt.
3. The added weight of the Afterburner and passenger will increase the distance required for you to stop. Be especially careful when riding downhill towing an Afterburner.
4. Always keep your speed under 15 mph. At faster speeds, you are more likely to lose control.

Gear Shift: The multispeed Afterburner gives your passenger a fun, safe way to learn how to shift gears. It has a derailleur drivetrain and a twist-grip shifter.

The vocabulary of shifting can be confusing. A downshift is a shift to a “lower” or “slower” gear, one which is easier to pedal. An upshift is a shift to a “higher” or “faster,” harder-to-pedal gear. So, at the rear gear cluster, what is called a downshift looks like an upshift. The way to keep things straight is to remember that shifting the chain in toward the centerline of the bike is for accelerating and climbing and is called a downshift. Moving the chain out or away from the centerline of the bike is for speed and is called an upshift.

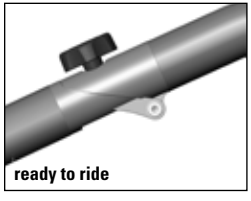
Whether upshifting or downshifting, the bicycle derailleur system design requires that the drive chain be moving forward and be under at least some tension. A derailleur will shift only if you are pedaling forward.

⚠ **CAUTION: Be sure to instruct your passenger to pedal forward when shifting and to refrain from moving the shifter while pedaling backward, and not to pedal backward immediately after having moved the shifter. This could jam the chain.**

D. Unfolding and Folding the Afterburner

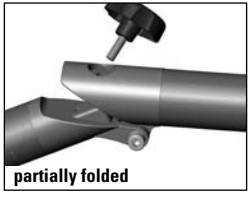
Unfolding:

1. Unfold the frame. You will need to remove the knob from the frame if it has been installed.
2. Once unfolded completely, re-insert knob into the frame and turn it clockwise to tighten. Frame must be supported or held in fully open position for bolt to insert properly. Failure to maintain fully open position while inserting bolt can damage the threads.
3. Tighten the knob securely and insert the safety flag if preparing for use.


ready to ride

Folding:

1. Fold the Afterburner only when its rider has dismounted and the Afterburner has been disconnected from the lead bike.
2. Remove the safety flag from the flag holder by pulling up on the flagpole above the midpoint.
3. Unscrew the knob by turning it counterclockwise until it comes out of the frame.
4. Fold down the tow arm. A good place to store the knob is to screw it back into the lower part of the frame.

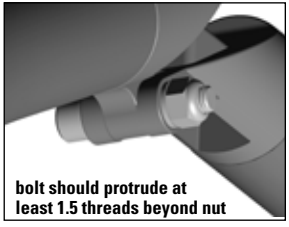

partially folded

E. Storage

Hanging the Afterburner from its wheel is an effective low-cost storage solution. It is also OK to store it folded. As with most equipment, dry areas, out of direct sunlight, are best for extended storage.

2. SAFETY CHECKS BEFORE EACH USE

Check the condition of your Afterburner before every ride.



Afterburner hitch and hinge condition: The hitch is the critical connection between the Afterburner and the lead bicycle. Before each ride:

- Carefully inspect hitch and hinge for cracks.
- Carefully inspect hardware on hitch and hinge to ensure that the bolts protrude through the nylock nut (see illustration).
  The nylock nut features a plastic insert that provides a high-friction fit for the bolt, to keep the nut from being loosened by road vibration. Check the bolts for tightness, as well, but do not over-tighten.

Nuts, bolts and straps: Make sure nothing is loose. Lift the wheel off the ground two or three inches, then let it bounce on the ground. Anything sound, feel or look loose? Do a visual and tactile inspection of the whole trailer cycle. Any loose parts or accessories? If so, secure them. If you're not sure, ask someone with experience to check.

Tire pressure: The Afterburner tire is your passenger's primary suspension system. For your passenger's comfort and confidence, make sure the Afterburner tire is inflated to 30–35 psi (see Section 4.B.1).

Tire in good shape? Spin the wheel slowly and look for cuts in the tread and sidewall. Replace a damaged tire before riding the Afterburner.

Wheels true? Spin the wheel and check for side-to-side wobble. If a wheel wobbles side to side, take the Afterburner to your local REI store or a professional bike mechanic to have the wheel trued.

Chain taut? Press down on the chain midway between front and rear cogs. If the chain moves more than ½", tighten the chain by loosening bolts, moving the rear wheel back and re-tightening the bolts.

Saddle alignment: Make sure the saddle points straight ahead and that the adjusting mechanisms for seat height and angle are tight and secure.

Handlebar ends: Make sure the handlebar grips are secure and in good condition. If not, have your local REI store or a professional bike mechanic replace them.

⚠ **WARNING: Loose or damaged handlebar grips can cause the passenger to lose balance and fall.**

Afterburner hitch tightness: Push on the tow bar to confirm that the hitch cannot be rotated about the seatpost of the lead bicycle.

Service Schedule: Follow the regular service and maintenance recommendations on pg.17 (Section 5).

3. GENERAL SAFETY GUIDELINES

A. The Basics

⚠ **WARNING: Many states require specific safety devices. It is your responsibility as the lead bike rider to familiarize yourself and your passenger with the laws of the city and/or state where you ride and to comply with all applicable laws, including properly equipping yourself and your bike as the law requires.**

1. Always wear cycling helmets that meet the latest certification standards and are appropriate for the type of riding you do. Always follow the helmet manufacturer's instructions for fit, use and care. Most serious bicycle injuries involve head injuries that might have been avoided if the rider had worn an appropriate helmet.

   ⚠ **WARNING: Failure of either the lead bike rider or passenger to wear a helmet when riding may result in serious injury or death.**

2. Always do the Safety Checks (Section 2) on pg.11 before you tow the trailer cycle.
3. Do not tow children on the Afterburner who are not already able to ride a small bicycle with or without training wheels. Do not carry children who—because they are too young, too small or have a disability—are unable to balance themselves on the seat.
4. Be thoroughly familiar with operation of the lead bicycle.
5. Be careful to keep body parts and other objects away from the sharp teeth and rings of the lead cycle's and trailer cycle's chains.
6. Both riders must always wear:
   - Shoes that will stay on their feet and will grip the pedals. Never ride barefoot or in sandals.
   - Bright, visible clothing that is not so loose that it can be tangled in the bicycle's moving parts or snagged by objects at the side of the road or trail.
   - Protective eyewear, to protect against airborne dirt, dust and bugs — tinted when the sun is bright, clear when it's not.
7. Ride at a speed no greater than 15 mph. Increased speed means higher risk.

B. Riding Safety

1. You are sharing the road or the path with others—motorists, pedestrians and other cyclists. Respect their rights.
2. Ride defensively. Always assume that others do not see you.
3. Look ahead, and be ready to avoid:
    - Vehicles slowing or turning, entering the road or your lane ahead of you, or coming up behind you.
    - Parked car doors opening.
    - Pedestrians stepping out.
    - Children or pets playing near the road.
    - Potholes, sewer grating, railroad tracks, expansion joints, road or sidewalk construction, debris and other obstructions that could cause you to swerve into traffic, catch your wheel or cause you to have an accident.
    - The many other hazards and distractions that can occur on a bicycle ride.
4. Ride in designated bike lanes, on designated bike paths or as close to the edge of the road as possible, in the direction of traffic flow or as directed by local governing laws.
5. Stop at stop signs and traffic lights; slow down and look both ways at street intersections. Remember that a bicycle always loses in a collision with a motor vehicle, so be prepared to yield even if you have the right of way.
6. Use approved hand signals for turning and stopping.
7. Never ride with headphones. They mask traffic sounds and emergency vehicle sirens, distract you from concentrating on what's going on around you, and their wires can tangle in the moving parts of the bicycle, causing you to lose control.
8. Never carry anything that obstructs your vision or your complete control of the lead bicycle, or could become entangled in the moving parts of the bicycle.
9. Never hitch a ride by holding on to a vehicle.
10. Don't do stunts, wheelies or jumps with the Afterburner attached to a bicycle.
11. Don't weave through traffic or make any moves that may surprise people with whom you are sharing the road.

12. Observe and yield the right of way.
13. Never ride your bicycle while under the influence of alcohol or drugs.
14. If possible, avoid riding in bad weather, when visibility is obscured, at dawn, dusk or in the dark, or when extremely tired. Each of these conditions increases the risk of accident.
15. Install a full-coverage rear fender on the lead bicycle to avoid throwing road debris onto the trailer cycle rider.

⚠ CAUTION: Check reflectors and their mounting brackets regularly to make sure that they are clean, straight, unbroken and securely mounted. Have your local REI store or a professional bike mechanic replace damaged reflectors and straighten or tighten any that are bent or loose.

⚠ WARNING: Do not remove the reflectors or reflector brackets from your Afterburner. Removing the reflectors may reduce your visibility to others using the roadway.

C. Do Not Use the Afterburner for Off-Road Riding

Use the Afterburner only on level, well-maintained paved surfaces, and do not ride on rough terrain or uneven roads or surfaces with a trailer cycle. The bumping and jostling could knock the passenger off the trailer cycle and damage the hitch attachment.

D. Do Not Use the Afterburner in Inclement Weather

Do not use the Afterburner in reduced visibility or on reduced traction surfaces. This includes any surface affected by rain, snow, ice or loose roadway materials, etc.

⚠ WARNING: Wet weather impairs traction, braking and visibility, both for the bicyclist and for other vehicles sharing the road. The risk of an accident is dramatically increased in wet conditions.

E. Do Not Use the Afterburner for Night Riding

Riding a bicycle at night is many times more dangerous than riding during the day because a cyclist can be very difficult for motorists and pedestrians to see. Do not use the Afterburner at dawn, at dusk or at night.

⚠ WARNING: Riding at dawn, dusk or at night, or at other times of poor visibility, even with an adequate bicycle lighting system and even with reflectors can be dangerous because drivers may not see the trailer cycle or, if they do, recognize that it is part of the lead cycle and carrying a passenger.

F. Changing Components or Adding Accessories

There are many components and accessories that you could install on your trailer cycle. However, if you change components or add accessories, you do so at your own risk. Before installing any component or accessory—especially a different size tire—make sure that it is compatible with your trailer cycle. Be sure to read, understand and follow the instructions that accompany any accessories that you purchase for your trailer cycle.

⚠ **WARNING: Do not install a longer seatpost on the trailer cycle. The need to add a longer seatpost is a sign that your passenger is too large for the trailer cycle.**

⚠ **CAUTION: Changing the components on your trailer cycle may damage it or render it unusable.**

4. TECH

It's important to your safety, performance and enjoyment to understand how things work on your Afterburner. We urge you to ask your local REI staff or a professional bike mechanic how to do the things described in this section before you attempt them yourself and that you have your local REI staff or professional bike mechanic check your work before you use the trailer cycle. If you have even the slightest doubt as to whether you understand something in this section of the Manual, talk to an REI cycling staff member or a professional bike mechanic.

A. Wheel Removal and Installation

1. Removing and installing the rear wheel of the single-speed Afterburner

a. Removing the rear wheel of the single-speed Afterburner

(1) Using the correct size wrench, loosen the two axle nuts.

(2) Push the rear wheel forward. Use the slack in the chain and "derail" the chain from the front sprocket toward the inside.

(3) Pull the rear wheel back until it clears the frame and slide it free of the chain.

b. Installing the rear wheel of the single-speed Afterburner

(1) Place the chain on the rear sprocket and slide it into the frame.

(2) Replace the chain on the front sprocket and pull the wheel rearward until the chain is tight.

(3) Snug the rear bolts and pedal the bike. If the chain has less than ⅛", or more than ½", of vertical movement at any point in full rotation of the cranks, it needs to be adjusted. Pulling rearward makes it tighter and pushing forward slackens it.

(4) Once it is properly tensioned, finish tightening the axle nuts. Remember to keep the wheel centered in the frame.

2. Removing and installing the rear wheel of the seven-speed Afterburner

a. Removing the rear wheel of the seven-speed Afterburner

(1) Using the correct size wrench, loosen the two axle nuts.

(2) Shift the derailleur to the highest gear/smallest cog.

(3) Push the rear wheel forward until it clears the frame and slide it free of the chain. It may help to rotate the derailleur rearward and up slightly for clearance.

b. Installing the rear wheel of the seven-speed Afterburner

(1) With the shifter in the highest gear setting, place the chain on the smallest sprocket and slide it up into the frame. It may help to rotate the derailleur rearward and up slightly for clearance.

(2) Pull the wheel rearward and tighten the axle nuts. Remember to keep the wheel centered in the frame.

B. Tires and Tubes

1. Tires

The Afterburner tire is your passenger's primary suspension system. For your passenger's comfort and confidence, make sure the Afterburner tire is inflated to 30–35 psi. The Afterburner's tire is made specifically for the Afterburner, for use on smooth surfaces. The size is marked on the sidewall of the tire. Use this information to purchase replacement tires.

⚠ **WARNING: Never inflate your Afterburner tire beyond 35 psi.**

The best and safest way to inflate a bicycle tire to the correct pressure is with a bicycle pump that has a built-in pressure gauge.

⚠ **WARNING: Do not use gas station air hoses or other air compressors to fill the Afterburner's tire. Air hoses and compressors are not made for bicycle tires. They move a large volume of air very rapidly, and will raise the pressure in your tire very rapidly, which could cause the tube to explode.**

2. Tire Valves

There are primarily two kinds of bicycle tube valves: the Schrader valve and the Presta valve. The Afterburner uses a Schrader valve similar to an automobile tire valve. The bicycle pump you use must have the fitting appropriate to the valve stem on your Afterburner tire.

5. SERVICE

⚠ **WARNING: Many Afterburner service and repair tasks require special knowledge and tools. Do not begin any adjustments or service on your trailer cycle until you have learned how to complete them properly. Improper adjustment or service may result in an accident.**

If you want to learn to do major service and repair work on your trailer cycle, we recommend that you:

- Ask your local REI staff or professional bike mechanic to recommend a book on bicycle repair.
- Ask your local REI staff or professional bike mechanic about the availability of bicycle repair courses in your area.

Regardless of which option you select, we recommend that you ask your local REI staff or a professional bike mechanic to check your work, especially if you are at all unsure of your work's quality or scope.

A. Service Intervals

Some service and maintenance can and should be performed by the owner, and requires no special tools or knowledge beyond what is presented in this Manual. The following are examples of the type of service you could perform yourself. All other service, maintenance and repair should be performed in your local REI store or by a professional bike mechanic.

1. **Break-in period:** Your Afterburner will last longer and work better if you break it in. Control cables and wheel spokes may stretch or "seat" when a new trailer cycle is first used and may require readjustment by your local REI store or a professional bike mechanic. Your Safety Check (Section 2) will help you identify some things that may need readjustment. But even if everything seems fine to you, we suggest that you bring the Afterburner in for a 30-day checkup, or after about 10 to 15 hours of on-road use. But if you think something is wrong with the trailer cycle, take it to your local REI store or a professional bike mechanic before using it again.
2. **Before every ride:** Safety Checks (pg.11)
3. **After 3 hours of use:** Clean the trailer cycle and lightly oil the chain. Wipe off excess oil.
4. **After every 10 to 20 hours of use:**
   - Grab one pedal and rock it toward and away from the centerline of the trailer cycle; then do the same with the other pedal. Anything feel loose? If so, continue to investigate until you can identify the problem and repair it.
   - Carefully check the shift cable and housing. Any rust? Kinks? Fraying? If so, it should be replaced.

- Squeeze each adjoining pair of spokes on either side of each wheel between your thumb and index finger. Do they all feel about the same? If any feel loose, the wheel needs to be serviced.
- Check to make sure that all parts and accessories are still secure, and tighten any that are not.
- Check the frame, particularly in the area around all tube joints; the handlebars; the stem; and the seatpost for any deep scratches, cracks or discoloration. These are signs that can indicate that a part needs to be replaced. Please discontinue riding until you can have it inspected by your local REI store or a professional bike mechanic.
- Keeping your Afterburner clean facilitates visual inspection. Rinse it with clean water and store it in a dry area to prevent corrosion.

5. **Every 50 (on-road) hours of riding:** Take your Afterburner to your local REI store or a professional bike mechanic for a complete checkup.

⚠ **WARNING: Like any mechanical device, a trailer cycle and its components are subject to wear and stress. Different materials and mechanisms wear or fatigue from stress at different rates and have different life cycles. If a component's life cycle is exceeded, the component can suddenly and catastrophically fail, causing serious injury or death to the rider. Scratches, cracks, fraying and discoloration are signs of stress-caused fatigue and indicate that a part is at the end of its useful life and needs to be replaced. Product life is often related to the kind of riding you do and to the treatment that you submit the trailer cycle to. REI's satisfaction guarantee does not mean that the trailer cycle cannot be broken or will last forever.**

B. If Your Trailer Cycle Sustains an Impact

First, check yourself and Afterburner rider for injuries, and take care of them as best you can. Seek medical help if necessary.

Next, check your trailer cycle for damage. If you see any damage, don't ride the trailer cycle until it has been repaired.

After any crash, take your trailer cycle to your REI store or a professional bike mechanic for a thorough check.

⚠ **WARNING: A crash or other impact can put extraordinary stress on cycle components, causing them to fatigue or wear out prematurely. Components suffering from stress fatigue can fail suddenly and catastrophically, causing loss of control, serious injury or death.**

NOVARA®

Owner's Manual for Afterburner trailer cycles, 1st Edition

This manual contains important safety, performance and maintenance information.
Please read this manual before you take your first ride on your new bicycle.
Keep the manual handy for future reference.

NOVARA IS A REGISTERED TRADEMARK OF RECREATIONAL EQUIPMENT, INC.
© 2007 RECREATIONAL EQUIPMENT, INC.

Recycled Paper
GA5639.2