

## Quick Information

### ***Tire & Wheel information***

**Rear:** R40, 50, 44, 54, 45, 55, 82, 85: 26" - 559 bead seat diameter  
R64, R65, 68: 26" - 571 bead seat diameter

**Front:** R40, 44, 45, 82, 85: 20" - 406 bead seat diameter  
R40 Compact Frame: 16" - 349 bead seat diameter  
R64, R65, 68: 26" - 571 bead seat diameter

**Inflation pressures:** Inflate to the pressure moulded on tire sidewall

**Wheel dish:** All 60 series are standard. All other Rear wheels are built without traditional dish, call for exact specs.

**Shock Air Pressure:** Set air pressure to rider's weight  
Max Shock pressure=300psi.

### **Torque specifications**

Underseat Handlebar Stem: 65 in-lbs (6 N-M)

### **Serial number location**

On back plate of main tube.

### **The Advanced Transportation Products Inc. Warranty**

Advanced Transportation Products Inc. warrants each new VISION bicycle frame, fork, and seat frame against defects in workmanship and materials for the lifetime of the original owner. Paint and decals, seat fabric, and all original parts, are warranted for a period of one year from the date of purchase. This warranty is expressly limited to the repair or replacement of a defective frame, fork, seat or defective parts and is the sole remedy of the warranty. This warranty applies to the original owner and is not transferable. Claims under this warranty are to be made through an authorized VISION dealer. Proof of purchase is required. A Warranty Registration Card must be completed and received by Advanced Transportation Products Inc. before warranty claims may be processed.

The warranty does not cover normal wear and tear, improper assembly or maintenance, or installation of parts or accessories not originally intended or compatible with the bicycle as sold.

The warranty does not apply to damage or failure due to accident, abuse or neglect.

Advanced Transportation Products Inc. shall not be responsible for incidental or consequential damages. Labor charges for part changeovers is not covered by this warranty. The user assumes the risk of any personal injury or damage to the bicycle or other losses if the bicycle is used in any competitive event including but not limited to bicycle racing, triathalons, or similar activities.

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**VISION**  
recumbent bicycles®

# Owner's Manual



Models R40  
R50  
R44  
R54  
R45  
R55  
  
R64  
R65  
R68

### **Advanced Transportation Products, Inc.**

P.O. Box 249, Mountlake Terrace, WA 98043  
Phone: 425-673-2448 Fax: 425-673-4668  
Toll Free: 877-433-4273 (US Only)  
E-Mail: [Info@visionbikes.com](mailto:Info@visionbikes.com)  
Web: [www.visionbikes.com](http://www.visionbikes.com)

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### Fairing

We sell a clear plastic fairing for your Vision bike. It mounts to any Vision 40, 50 or 60 series bike except the MediumWheelbase R40MWB.

The unit mounts to the front derailleurs tube. There is about a 10% - 15% reduction in aerodynamic drag with the fairing, but the real advantage of the fairing is the weather protection it offers. Riding in cold and wet weather is a joy in comparison to an unfaired bike, making this a must for year-round commuting.



### Light Mount

This unit adds a small section of handlebar diameter tube to the front derailleurs tube of your VISION, and allows many light systems to be mounted up front.



## Chapter 1: Read me First!

**Thank you** for choosing a VISION Recumbent! Here at Advanced Transportation Products we have produced the most advanced, full featured line of recumbents available. Please take a few moments now to fill out your warranty registration card - we want to know what you think about your new bike.

Before we explore your new VISION's features, we would like to take a few moments to discuss some important points about recumbents and bike riding in general:

**Always wear an ANSI or Snell approved helmet** -- Yes, with their lower center of gravity and feet-first position, recumbents are significantly safer than upright bicycles. You still need to protect your most valuable body part. Modern bicycle helmets are light, cool, and offer lifesaving protection.

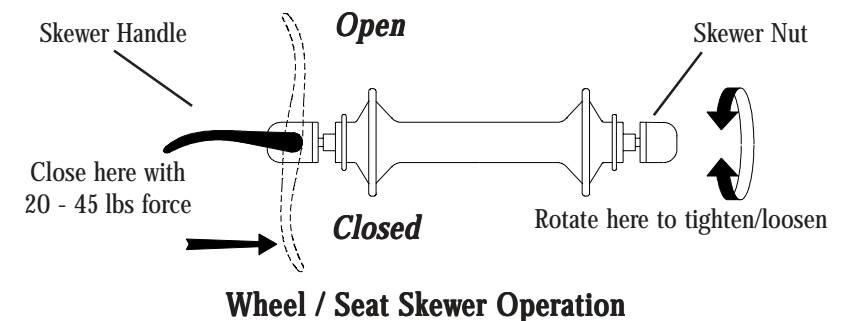
**Check your bike carefully before each ride** -- Spend a few moments before each ride inspecting your VISION for problems.

\*Check all the nuts, bolts and other fasteners to make sure none are loose.

\*The tires should be inflated to the pressure moulded on the sidewall, and free of cuts or imperfections.

\*The wheel and seat quick release skewers should be clamped shut with at least 20 lbs (14kgf) of force, and a sharp blow to the top of the tire should not knock the wheel loose. Study the wheel / seat skewer operation diagram - the skewer handle has a curve in it that will face the tire when properly closed. Open the skewer handle, tighten the skewer nut slightly, then close the skewer handle (curve facing toward the wheel). It should take 20-45 lbs of force to close the handle as shown, and the skewer should emboss the metal of the wheel dropout.

**\*MAKE SURE THE SEAT AND WHEEL QR SKEWERS ARE TIGHT!!**



## Chapter 1: (continued)

\* The wheels should be straight and not wobble.

\* Squeeze each brake lever to make sure there is no binding and the brake pads press hard enough on the rims to stop the bike. The brake pads should be adjusted so they are 1/16" (2mm) away from the rim when not applied. The brake pads should be centered on the rim and not touching the tire itself.

\* The seat quick release skewers should be closed with at least 20 lbs (14kgf) of force (see the skewer diagram).

\* Sitting on the bike, swing the handlebars from side to side checking for binding or interference. Check to make sure the stem bolt is tight. The handlebars should not rotate in either direction when 50 lbs of force is applied to either grip.

\* On long wheelbase models, check the tightness of the boom pinch bolts and make sure the boom anti-rotate bolt is installed. **Do not ride a long wheelbase VISION without the boom anti-rotation bolt!**

\* If you are unsure of the condition of your VISION recumbent, **Do Not Ride It** until the problem has been corrected. If you have any questions at all, see your VISION dealer.

**Wear gloves** -- with its low center of gravity, you don't fall very far on a recumbent, but you will touch down with your hand first! A set of bicycling gloves will protect your skin.

**Wear eye protection** Riding down the road at speed is no time to get a bug or dirt stuck in your eye! Goggles, glasses or both will save your sight and protect against a crash.

**Practice riding your VISION** -- before you mix it up with traffic, spend enough time on your recumbent on a parking lot, driveway or other open area to get used to its unique riding position. Chapter 3 has some important information about riding your VISION.

**Never ride at night without a front and rear light!**

**Experiment** with different seat positions, seat angles, and boom lengths during your practice period -- Your VISION recumbent has many adjustments and special features that fit the bike to you. Try them all!

## Chapter 4: (Continued)

### Chainguard

If you ride with loose/floppy pants, or just find yourself getting chain goo on your legs, we have a clear lexan chainguard available for all the 40 and 50 series bikes.



### SeatBack System

The SeatBack system consists of the WaterBack, and the SeatBag. The WaterBack is designed to mount permanently to your seat, and carries standard hydration bladders (not included) as well as having room for some tools and money.



We also make the 800 cu/in DayBag, which will attach to the seat with or without the WaterBack.



### Rear Rack / Panniers

Your Vision bike will accept standard rear racks. For all bikes except the R40, which has threaded inserts on the seatstay, you will need racks that have the "strap-on" seat stay clamp attachments.



### Fenders

For wet weather riding your Vision 40 and 50 series bikes will accept fenders. We offer fender sets for these bikes. All fenders should be installed by a qualified bike shop.



### Kickstand

We make the KSGizmo, an adaptor that will let you mount a standard 305mm Greenfield (available from your dealer) to any VISION. We also make our own centerstands for your 50 series bikes.

## **Chapter 4: Accessories**

Now that you are comfortable riding your new VISION, I'm sure that you will want to customize it for your particular riding needs. Your VISION recumbent has been designed to accept a full range of standard bicycling accessories, as well as some custom items that have been designed by ATP.

### **Mirror**

If you ride in traffic, a mirror is a must. We sell unit for both over or under seat handlebars. There are also helmet and eyeglass mount options available.

### **Computer**

Virtually any small bicycle computer will fit on your Vision. If your bike is equipped with over seat steering you will need to purchase a computer with a extra long wiring hanes. We recommend that you mount the computer on the handlebars, although make sure that on underbar steering models the computer doesn't interfere with the seat frame as you turn the handlebars from side to side.

### **Water**

Don't forget to drink plenty of water! Our WaterBack allows you to carry any standard hydration bladder. You can also carry waterbottles and an additional bladder in the DayBag.

### **Pedals/Toeclips**

Your VISION will accept all standard pedaling systems. Clipless pedals such as the SPD and LOOK work extremely well on recumbents - just remove your original pedals and screw in the new (the left pedal is left-hand thread). Toeclips are also recommended - practice getting in/out of them a while before hitting the streets. One technique for entering toeclips is to "flip" the toeclip forward with your toe so that it swings around onto your foot. After a while it becomes second nature!

## **Chapter 1: (continued)**

***Be careful when riding in wet conditions***- No brakes, whatever their design, work as effectively in wet weather as they do in dry. Stopping distances and brake lever pressures all will increase.

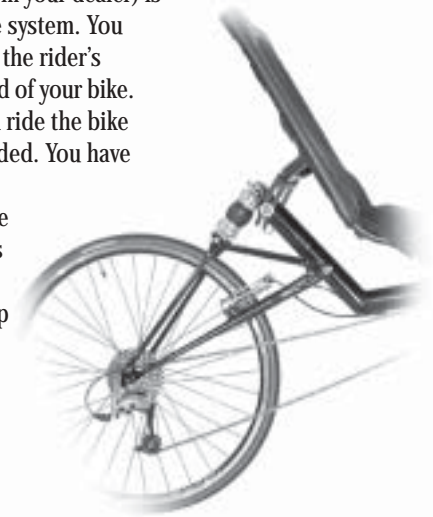
***Keep your pedal cadence high*** - You can overstress your knees with the tremendous leverage you have on a recumbent. We recommend that you pedal in the 80-90 RPM range. If you experience knee pain, spin faster and check your leg length setting. It is probably too short - see Chapter 2 for leg length adjustment. You might also change your seat back angle.

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## **Suspension Technology**

The Vision R50, R54 & R55 are equipped with suspension frames featuring our NPT (no-pogo technology) suspension. There is a lot of talk about bike pogoing; that energy wasting bounce of the suspension usually when climbing a hill. We've carefully designed our swingarm and pivot geometry to work with you, not against you. When you pedal a Vision with NPT, the force you apply on the chain balances out the tendency of the bike to dip under your accelerating body weight. For the system to work correctly it is important to balance the spring load of the suspension shock against the weight of the bike and rider. Utilizing modern air pressure shocks makes this an easy task. A high-pressure air pump (available from your dealer) is used to adjust the air pressure in the system. You should start with the pressure set to the rider's weight, up to the maximum rated load of your bike. Once the pressure is set, you should ride the bike and fine tune the air pressure as needed. You have the pressure set properly when the shock doesn't compress when you are sitting on the bike (unmoving), yet is about to start compressing—try bouncing a little. Now go for a ride up your favorite hill and notice what the shock does. If it pogos you should increase the shock air pressure slightly. The system is set perfectly when you get a soft ride, but no bounce on the climbs.



## Chapter 2: Set-up and Fitting

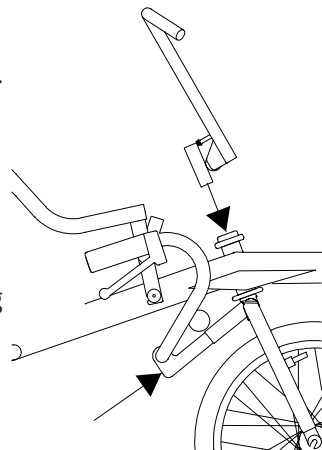
Your VISION dealer will have put your recumbent together and set the adjustments for you. We don't recommend riding your VISION at all until the following procedures have been accomplished or checked by a qualified bicycle mechanic. We will review the fitting instructions here, and also point out some areas that need continuing inspection.

### The Handlebar

Your VISION handlebar has been installed on your bike at the factory, but removed from the steerer (over-seat steering style) or the fork stem (below-seat style) for shipment.

For over-seat steering models, insert the lower handlebar stem into the fork completely, align the stem plates parallel to the front wheel, and tighten the stem bolt to a torque specification of 65 in-lbs. Next, adjust the height of the bar at the sliding section. When you are comfortable with the height, make sure at least 3 inches of the lower riser are still in the upper riser, align the handlebars perpendicular to the front wheel, and tighten the riser clamp to 65 in-lbs. The above bar handlebar rotates forward for ease of entry and exit - it is meant to be pulled back tight against the fore/aft rest adjustment bolt under riding conditions. Set the bolt such that your elbows just rest against the seat sides when the handlebars are pulled against the stop.

For below-seat steering models, insert the stem all the way into the fork tube, then back out the stem at least one quarter inch to prevent interference. Level the handlebar by sitting on the bike, turning the bars from side to side, and checking for seat/handlebar interference. Tighten the stem bolt and/or the binder bolt. Adjust the fore and aft position of the handlebars so that the handlebar grip is parallel or angled slightly downward from the seat frame. To check alignment, sit on the seat, grasp both handlebar grips firmly, and turn the handlebar side to side - there should be no interference between the seat frame and your arms. If there is, rotate the grips rearward in the stem. Tighten the stem binder. The bars should be tight enough that they will not rotate with 60lbs/27kg force on the handle, but not so tight that they will not rotate under a sharp blow (such as laying the bicycle on its side).



## Chapter 3: (Continued)

line—and are sure you're not about to take a long ride on a short pier—practice swinging your head to the left and right, taking quick glances behind you. The first time you do this you will inevitably shift your weight and hand position, causing the bike to swerve. Don't panic, this is why we are practicing in the park instead of a congested street. While many riders like to use a helmet or bicycle mounted mirror—and we sell a beautiful unit that mounts onto the handlebar, see Chapter four of this manual—it's important to be able to actually look around behind you. This not only gives you options on checking out traffic, but practicing this will increase your skills and confidence on the bike.

At this point you should be feeling pretty good about life, zooming along nice and comfortable, relaxed and thinking about how much fun you are going to have on this thing. Well don't get too cocky yet. Before you hit the open road there are a some more exercises you should do. Practice circling, both to the right and to the left. Start out with gentle curves, and progress to tighter and tighter radius "U" turns. You should really try to master turning slowly in as tight a curve as possible quite a few times, this gets you ready for the real world of poor directions and detours. If you find yourself wobbling or jerking the handlebars around, you are probably too tense. Relax, let your hands grasp the bars in a light but firm manner. Let your shoulders droop, relax your neck, don't "death-clench" your teeth. Once you relax you will have more control over the bike.

Next, you should practice using the brakes. Stop and take off a few times, getting a feel for how much pressure on the lever it takes to slow down or stop the bike. Remember to always use both brakes together, with gentle pressure at first to stop the bike smoothly. Drop both your feet to the pavement while giving the brakes the final squeeze to stop the bike. Lean forward a bit and stand up, while reaching behind you for the seat frame to steady the bike. Practice stopping and dismounting, then starting off again. You should also practice stopping by dropping only one leg, typically your non-dominant leg. This exercise will help you deal with momentary stops, such as at stop signs and traffic lights. It does take a little practice to balance the bike leaning onto a single leg. Remember to keep one hand clamped on a brake to prevent the bike from rolling, it really helps. I usually immediately cock my "crank-bound" leg for the start, and then hold pressure against the brake until I'm ready to go. You should also carefully investigate what happens to the bike with gradually increasing brake lever pressure, so you will be comfortable with quick decisions on the road.

## Chapter 3: (Continued)

Sit awhile, rock back and forth and from side to side. Notice how the seat cradles you, and how comfortably close to the ground you are. Grasp the handlebars and rock the front wheel from side to side. Squeeze the brake levers. Yodel a few times. Do whatever it takes to relax. Many first time riders try to sit forward on the seat, not being used to the relaxed, laid back position. Sit back! Enjoy the comfort!

Now pick a dominant leg. For most people this is your right leg, but go with whatever is most comfortable for you. Pick your leg up and swing the crank arm around so you can easily reach the pedal. If you are using toe straps, flip the pedal clip over your foot, but keep the strap nice and loose to start with. Swing the crank around until your foot is in a

“cocked” position; somewhere close to the top of the pedal stroke. This spot is different for everyone, the key is to find the spot where you feel best about putting a lot of power into the pedal. It helps to hold the bike from rolling with either brake. When you’re ready, release the brake, and push forward firmly on the pedal. As you start moving, lift your other foot up and keep peddling. At first you probably will wobble a little, but don’t panic and



**Foot Starting Position**

tense up! Just relax and concentrate on making small corrections with the handlebars. The most common beginners' error is to overcontrol the bike, ending up steering a set of “S” curves down the lane. If you relax and let your hands sit lightly on the handlebars, you will find it easier to avoid this syndrome. Lean back! You are probably trying to lean forward, to mimic that “other” type bike you’ve been riding. Another common first time mistake is to stare at your feet — after all, you’ve never seen them before! Look ahead, see the scenery you’ve been missing.

Once you’re riding smoothly in a straight line, it’s time to practice looking around. Now don’t laugh, I’m not being funny nor condescending. Compared to a traditional bike you will find yourself looking at the world from a whole new perspective, a comfortable one. The biggest problem you will face is keeping your mind on the road. Since you are riding in a relaxing reclined position it’s all too easy to forget about everything except the scenery in front of you. Looking behind you is not difficult, but it does take practice. As you ride in a straight

## Chapter 2: (Continued)

### The VISION Seat

The 2002 Vision seat feature a new anti-slip mechanism on the nose quick release skewer to prevent accident seat releases. To remove the seat, you must loosen the seat QR skewer lever, and then turn the skewer loose an additional several turns until the side plate disengages from the seat dropout.



If you have to attach or remove the seat fabric, follow these directions. There are two webbing pockets on the seat fabric top that go over the seat side rail backs - attach these first, then follow the

illustrations for the seat panel attachment. For the first few weeks, the seat fabric will stretch a bit and appear loose. Simply tighten the fabric as needed - the fabric will stabilize after about 100 miles or so. Check the seat before each ride for abrasions, tears and tightness.



To install the seat on your VISION, simply insert the front of the seat frame into the main frame attachment. Turn the QR Skewer down several turns until the side plate engages the dropout slot, and tighten the skewer securely.

Note: on the R40 and R60 series bikes, there are two front seat mount positions; use the forward one if you are 5' 7" or shorter, the rear position if you are taller or want to sit further back on the bike. Slide the rear seat frame attachment fork into the rear skewer and tighten the rear seat skewer. One of the unique features of your VISION recumbent is its adjustable seat back angle - accomplished at the rear seat attachment. For the first adjustment, set the rear seat back to the middle of its range, and close the skewer with at least 20 lbs force.



## Chapter 2: (Continued)

### Leg length / The Chain

The trickiest part of the VISION set up is setting the proper leg length. Since the front boom moves in and out to set your leg length, the chain will have to be set after we determine the proper boom setting for you.

If possible, set your VISION on a rear wheel type wind trainer. If you don't have access to such a trainer, have a friend hold the bike up behind your seat while you sit and spin the pedals backwards. When the leg length is set properly, you will be pedaling with just a slight bend in your knee at full extension. Take your time - this is a very important adjustment. Most riders start out with the boom set too short. To avoid this, start your adjustment process with the boom out too far and work back in.

**Note:** adjusting the seat back angle affects the boom length adjustment. Check leg length adjustment after a seat back angle change.

Your 2002 Vision features our new Instant-Adjust system. To set the boom length to accommodate your leg, simply loosen the quick release skewer on the left side of the boom collar, shown below. Then move the boom to wherever you need it, and retighten the skewer. The boom will move easier if you loosen the QR skewer one turn after flipping it open. Retighten the skewer by turning it back in one turn, and then clamping it closed securely. Make sure the QR skewer closes firmly. See page two for details on the proper operation of quick releases. There is an alignment mechanism built into the boom collar to keep everything straight.



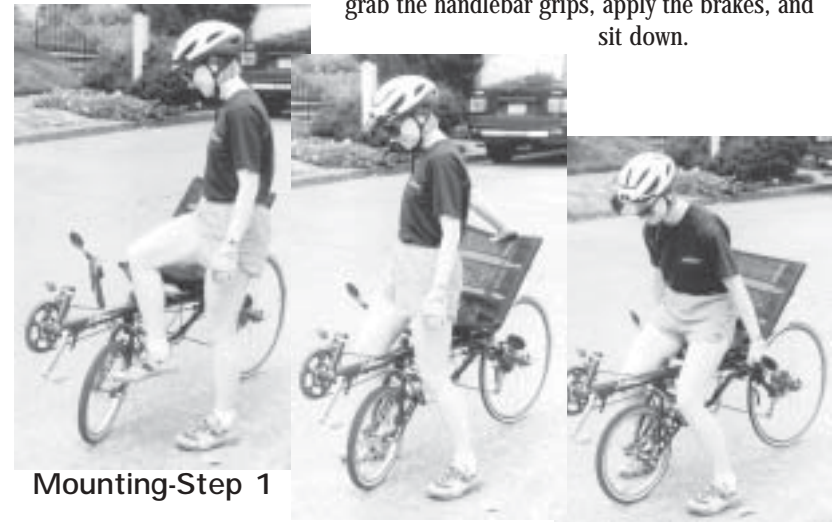
Proper Leg Extension



## Chapter 3: (Continued)

Before you start to ride, look at your gears and make sure that you are set in a good gear to start in. On a flat surface this usually is in the middle chainring (up front) and in one of the three largest cogs (on the back). If the bike is not in one of these gears, have someone hold the rear wheel off the ground so you can spin the cranks and shift the gears. Don't forget that you should only shift when pedaling! As you gain experience you will find yourself thinking ahead and shifting into your favorite "start-up" gear before you come to a stop.

Now let's get on the bike. I tend to always mount from the left, like on a horse, but the important thing is to establish a pattern and do it the same way every time so it becomes a habit. For underseat steering bikes, starting on the left side, hold the seat back with your right hand. Standing in front of the handlebar and facing the bike, swing your right leg over the front boom. You are now looking forward, straddling the bike. Reach down and grab the handlebar grips, apply the brakes, and sit down.



Mounting-Step 1

Step 2

Step 3

For upright steering bikes, grab the seat back with your right hand, the middle of the handlebars with your left hand, and move the handlebars forward slightly.

Now step through the space between the seat and the handlebar with your right leg, and sit down on the seat. Grab the brakes and apply lightly. Rotate the handlebars toward you until they hit the fore/aft adjustment stop. Settle yourself into the seat and get comfortable.



## **Chapter 3: Riding the VISION**



Riding a Vision recumbent is no more difficult than riding a traditional diamond frame bicycle, just slightly different. If you are new to cycling, you'll find it easy to learn to ride on a Vision. If you are an experienced rider, you'll have to learn some new habits, but the benefits of riding a recumbent far outweigh the small learning curve involved. Either way, it's important to spend a little time adjusting to your new bike before riding in traffic or committing to a long ride. In this chapter I'm going to discuss some things that will make the transition to recumbents, or learning to ride on a recumbent, easier.

First of all, be sure to read the previous chapter about set up of the bike. To ride well you have to be comfortable, and to be comfortable you need to be sure that your Vision is adjusted to fit you properly. The seat angle is adjustable, and really affects how you feel on the bike. If you're just starting out with recumbents you will probably want to set the seat as upright as possible. Later you can recline the seat incrementally until you find your own ideal position.

If you're comfortable on your bike, it's time to go riding. First and foremost, the most important part of riding any bike is to wear proper safety equipment. We discussed safety equipment in Chapter 1, but I will repeat it here. It is essential to wear a helmet, all the time, anytime you ride. It's also very important to wear gloves when you ride. If you do have an accident and fall over, you'll probably catch yourself with your hands, so save your palms and wear gloves. You should also wear protective eyewear; road grit and flying insects do not make for happy eyes. Wearing cycling shoes, shorts and jerseys can help you be more comfortable, but they are not as essential as the helmet, gloves and glasses.

Now you're all set to hop on your Vision and pedal away into the sunset, right? Wrong! The key to riding smoothly and in a controlled fashion on any bicycle, recumbent or not, is to be comfortable enough to relax. If you are nervous and tense, you will tend to ride in a jerky, overcontrolling fashion. Not only does this make you more uncomfortable, which leads to even worse riding, but it doesn't look cool. So you need to approach the bike as your friend, someone you'll enjoy spending the day with. The intent here is to spend some unpressured time getting to know your bike before you get 20 miles into nowhere, or involved with city traffic. Pack a lunch and head for the park, relax and enjoy the day for a bit, and then set yourself up to ride in the parking lot, or any open space with no traffic.

## **Chapter 2: (Continued)**

### **Final Inspection**

**Before each ride be sure to inspect all the nuts and bolts on the bike, looking for any parts that may have loosened.**

**Check the alignment of the wheels, and inspect the brakes to make sure the shoes contact the rims squarely and don't bind.**

**The handlebars should be aligned and able to turn from side to side without binding or interference.**

**Check that the wheel skewers are secure, and that a sharp blow on the wheel while you hold the bike off the ground will not jar the wheel loose.**

**Check that all seat and wheel skewers are secure.**

**See Chapter 1 for more details.**

