

Pacific

TANDEM BICYCLE OWNER'S MANUAL

THIS MANUAL CONTAINS IMPORTANT SAFETY, PERFORMANCE AND MAINTENANCE INFORMATION. READ THE MANUAL BEFORE TAKING YOUR FIRST RIDE ON YOUR NEW BICYCLE, AND KEEP THE MANUAL HANDY FOR FUTURE REFERENCE.

Contents

1 Introduction	1	5 Assembly	8
Safety Signal Words	2	Attach the Front Handlebars	9
2 Safety	2	Attach the Rear Handlebar to the Front Saddle	11
User Responsibility	2	Attach the Saddles	12
Protective Gear and Clothing	3	Attach the Front Wheel	13
Riding Safety	3	Attach the Pedals	15
Wet Weather	4	Attach the Brake Cable to the Brake Carrier	16
Night Riding	5	Adjust the Handlebar	17
Security	5	6 Adjustments	17
3 Parts	6	Adjust the Saddles	20
Getting Organized	8	Check the Front Brake Levers	21
4 Hardware	7	Adjust the Front Brake Cable	22

Check the Brake Pads	23	Hub Bearings	46
Align the Brake Pads	24	Inflating the Tire Tube	46
Center the Brake Pads	25	Repairing a Flat Tire	47
Adjust the Chain Tension	27	Troubleshooting Guide	48
Check the Derailleur	28	9 Warranty	51
Adjust the Rear Derailleur	30	10 Purchase Record	53
Adjust the Front Derailleur	31		
7 Use	32		
Hand Operated Brakes	32		
Gear Operation	34		
Pre-Ride Checklist	37		
8 Maintenance and Troubleshooting	39		
Parts Maintenance	41		

This manual contains important information regarding safety, assembly, use, and maintenance of the bicycle but is not intended to be a complete or comprehensive manual covering all aspects concerning bicycle ownership. We recommend consulting a bicycle specialist if you have any doubts or concerns regarding your experience or ability to properly assemble and maintain the bicycle.

Our customer service department is dedicated to your satisfaction with Pacific Cycle and its products. If you have questions or need advice regarding assembly, parts, performance, or returns, please contact the experts at Pacific Cycle.

Enjoy the ride.

Toll free: 1-800-626-2811.

Customer Service hours: 8 AM- 5 PM (Central Standard Time,CST) Monday thru Friday.

You may also reach us at:

Web: www.pacific-cycle.com

Email: customer.service@pacific-cycle.com

Mail: Pacific Cycle
4902 Hammersley Road
Madison, WI 53711

Do not return this item to the store. Please call Pacific Cycle customer service if you need assistance.

Safety Signal Words

The following safety signal words indicate a safety message. The symbol alerts you to potential hazards. Failure to follow the warning may result in damage to property, injury, or death.



Indicates a hazard or unsafe practice that will result in severe injury or death.

Failure to read, understand and follow the safety information in this manual may result in serious injury or death.



Indicates a hazard or unsafe practice that could result in minor injury.

NOTICE

Indicates a hazard unrelated to personal injury, such as property damage.

User Responsibility

All persons assembling, using, and maintaining the bicycle must read and understand the safety warnings and operating instructions in this manual before using the bicycle.

It is the responsibility of the user, or in the case of a child rider, an adult, to ensure the bicycle is in proper operating condition before each use. See the Safety Checklist in the Use section of this manual.

A responsible adult must supervise the use of the bicycle by a child. You must ensure:

- The child is wearing the proper protective attire and approved bicycle helmet.
- The child is seated securely and the bicycle is properly fitted to the child.
- The child understands applicable laws and common sense rules of safe responsible bicycling.

Protective Gear and Clothing

Always wear proper attire when riding the bicycle, **you should wear:**

- Colors that are easily seen and, if possible, reflective clothing.
- Clothing appropriate for the weather conditions.
- Use of protective gear such as pads for the knees and elbows is highly recommended for children.
- A properly fitted, ASTM or SNELL approved, bicycle helmet shall be worn at all times by riders of the bicycle. For information regarding how to properly fit a helmet visit: <http://www.nhtsa.gov/people/injury/pedbimot/bike/easystepsweb>

Note: Some states have helmet laws regarding children. Always follow local or state regulations regarding helmet use.

Do not wear:

- Loose clothing parts, strings, jewelry that may become entangled with moving parts on the bicycle or interfere with handling of the bicycle.

- Pants with loose pant legs. If necessary, always tuck pant legs into a sock or use a leg band to avoid the clothing becoming caught in the drive chain.
- Shoes with untied shoe laces.

Use of Reflector and Lights

- Federal regulations require every bicycle over 16” to be equipped with front and rear wheel reflectors as well as pedal reflectors.
- States may require specific safety devices. Always follow state or local regulations regarding required safety devices.
- Always check the reflectors are in place before using the bicycle.
- To help enhance your visibility to automobile drivers use front and rear lights.

Riding Safety

- Familiarize yourself with all the bicycle’s features before riding. Practice gear shifts, braking, and the use of toe clips and straps, if installed.

- Always ride defensively in a predictable, straight line. Never ride against traffic.
- Concentrate on the path ahead. Avoid pot holes, gravel, wet road markings, oil, curbs, speed bumps, drain grates and other obstacles.
- Cross train tracks at a 90 degree angle or walk your bicycle across.
- Expect the unexpected (e.g. opening car doors or cars backing out of concealed driveways).
- Take extra care at intersections and when preparing to pass other vehicles.
- Maintain a comfortable stopping distance from all other riders, vehicles and objects. Safe braking distances and forces are subject to the prevailing weather conditions. Do not lock up the brakes. When braking, always apply the rear brake first, then the front. The front brake is more powerful and if it is not correctly applied, you may lose control and fall.
- Always use the correct hand signals to indicate turning or stopping.
- Obey the traffic laws (e.g. stopping at a red light or stop sign, giving way to pedestrians).
- Wear proper riding attire, reflective if possible, and avoid open toe shoes.
- Avoid wearing loose pants. If you are wearing loose pants, tuck the pant leg into a sock or use leg clips/ elastic bands to prevent them from being caught in the drive chain.
- Do not use items that may restrict your hearing and vision.
- Don't carry packages or passengers that will interfere with your visibility or control of the bicycle.

Wet Weather

- Be aware of road conditions. Pot holes and slippery surfaces such as line markings and train tracks all become more hazardous when wet.
- Decrease your riding speed, avoid sudden braking and sharp turns.
- Braking will require additional distance. Initiate braking slowly and earlier than usual.
- Wear reflective clothing and use safety lights for increased visibility.

Night Riding

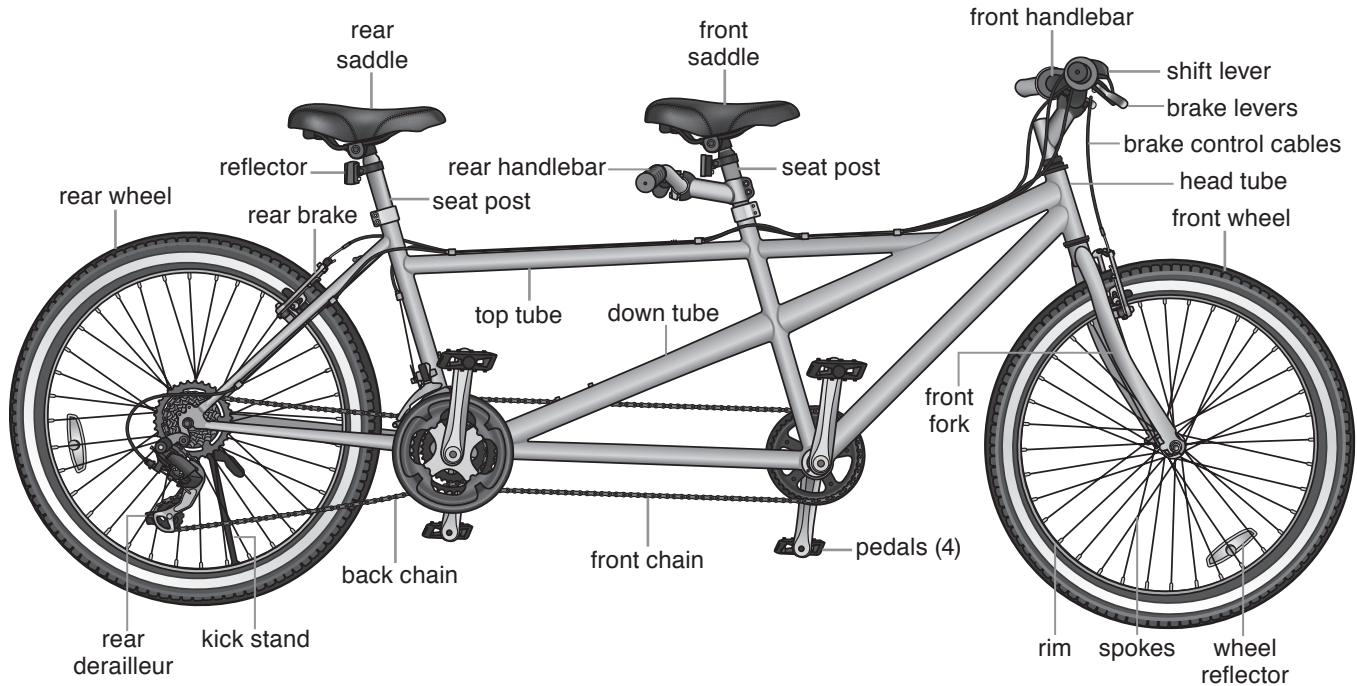
- Riding at night is not recommended. Check with local law or regulations regarding the use of lights for night riding.
- Ensure bicycle is equipped with a full set of correctly positioned and clean reflectors.
- Use a white light on the front and a red light on the rear. If possible, use lights with flashing capability. Flashing lights enhance visibility.
- If using battery powered lights, make sure batteries are well charged.
- Wear reflective and light colored clothing.
- Slow down and use familiar roads with street lighting.
- Ride at night only if necessary.

Security

- Maintain a record of the bicycle's serial number, generally located on the frame underneath the bottom bracket.
- Register the bicycle with the local police and/or bicycle registry.
- Invest in a high quality bicycle lock that will resist hacksaws and bolt cutters. Always lock your bicycle to an immovable object if it is left unattended. Keep in mind that individual parts of a bicycle may be stolen. Most commonly, if you lock just a wheel or just the frame, other parts may be removed from the bicycle. Although it is impossible to lock all the parts, it is suggested to lock the major components if possible. Use a lock that is long enough to lock the frame and both wheels if possible. Some models with quick release front wheels allow the front wheel to be placed beside the frame so a smaller lock can be used to lock all 3 components. Be aware that a quick release seatpost can be stolen. It is recommended to remove the seatpost and saddle and carry it with you if you believe that this is a risk.

3 Parts

Before assembly check and see that all the parts are included. If parts are missing or damaged call customer service toll free at **1-800-626-2811**.



4 Hardware

Handlebar Hardware

 stem wedge cap

Front Wheel Hardware



2 locknuts 2 washers

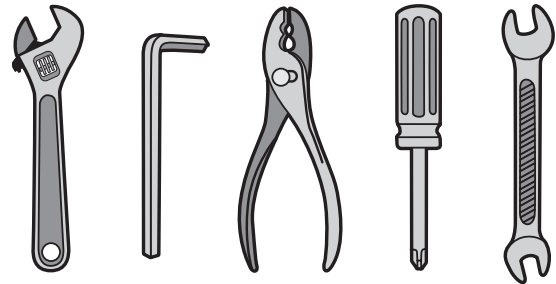
WARNING!

Improperly assembly of the bicycle may result in unexpected product performance and serious injury or death. Assemble the bicycle according to the instructions in this manual or have a professional bicycle mechanic assemble the bicycle.

Getting Organized

The following tools and items are needed for assembly:

- 5 mm, 6 mm, and 10 mm Allen wrenches
- Adjustable wrench or 10 mm, 15 mm, and 17 mm open and box end wrenches
- Grease (Automotive or anti-slip copper grease)
- Phillips-head screwdriver



Attach the Front Handlebars

Parts: Front Handlebar, main frame

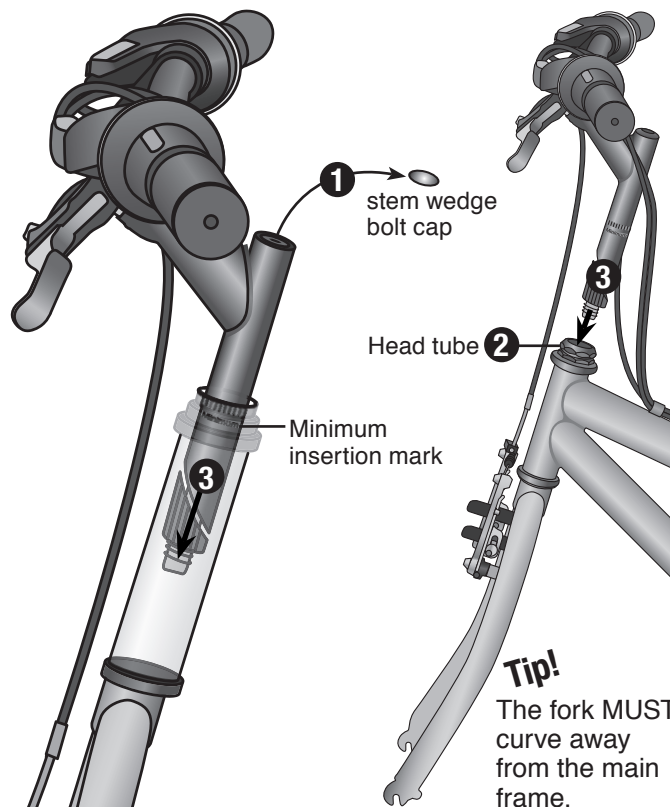
Hardware: Stem wedge bolt, stem clamp bolt and Stem wedge bolt cap come attached to the handlebar.

Tools: 5 mm and 6 mm allen wrench, grease

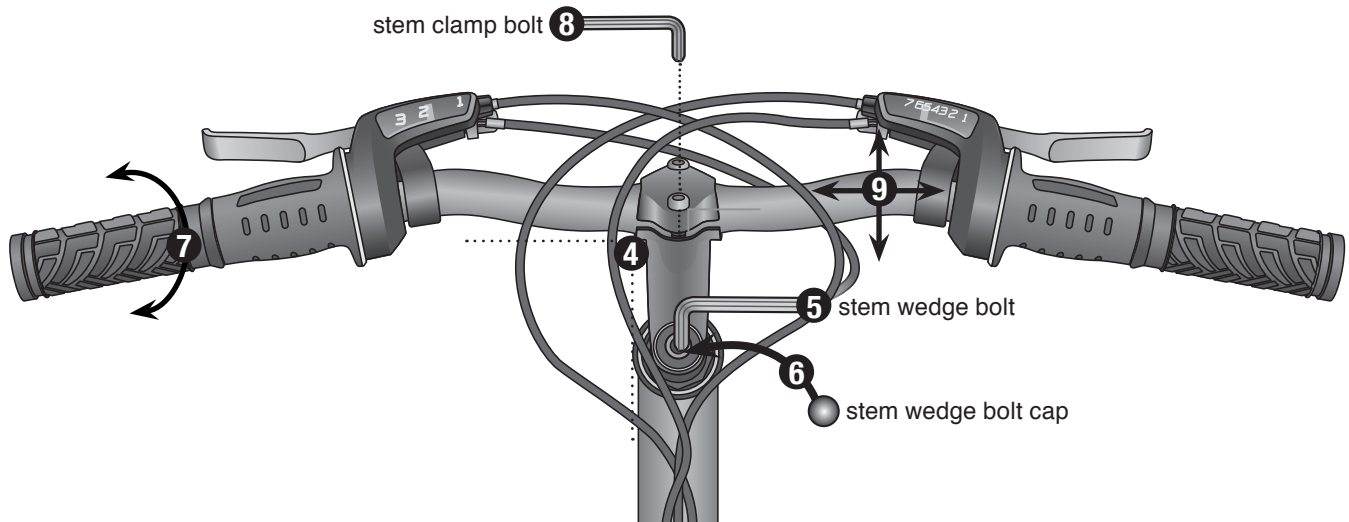
1. Remove the stem wedge bolt cap.
2. Apply a light layer of grease to the stem and frame head tube.
3. Insert the stem of the handlebar into the frame head tube until the **Minimum Insertion** mark is not visible. If necessary, unscrew the stem wedge bolt until there is play in the stem wedge.

NOTICE

The stem may break or damage may occur if the stem is not inserted the minimum amount. Insert the stem until the **Minimum Insertion** mark is not visible.



4. Rotate the handle bar so it is **square** with the fork.
5. Using a 6 mm allen wrench, tighten the stem wedge bolt to lock the stem in place.
6. Replace the cap onto the stem wedge bolt.
7. Adjust the handle bars to the position you desire.
8. Using a 5 mm allen wrench, tighten the two handlebar stem clamp bolts until the handlebar is locked into the proper position.
9. Test the handle bar by trying to move it up and down, and left and right to ensure it is securely tightened.



Attach the Rear Handlebar to the Front Saddle

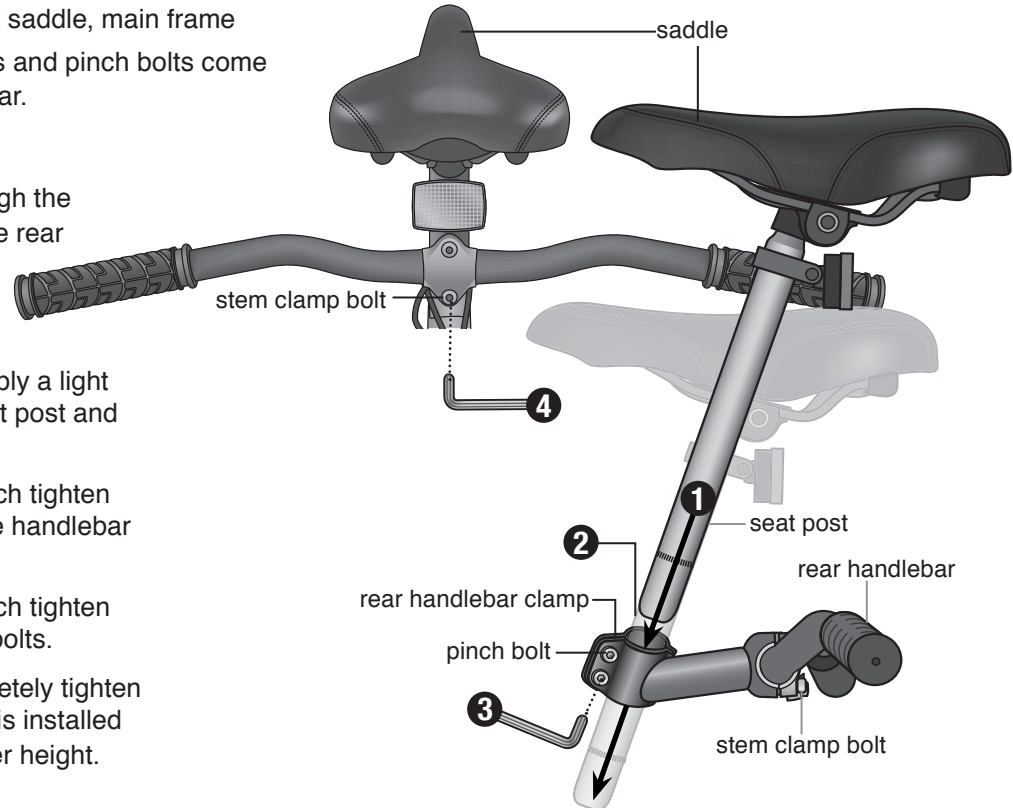
Parts: Rear Handlebar, front saddle, main frame

Hardware: Stem clamp bolts and pinch bolts come attached to the rear handlebar.

Tools: 5 mm allen wrench

1. Insert the seat post through the center of the clamp on the rear handlebar.
2. Position the handlebar on the front seat post at the height you desire. Apply a light layer of grease to the seat post and frame head tube.
3. Using a 5 mm allen wrench tighten the two pinch bolts on the handlebar clamp.
4. Using a 5 mm allen wrench tighten the two seat post clamp bolts.

Important: Do not completely tighten the bolts until the saddle is installed and adjusted to the proper height.



Attach the Saddles

WARNING!

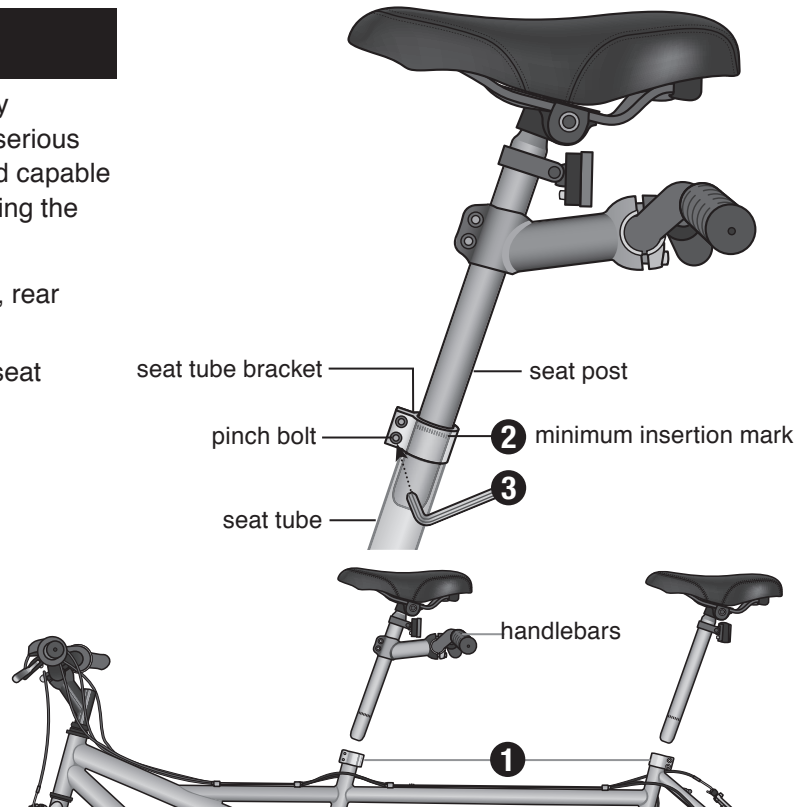
Insufficient bolt tightness on the seat post may result in the seat slipping, loss of control and serious injury or death. Be sure the seat is locked and capable of supporting the weight of the rider before using the bicycle.

Parts: Rear Handlebar/front saddle assembly, rear saddle, main frame

Hardware: pinch bolts come attached to the seat tube bracket

Tools: 5 mm allen wrench

1. Insert the seat post with the handlebars into the front seat post, and insert the saddle without the handlebars into the rear seat tube.
2. The seat post **Minimum Insertion** mark should **not** be visible.
3. Using a 5 mm allen wrench tighten the two pinch bolts on the seat tube bracket.



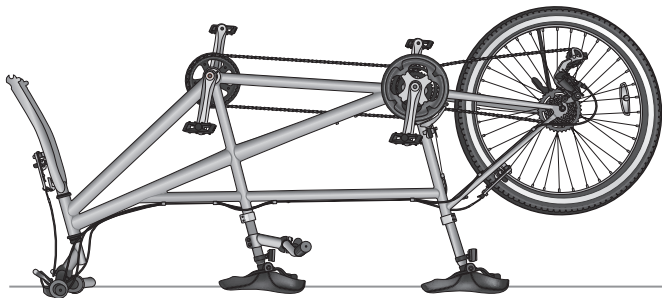
Attach the Front Wheel

WARNING!

Failure to properly tighten the nuts holding the wheels onto the bicycle may result in poor riding performance, the tire falling off, and serious injury or death. Always be sure the wheels are securely attached to the fork before using the bicycle.

Tip!

Before proceeding to the next steps, carefully turn the bicycle upside down so the bicycle is resting on the handlebars and saddles.



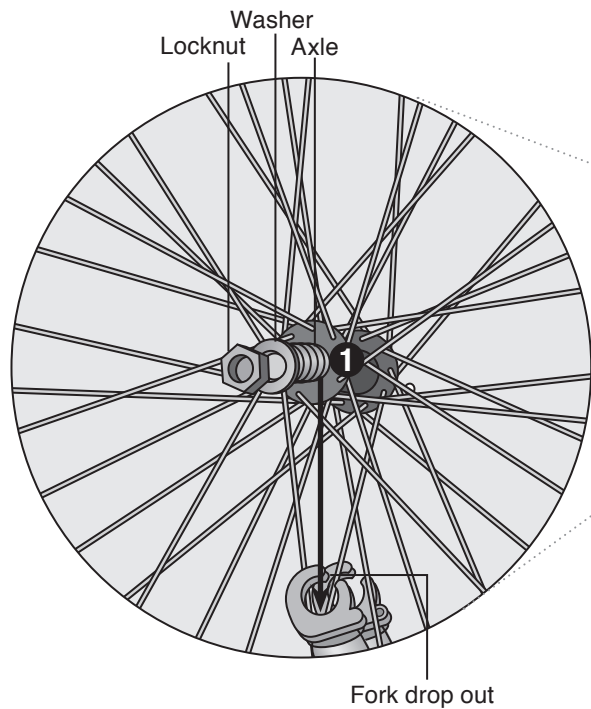
Parts: Front wheel, main frame

Hardware: 2 locknuts, 2 washers (attached to the axle).

Tools: 15 mm wrench

1. Loosen the locknuts on the ends of the axle enough to fit wheel axle into the fork drop outs.
2. Place the axle of the wheel into the fork drop outs. Be sure the washer and locknut are on the outside of the fork.
3. Using a 15 mm wrench, tighten the locknuts evenly. First tighten one side part way, then tighten the other side and repeat until both sides are tightened securely.

Important! Check that the wheel is centered between the fork legs. If it is off center loosen the locknut on the side that has a smaller gap between the tire and fork leg. Use your hand to push the wheel to a centered position; hold the wheel with one hand and tighten the locknut and check again.



Attach the Pedals

NOTICE: Attaching a pedal to the incorrect side can strip the pedal threads and cause irreparable damage. Visually match the **R** and **L** stickers on the pedal and crank arm before attaching the pedals.

Parts: Left and right pedals (2 each), crank arms

Tools: 15 mm wrench, or Adjustable Pliers

1. Match the pedal marked **R** with the right-hand crank arm, and match the pedal marked **L** with the left-hand crank arm.
2. Place the threaded pedal into the threaded hole on the crank arm.
3. By hand, slowly turn the spindle the correct direction. Clockwise for right side pedal, counterclockwise for left side pedal.

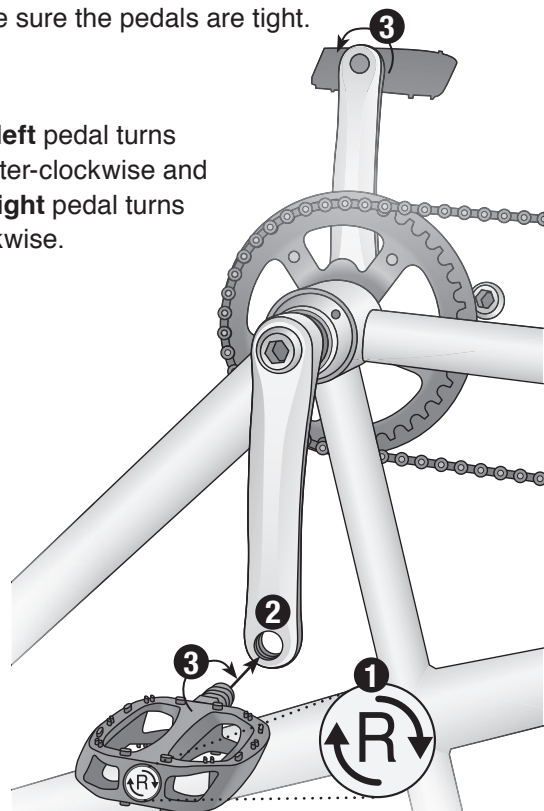
Important! Stop if you feel resistance! This may be an indication the spindle is entering the hole at an angle. Remove the spindle and redo step four.

4. If the spindle is entering the hole cleanly then use a 15 mm wrench or pliers to tighten completely.
5. Repeat steps 1- 4 for the remaining pedals.

6. Be sure the pedals are tight.

Tip!

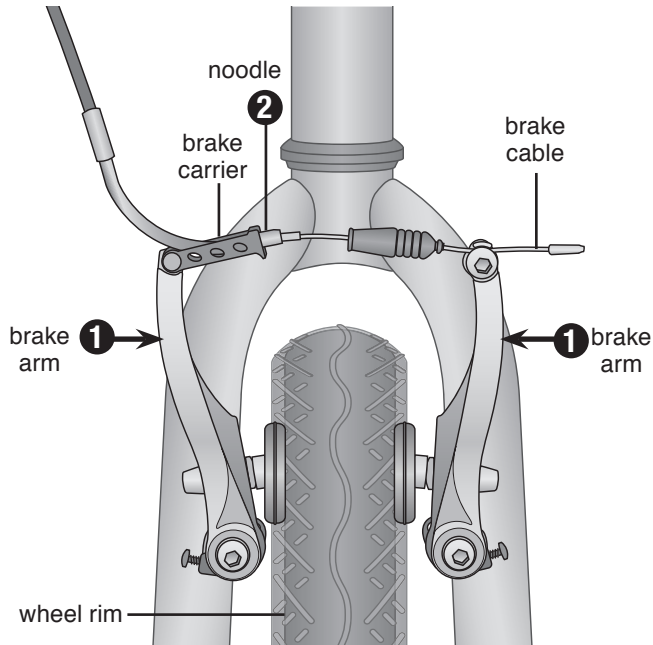
The **left** pedal turns counter-clockwise and the **right** pedal turns clockwise.



Attach the Brake Cable to the Brake Carrier

1. Squeeze the two brake arms together until the brake pads touch the wheel rim.
2. With your opposite hand, pull the brake cable and insert the end of the noodle into the brake carrier.

Note: The tandem bicycle is now completely assembled. Carefully turn the bicycle right-side-up and preform **Important** final adjustments to the bicycle.



6 Adjustments

Adjust the Handlebar

These are your final adjustments to the bicycle, ***tighten all bolts completely at this time.***

WARNING!

Failure to firmly tighten the handlebar stem wedge bolt, handlebar pinch bolts, may cause a sudden shift of the handlebar and result in loss of control, falling, serious injury or death.

Be sure the stem wedge bolt, and stem clamp bolts tightened before using the bicycle.

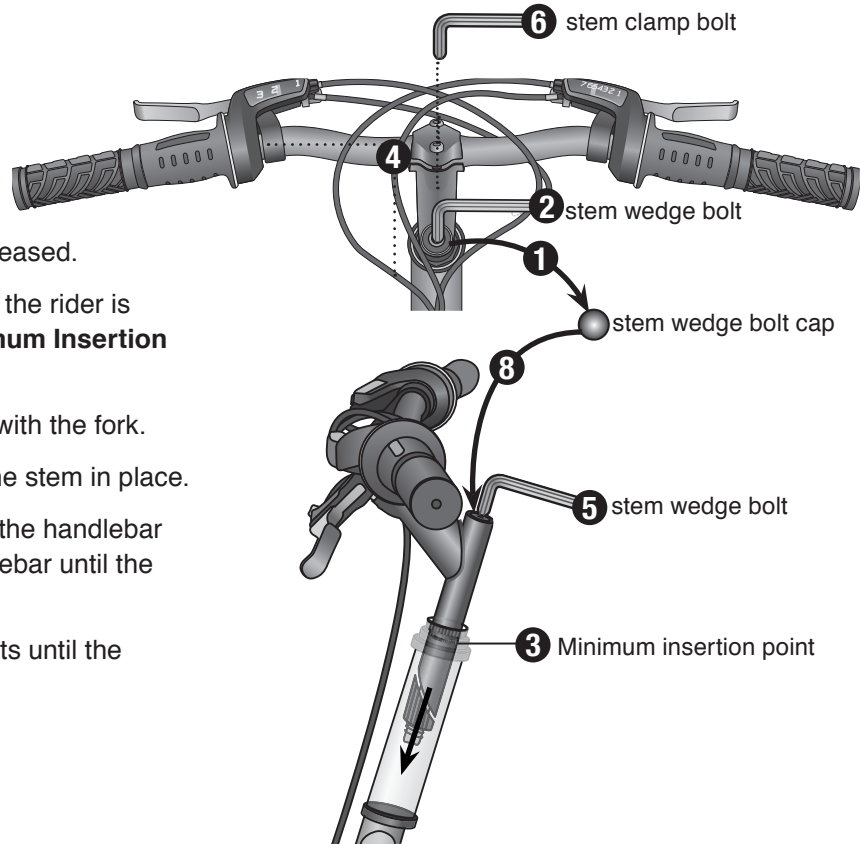
Adjust the handlebar height and angle so the rider is comfortable and has complete control. Maximum comfort is usually obtained when the handlebar height is equal to the height of the seat. You may wish to try different heights to find the most comfortable position.



Follow these steps to adjust the front handlebars:

Tools: 5 mm and 6 mm allen wrench

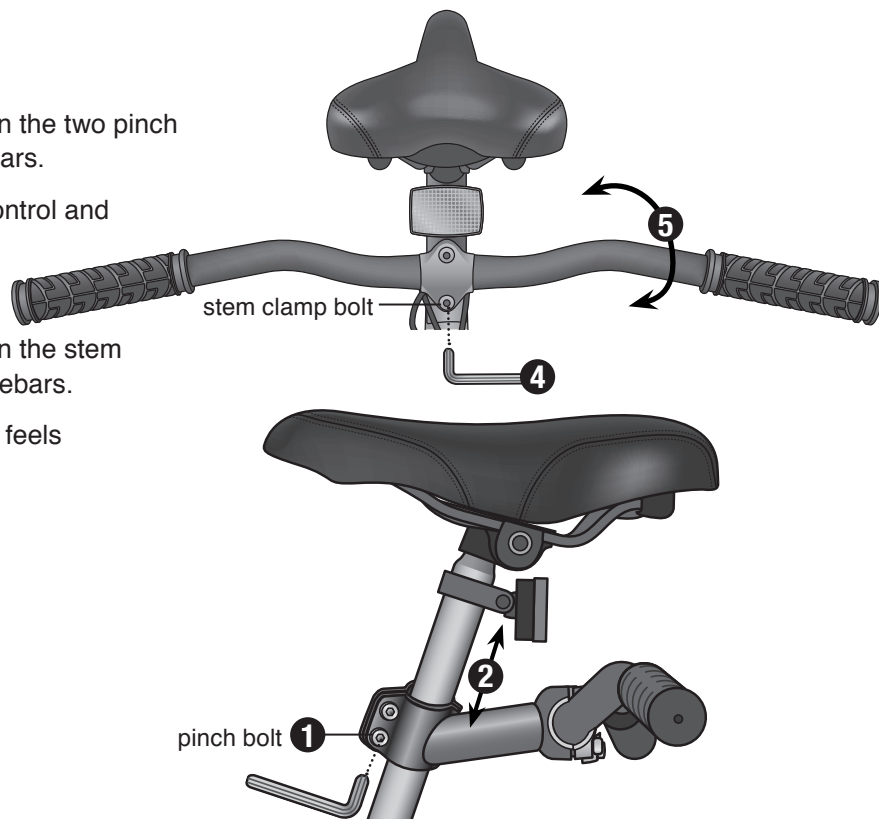
1. Remove the stem wedge cap.
2. Using the 6 mm allen wrench, loosen the stem wedge bolt until the pressure on the stem wedge is released.
3. Adjust the height of the seat post until the rider is in control and comfortable. The **Minimum Insertion** line should **not** be visible.
4. Rotate the handle bar so it is **square** with the fork.
5. Tighten the stem wedge bolt to lock the stem in place.
6. Using the 5 mm allen wrench, loosen the handlebar stem clamp bolts and rotate the handlebar until the rider feels in control and comfortable.
7. Tighten the handlebar stem clamp bolts until the handlebar is locked in place.
8. Replace the stem wedge bolt cap.



Follow these steps to adjust the rear handlebars:

Tools: 5 mm allen wrench

1. Using the 5 mm allen wrench, loosen the two pinch bolts on the side of the rear handlebars.
2. Adjust the height so the rider is in control and comfortable.
3. Tighten the two pinch bolts.
4. Using the 5 mm allen wrench, loosen the stem clamp bolts on the front of the handlebars.
5. Rotate the handlebars until the rider feels comfortable and in control.
6. Tighten the two stem clamp bolts.



Adjust the Saddles

WARNING!

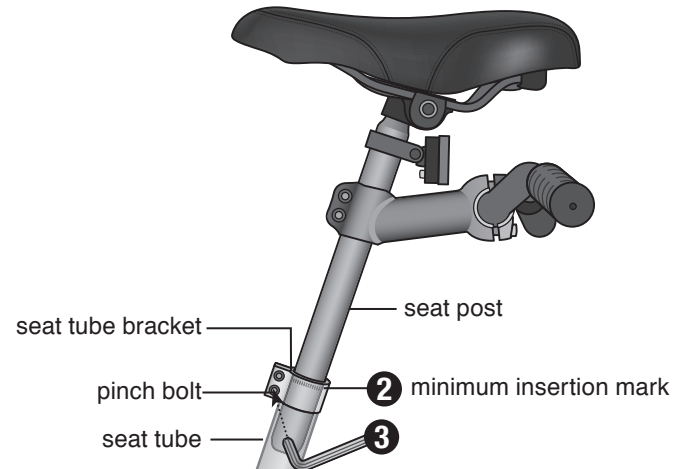
Failure to insert the seat stems beyond the **Minimum Insertion** line may cause the stem to break resulting in damage to the stem, loss of control, falling, serious injury or death. Insert the handlebar and seat stem into the frame until the **Minimum Insertion Mark** is not visible.

Insufficient bolt tightness on the seat stem may result in the seat slipping, loss of control and serious injury or death. Be sure the seat is locked and capable of supporting the weight of the rider before using the bicycle.

For proper seat height: Set the saddle height to obtain the most comfortable position for pedaling efficiency. The seat height should be set in relation to the riders leg length. There should be no leg strain from over extension and hips should not rock from side to side when pedaling. The correct saddle height will allow the knee to be slightly bent when placed on a pedal at it's lowest point.

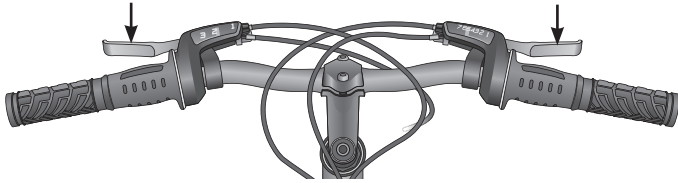
Tools: 5 mm allen wrench

1. Using a 5 mm allen wrench, loosen the two pinch bolts on the seat tube bracket.
2. Adjust the saddle height to the proper position according to the riders height. The saddle stem **Minimum Insertion** mark should not be visible.
3. Using a 5 mm allen tighten the two pinch bolts on the seat tube bracket.

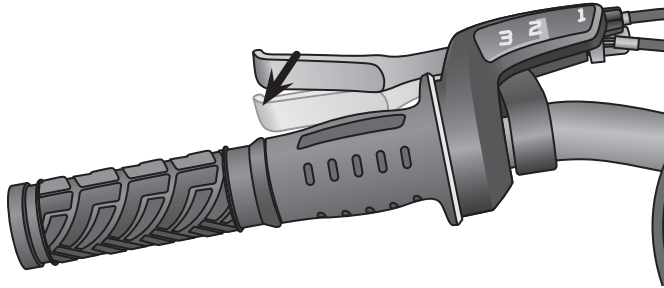


Check the Front Brake Levers

1. Squeeze the brake lever as hard as you can several times to determine the cable is securely attached and the brake pads return to the center position.
3. Check that both brake pads move evenly when the brake lever is squeezed and retract completely when the brake lever is released.



2. Squeeze on the brake lever and check the brake cable tension allows the brake lever to travel about one-third of the way towards the handlebar when the brake pads make contact with the rim.

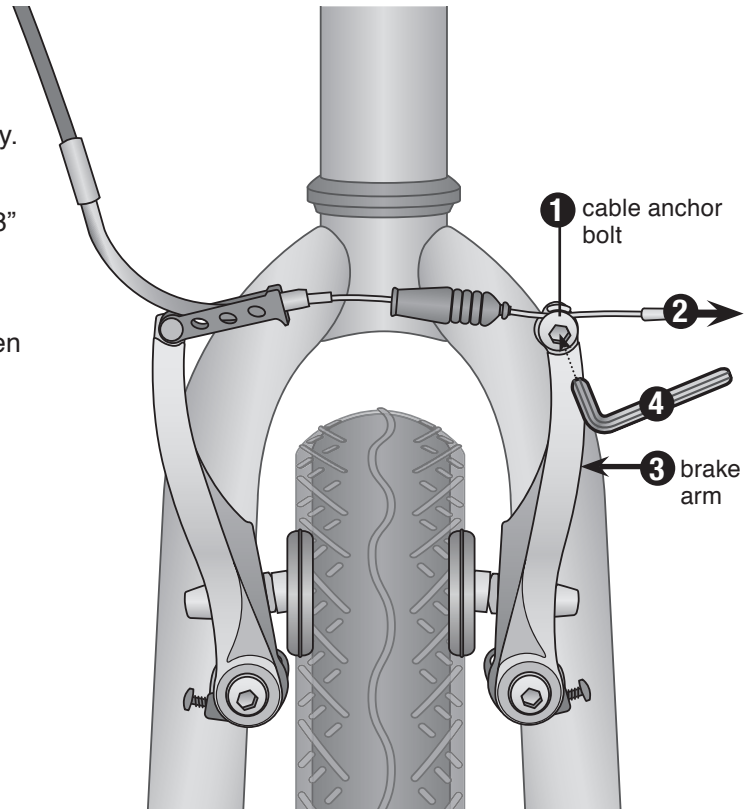


Adjust the Front Brake Cable

Parts: Brake cable, brake arms

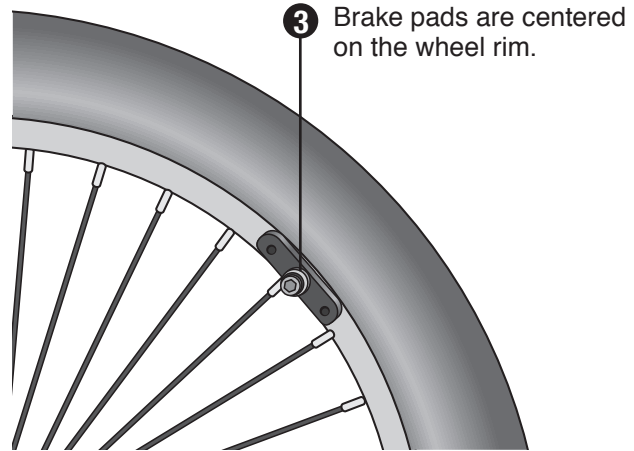
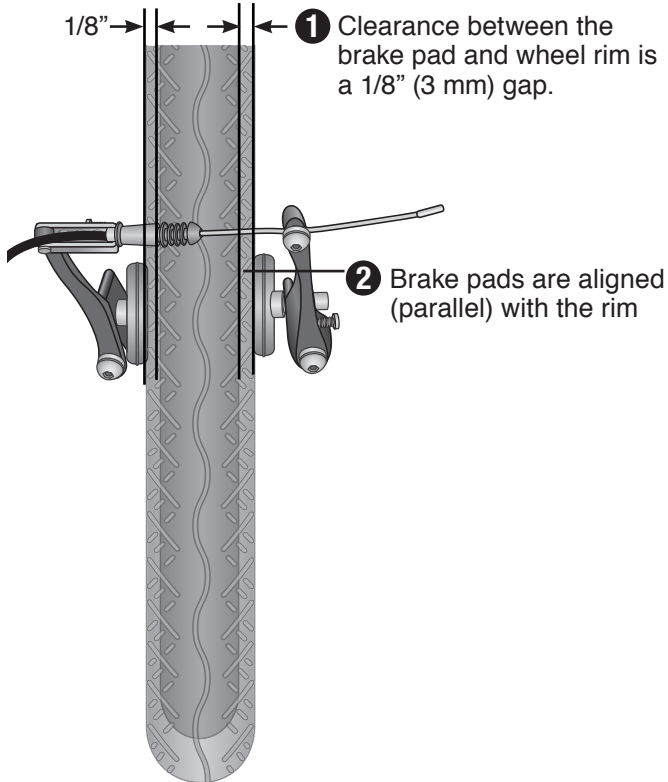
Tools: 5 mm allen wrench

1. Using a 5 mm allen wrench loosen the cable anchor bolt enough so the cable can move freely.
2. Pull on the cable to move the left brake arm towards the rim until there is approximately a 1/8" (3 mm) gap between the brake pad and rim.
3. Move the right brake arm towards the rim until there is approximately a 1/8" (3 mm) gap between the brake pad and rim.
4. Using the 5 mm allen wrench, firmly tighten the cable anchor bolt completely.



Check the Brake Pads

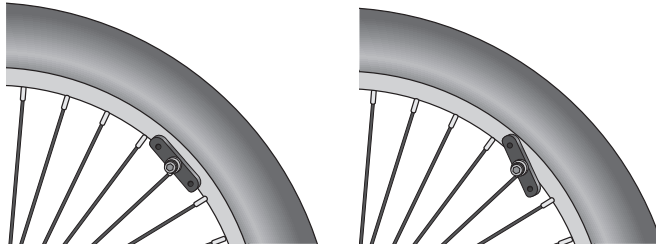
Check the brake pads for the following conditions.
If they need adjustments follow pages 24 - 26.



Align the Brake Pads

Tools: 5 mm Allen wrench

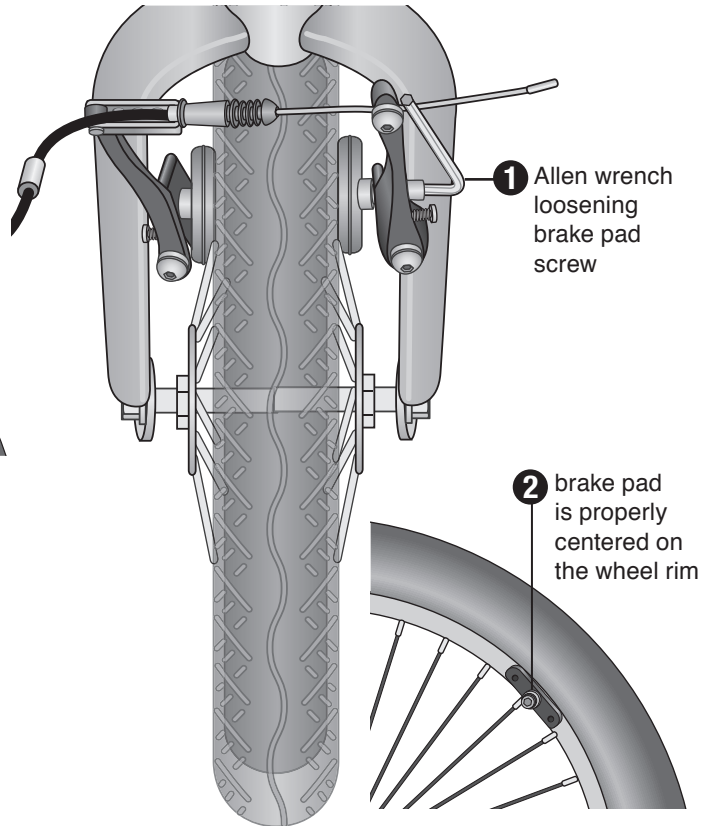
Pad alignment should be done **before** centering. improper alignment can cause centering issues. For example the pad could be touching the tires or part of the pad may not be completely contacting the rim.



Pad is not completely on rim

Pad touches tire

1. Using a 5 mm Allen wrench, loosen the screw holding the pad.
2. Move and rotate the pad so it is centered on the rim and parallel with the ground.
3. After properly positioning the pad tighten the brake pad screw.



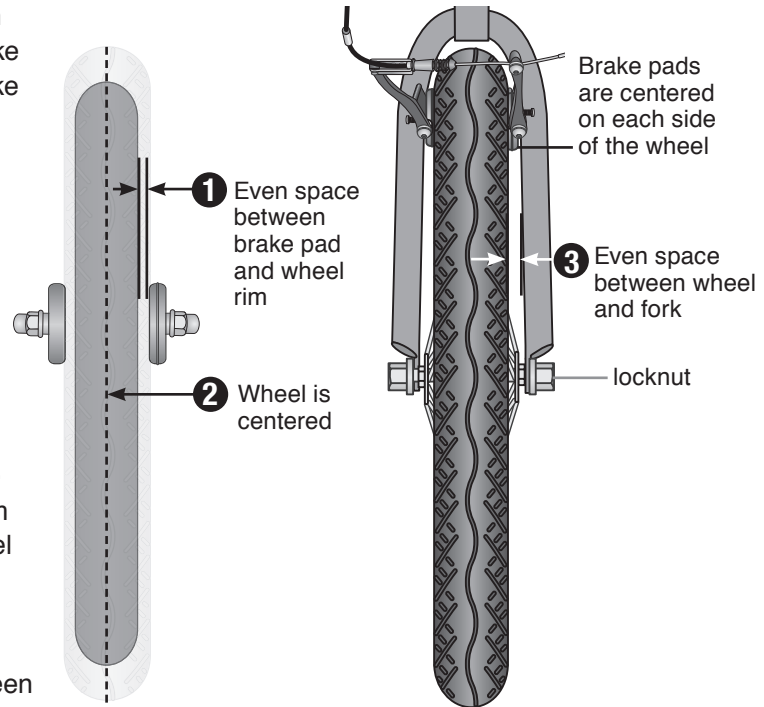
Center the Brake Pads

If you squeeze the brake lever and one brake arm moves more than the other, (or not at all), the brake is not centered. You will need to fine tune the brake pads. Multiple adjustments may be necessary to center the brake pads, correctly set the brake pressure, and set the gap between the brake pad and rim.

Tools: 15 mm open and box end wrench, adjustable pliers, 5 mm allen wrench, phillips Head screwdriver

See the facing page for diagrams of the following steps.

1. Rotate the wheel and look straight down at the brake pads. If you find the gap between the rim and brake pads is uneven it indicates the wheel or brake pads are not centered.
2. Check if the wheel is centered.
3. Rotate the wheel and observe if the gap between the fork and wheel is uneven. If it is, loosen the locknut and adjust the wheel until centered.



4. If the gap between the wheel and brake pad is uneven, adjust the position of the brake pad.

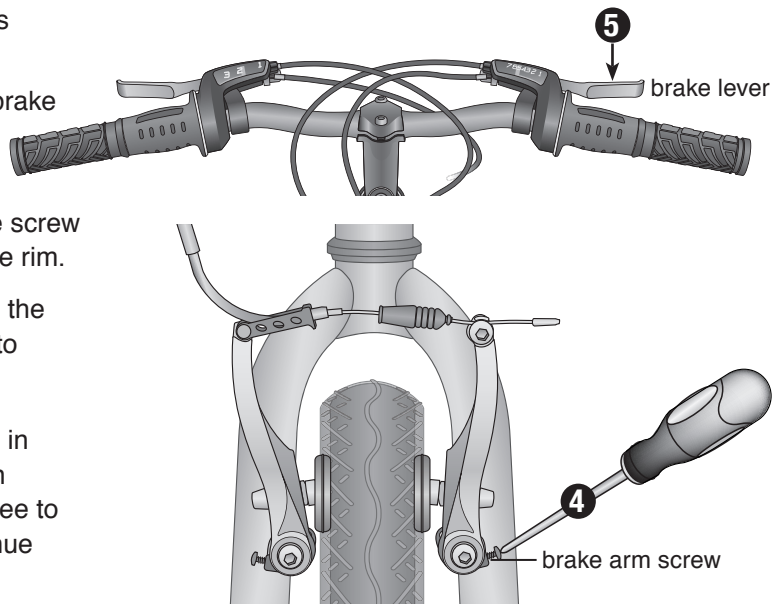
Using a phillips head screwdriver, adjust the brake arm screws on either side of the brake arm.

Note: Turning the screw **clockwise** moves the pad away from the rim. Turning the screw **counterclockwise** moves the pad towards the rim.

Start with the side where the pad is closest to the rim or is not moving properly. Turn the screw to move the pad towards or away from the rim.

Adjustments to these screws should be made in small increments, one-quarter to one-half turn then checked by activating the brake lever three to four times after each adjustment. If you continue to adjust the screw until you have noticeable movement you will run out of adjustment.

5. Pull and release the brake lever a few times and check if the pads are centered.
6. If necessary, repeat steps one and two until the brake pads are centered and the gap between the pads and rim is between 1-2 mm.



Note: If you run out of adjustment capability on one side, adjust the screw on the opposite side. If you run out of adjustment capability on both screws do a minor adjustment to the brake cable. Adjustments should be made to each side as equally as possible to prevent running out of adjustment capability. See **Adjust the Brake Cable**) and repeat steps four through six.

Adjust the Chain Tension

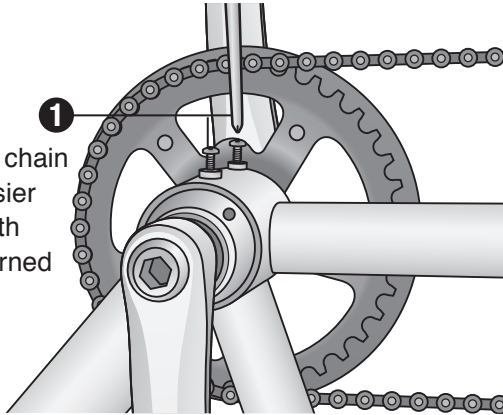
If the chain tension is loose on your tandem bicycle, perform the follow steps.

Tools: Two Phillips head screwdrivers.

1. Using a phillips head screwdriver loosen the two screws located **under** pedal crank bracket.

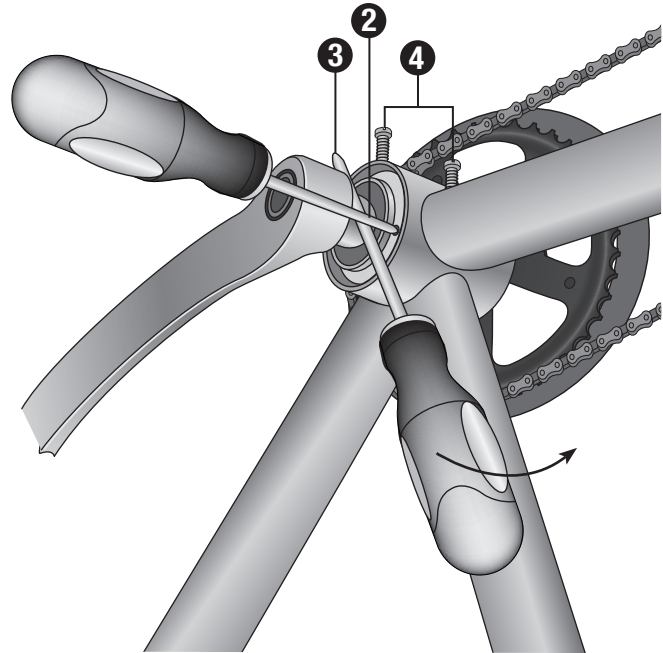
Tip!

Adjusting the chain tension is easier to perform with the bicycle turned upside down.



2. Insert a screwdriver into the hole located **next** to the pedal crank.
3. Insert another screwdriver between the crank axel and the first screwdriver. Pull this screwdriver toward the back of the bicycle to increase the chain tension.

4. Once you have acquired the correct chain tension, tighten the two screws directly **under** the pedal crank.



Check the Derailleur

WARNING!

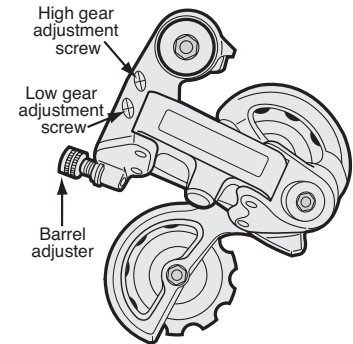
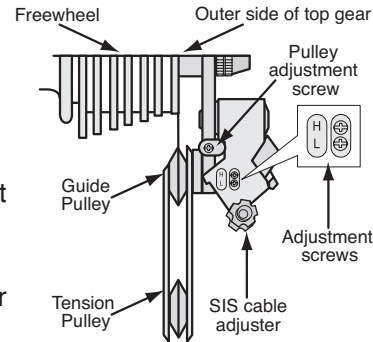
Ensure all bolts are secured tightly and the chain does not fall off in either direction.

Although the front and rear derailleurs are initially adjusted at the factory, you will need to inspect and readjust both before riding the bicycle.

Rear Derailleur

Begin by shifting the rear shifter to largest number indicated and place the chain on the smallest sprocket. Adjust the High limit screw so the guide pulley and the smallest sprocket are lined up vertically. Reconnect the cable, pull out any slack, and retighten the anchor bolt securely. Shift through the gears, making sure each gear achieved is done quietly and without hesitation. If necessary, use the barrel adjuster to fine tune each gear by turning it the direction you want the chain to go. For example, turning clockwise will loosen the cable tension and move the chain away from the wheel, while turning

counter-clockwise will tighten cable tension and direct the chain towards the wheel. Shift the rear shifter to the gear one and place the chain on the largest cog. Adjust the Low limit screw in quarter turn increments until the guide pulley and the largest cog are aligned vertically. Again, shift through each gear several times, checking that each gear is achieved smoothly. It may take several attempts before the rear derailleur and cable is adjusted properly.



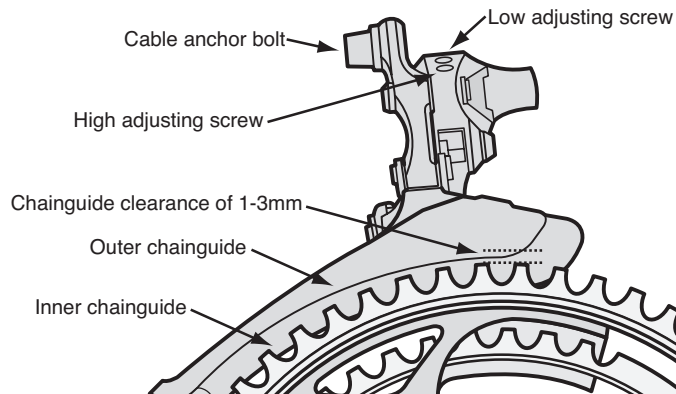
Front Derailleur

WARNING!

Do not ride a bicycle that is not shifting properly. Overlooking proper adjustments may cause irreparable damage to the bicycle and/or bodily injury. Never move the shifter while pedaling standing up, or under heavy load, nor pedal backwards after having moved the shifter. This could jam the chain and cause serious damage to the bicycle and/or rider.

Shift both shifters to the smallest number indicated and place the chain on the corresponding cog and chainwheel. Disconnect the front derailleur cable from the cable anchor bolt. Check the position of the front derailleur; it should be parallel with the outer chainwheel and clear the largest chainwheel by 1-3mm when fully engaged. With the chain on the smallest chainwheel in front and the largest cog in back, adjust the Low limit screw so the chain is centered in the front derailleur cage. Reconnect the cable, pull any slack out, and tighten the anchor bolt securely. Shift the front shifter to the largest chainwheel. If the chain does not go onto the largest chainwheel, turn the high limit screw in

1/4 turn increments counter-clockwise until the chain engages the largest chainwheel. If the chain falls off the largest chainwheel, and into the pedals, you will need to turn the High limit screw in 1/4 turn increments clockwise until the chain no longer falls off. Shift through every gear, using the barrel adjusters to fine tune each transition. The barrel adjuster for the front derailleur is located on the front shifter where the cable comes out of the shifter. Clockwise will loosen the cable tension and direct the chain closer to the frame while counter-clockwise will tighten the cable tension and direct the chain away from the frame.



Adjust the Rear Derailleur

The low limit screw determines how far the rear derailleur will travel toward the wheel of the bicycle, while the High limit screw determines how far the cage will travel toward the frame.

1. Shift the rear shifter to the largest number indicated, disconnect the rear derailleur cable from the cable anchor bolt and place the chain on the smallest sprocket.
2. Adjust the High limit screw so the chain and the smallest sprocket are lined up vertically. Remove any slack in the cable by pulling it taut, then reconnect the cable and tighten the cable anchor bolt securely.
3. Shift up through the gears making sure that each gear is achieved quietly and without hesitation. If noise occurs, use the barrel adjuster to fine-tune the cable tension. Turning the barrel adjuster clockwise will decrease cable tension and allow the derailleur cage to move farther away from the bicycle in small increments. Turning counter-clockwise will increase cable tension and bring the cage closer to the bicycle. This will micro-adjust the positioning of the

derailleur cage in relation to the freewheel. Simply put; turn the barrel adjuster the direction you want the chain to go.

4. Shift the chain onto the largest sprocket; adjust the low limit screw so the chain and the largest cog are lined up vertically. If you are unable to get the chain to the largest cog, turning the Low limit screw counter-clockwise will enable the chain to move towards the wheel.
5. Shift through the gears ensuring each gear is achieved quietly and without hesitation.

Note: It may take several adjustments to achieve the desired positioning. Please refer to the troubleshooting section for more assistance.

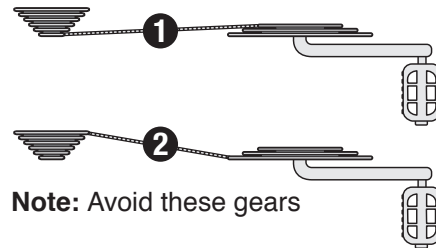
Adjust the Front Derailleur

1. Shift the rear shifter to the smallest number indicated, then shift the front shifter to the smallest number indicated. Disconnect the front derailleur cable from the cable anchor bolt and place the chain on the smallest chainwheel.
2. Make sure the front derailleur cage is parallel with the outer chainwheel on the crankset. There must be a 1-3mm gap between the bottom of the derailleur cage and the top of the outer chainwheel teeth to ensure the derailleur will clear the chainwheel when shifting.
3. Adjust the low limit screw so the chain is centered in the middle of derailleur cage. Pull all slack out of the cable by pulling it taut, then reconnect the cable and tighten the cable anchor bolt securely.
4. Shift the front shifter into the largest gear and pedal the bike so the chain jumps to the largest chainwheel. If the chain does not shift onto the largest chainwheel, you will need to turn the High limit screw counter-clockwise until the chain moves to the largest chainwheel. If the chain falls into the pedals, the High limit screw has been turned too

far. You will need to readjust the High screw clockwise in 1/4 turn increments until the chain no longer falls off.

5. Shift through each gear ensuring all are achieved quietly and without hesitation.
6. The barrel adjuster for the front derailleur is located on the shift mechanism. Turning clockwise will decrease cable tension and allow the front derailleur cage to move away from the bike, while turning counter-clockwise will increase tension and bring the cage closer to the bike. If you are experiencing problems shifting between gears, use the barrel adjuster to fine-tune the cable tension.

Note: It may take several adjustments to achieve the desired positioning.



 **WARNING!**

Failure to follow all local and state regulations and laws pertaining to bicycle use as well as the safety warnings in this manual may result in serious injury or death. Always follow all local and state regulations and laws pertaining to bicycle use, follow the safety warnings in this manual and use common sense when riding the bicycle. Always conduct a pre-ride check of the bicycle condition before riding.

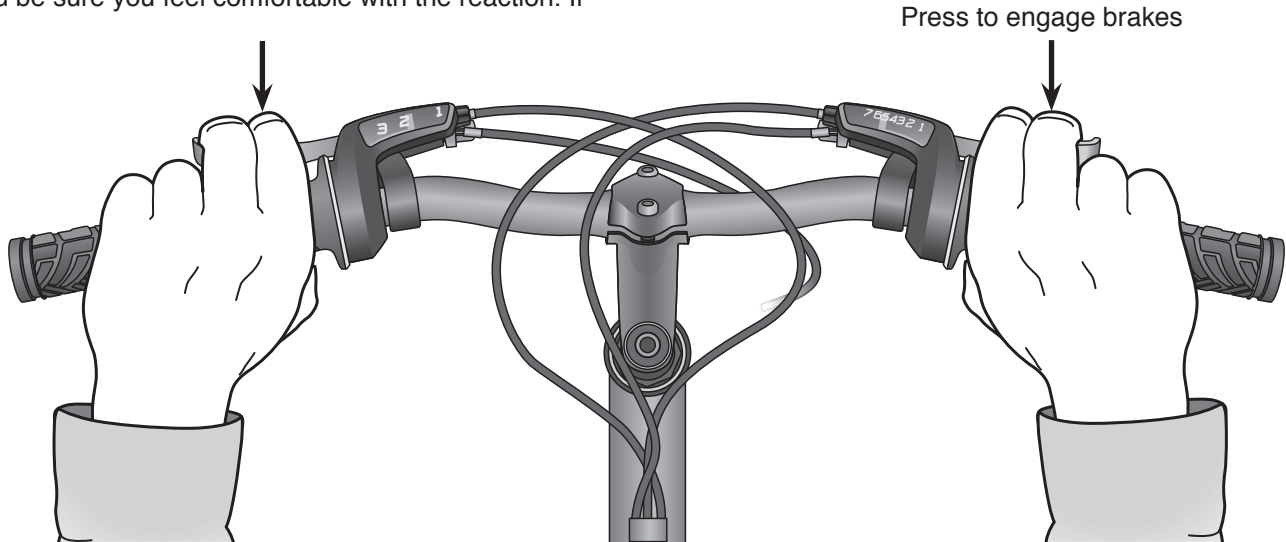
Hand Operated Brakes **WARNING!**

If the front brake is applied too quickly or too hard, the front wheel can stop turning resulting in a front pitch over or cause the bicycle to lose steering function leading to a crash.

Hand operated brakes have a separate hand lever to operate front and rear brakes. Front hand brake levers are located on the left side of the handlebar, and rear hand brake levers are located on the right side of the handlebar. Hand operated brakes may be used alone or on some models in conjunction with foot operated brakes. It is OK to operate one brake at a time, or all together, depending on your style, comfort, and riding conditions, however, be careful to pay close attention to avoid front brakes locking up.

To best avoid this, apply the front and rear brakes simultaneously, while shifting your body weight back slightly to compensate for braking force. As terrain changes, the rider must practice and learn how each bicycle will respond in a new terrain or weather change. The same bicycle will react differently if it is wet, or if there is gravel on the road etc. Always test the brakes and be sure you feel comfortable with the reaction. If

the riding conditions are too steep (off road for example) and you are unsure, dismount the bicycle and walk past the questionable terrain before riding again. Remember that as you apply the brakes your weight will want to shift forward, and the wheels will want to stop.



Gear Operation

WARNING!

Improper shifting can result in the chain jamming, or becoming derailed resulting in loss of control or a crash.

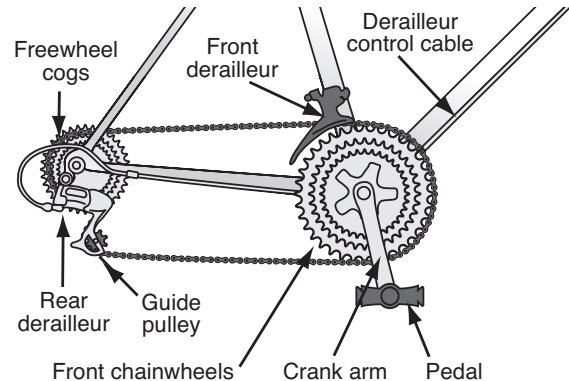
Always be sure the chain is fully engaged in the desired gear before pedaling hard.

Avoid shifting while standing up on the pedals or under load.

To shift properly, pedal the bicycle with little pressure on the pedals, and move the shifter (1) gear at a time, ensuring that the chain is fully engaged in that gear before applying more pressure on the pedals. For bicycles with 3 front chain rings; avoid “Cross Chaining”, which is the position when the chain is in the smallest cog in the rear combined with the inner or smallest chain ring in the front, or the largest cog in the rear and the outer or largest chain ring in the front. These gear positions put the chain at the most extreme angle and can cause premature wear to the drivetrain. Bicycles with 3 front chain rings have enough gear “overlaps” that these gears are not needed.

External Gears

Derailleur equipped bicycles all have a rear derailleur. Some may also have a front derailleur offering more gear choices. The right side shifter will operate the rear derailleur, and the left side (if equipped) will operate the front derailleur. On derailleur equipped bicycles, it is important to be pedaling forward when shifting gears. This allows the chain to “derail” from one gear to the next. Operating the shifter while sitting still or not pedaling can cause damage to the system, and can be dangerous, as the chain may jam and cause the bike to become unstable.



Avoid back pedaling on any bicycle with derailleurs. Backpedaling can derail the chain and cause it to jam or fall off the gears. When shifting gears, make sure you pedal forward until the gear has completely changed. (At least one full rotation of the pedals.) Failure to do so, may result in the chain not engaging properly the next time you pedal forward, or falling off altogether causing a possible danger when you attempt to pedal again. Remember always pedal through the gear change on a derailleur equipped bicycle.

Rear Shifter

The rear shifter (right) will have an indicator that reads from 1 up. “1” is the lowest gear. This is used for slower riding, hill climbing, or to allow for easier pedaling. It is recommended to start off in this gear and move through the gears as speed increases as needed, or comfortable. It is OK to ride the whole time in only one gear if this is comfortable. Shift only while pedaling forward and seated. When shifting, lessen the pressure

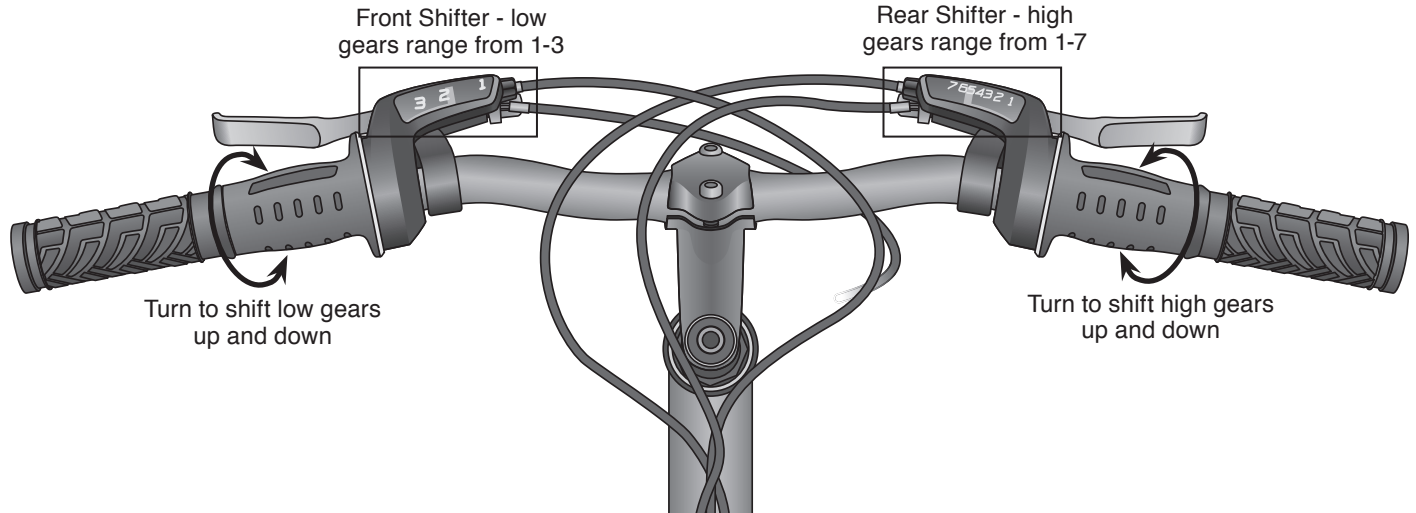
exerted on the pedals during the shift. Once you have successfully shifted gears, it is OK to start to pedal hard if desired. Pedaling hard while shifting can cause the chain to skip and not engage the appropriate gear. Backpedaling should be avoided on derailleur bikes because the chain can jam and cause the bike to become unstable. See Adjustments and Maintenance for further information on proper gear adjustment.

Front Shifter

The front (left) shifter will have an indicator that reads either “low to “high” or a series of numbers from 1 up. Low or “1” is the lowest gear. The front shifter acts much like the rear shifter, but the change between gears is greater. This means that one shift at the rear derailleur will be a subtle change in pedaling speed, but one shift at the front derailleur will be a large change in pedaling speed. Think of the front shifter as a “range”, low and high or low, medium, and high. Low is used for slower riding, hill climbing, or to allow for easier

pedaling. It is recommended to start off in this gear and move through the gears as speed increases as needed, or comfortable. It is OK to ride the whole time in only one gear if this is comfortable. Shift only while pedaling forward. When shifting, lessen the pressure exerted on the pedals during the shift. Once you have successfully shifted gears, it is OK to start to pedal

hard if desired. Pedaling hard while shifting can cause the chain to skip and not engage the appropriate gear. Backpedaling should be avoided on derailleur bikes because the chain can jam and cause the bike to become unstable.



Pre-Ride Checklist

Use the following checklist to ensure your bicycle is in proper working condition before riding the bicycle.

Accessories

The reflectors are good shape, properly placed and not obscured.

- All other fittings on the bike are properly and securely fastened, and functioning.
- The rider is wearing a properly fitted helmet (protective gear if necessary) and that clothing and loose items are properly constrained.

Bearings

- All bearings are lubricated, run freely and display no excess movement, grinding or rattling (Note: Check headset, wheel bearings, pedal bearings and bottom bracket bearings).

Brakes:

- The front and rear brakes work properly.

- The brake shoe pads are not overly worn and are correctly positioned in relation to the rims.
- The brake control cables are lubricated, correctly adjusted and display no obvious wear.
- The brake control levers are lubricated and tightly secured to the handlebar.

Chains

- The chains are oiled, clean and run smoothly
Note: Extra maintenance is required in wet or dusty conditions.

Cranks and Pedals

- The pedals are securely tightened to the crank arms.
- The crank arms are securely tightened to the axle and are not bent.

Derailleur System

- Signs of rust, fraying, kinks, broken strands and damage to cable housing.

Frame and Fork

- The frame and fork are not bent or broken
Note: If either are bent or broken, call customer service.

Steering

- The handlebar and stem are correctly adjusted and tightened, and allow proper steering.
- The handlebars are set correctly in relation to the forks and the direction of travel.
- The handlebar binder bolt is tightened.

Wheels and Tires

- The rims do not have dirt or grease on them.
- The wheels are properly attached to the bicycle and the axle nuts or quick release are tight.
- The wheel spokes are not loose or broken.
- The wheel rotation is smooth and there is no side to side movement.
- The tires are inflated to within the recommended pressure as displayed on the tire sidewall.
- The tires have tread and there are no bulges or excessive wear.

8 Maintenance and Troubleshooting

WARNING!

Failure to conduct maintenance on the bicycle may result in malfunction of a critical part and serious injury or death. Proper maintenance is critical to the performance and safe operation of the bicycle. The recommended intervals and need for lubrication and maintenance may vary depending on conditions the bicycle is exposed to. Always inspect the bicycle and conduct necessary maintenance before each use of the bicycle.

This section presents important information on maintenance and will assist you in determining the proper course of action to take if you do have a problem with the operation of the bicycle.

If you have questions regarding maintenance please call our customer service, toll free, at **1-800-626-2811** or see a qualified bicycle mechanic. Do not call the store where the bicycle was purchased.

Lubrication Schedule

Component	Lubricant	Method
Weekly		
Chains	Chain lube or light oil	Brush on or squirt
Brake calipers	Oil	Three drops from oil can
Brake levers	Oil	Two drops from oil can

Component	Lubricant	Method
Every Six Months		
Freewheel	Oil	Two drops from oil can
Derailleur Systems	Light oil or grease	All pivot points should be lubricated (more often in severely rainy or muddy conditions). Wipe off any excess oil.
Brake cables	Lithium based grease	Remove cable from casing. Grease entire length. Wipe off excess lubrication from other surfaces.
Brake lever and caliper pivot points	Light oil	Two to three drops from oil can
Pedals: that cannot be disassembled	Light oil	Two drops from oil can onto the inside bearings
Shifting cables	Thin layer of grease	Clean and grease
Yearly		
Bottom bracket	Lithium based grease	Disassemble
Pedals	Lithium based grease	Disassemble
Wheel bearings	Lithium based grease	Disassemble
Headset	Lithium based grease	Disassemble
Seat stem	Lithium based grease	Disassemble
Pedals: that can be disassembled		See bicycle mechanic for maintenance.

NOTE: The frequency of maintenance should increase with use in wet or dusty conditions. Do not over lubricate. Remove excess lubricant to prevent dirt build up. **Never** use a degreaser to lubricate your chains (WD-40™).

Parts Maintenance

Brakes

Frequency: Inspect and maintain before each use

Inspect	Action	Maintenance
Levers	Check the levers are securely fastened to the handlebar.	Position the levers to fit the rider's grip and screw tight to handlebar.
Pads	Check pad position, gap and pressure.	See <i>Rear Brake Adjustment.</i>
Cables	Check the outer casing for kinks, stretched coils and damage. Check cables for kinks, rust, broken strands or frayed ends. Check the outer casing for kinks, stretched coils and damage.	Replace cable.
	Check the housing is seated properly into each cable stop of the bicycle.	It is recommended that the cables and housing be replaced every riding season.

Derailleur Systems

Frequency: Inspect and maintain at least every month

Inspect	Action	Maintenance
Rear Derailleur	Check the rear derailleur first. Rear derailleur should shift the chain cleanly from one cog to the next without hesitation. Each notched position in the shifter must equate to a new gear position. After shifting, the rear derailleur should not rub on the chain. The derailleur should never cause the chain to fall off the inner or outer freewheel cogs.	See <i>Adjust the Rear Derailleur</i> on page 30.
Front Derailleur	Checks on the front derailleur are the same as the rear. Each click or stop in the shifter should equate exactly to a new gear position. When the chain has been positioned onto a new chainring, it should not rub on the front derailleur. The chain should not fall off a chainring at any time.	See <i>Adjust the Front Derailleur</i> on page 31.

Drivetrain (pedals, chains, chainwheel, crank set, freewheel)

Frequency: as noted

Inspect	Action	Maintenance
Pedals	Every month, check each pedal is securely set and tighten into the crank arm.	If necessary, re-set and tighten.
	Before each ride, check each front and rear pedal reflectors are clean and in place.	Clean or replace.
Pedal Bearings	Every month, check the pedal bearings are properly adjusted. Move the pedal up and down, left and right. If looseness or roughness is detected adjustment, lubrication or replacement is required.	See bicycle mechanic for repair.
Chains	<p>Every week, check the chains are clean, properly lubricated, rust free, and is not stretched, broken, or have stiff links.</p> <p>Every week, check chain tension is correct on both chains:</p> <ol style="list-style-type: none"> 1. Set a straightedge against the bottom of the front chainwheel and rear sprocket. 2. Pull up on the bottom of the chain. 3. If movement is more than 10 mm adjust the position of the rear frame. 	<p>Lubricate if necessary. Replace if rusted, stretched, or broken.</p> <p>Loosen bolts holding the rear frame and move it until the chain is taut and moves less than 10 mm. Check the rear frame is “square” to the main frame and firmly tighten the bolts holding the rear frame.</p>

Drivetrain maintenance continued . . .

Inspect	Action	Maintenance
Crank Set	Every month, check the crank set (crank arms, chain rings, and bottom bracket axle and bearings) is correctly adjusted and tight. Remove the primary chain	Replace cable.

Tires

Frequency: Inspect and maintain before each use

Inspect	Action	Maintenance
Tire Inflation	Check tire pressure	Inflate tire to the pressure indicated on the tire sidewall. See “Inflating a Tire Tube” for more detail. If the tire is flat see “Fixing a Flat Tire” for more detail.
	Check the bead is properly seated while inflating or refitting the tire.	Reduce air pressure in the tube and re-seat the bead.
	Spin wheel and check rotation / alignment is smooth and even.	Loosen axle nut(s) and adjust until properly seated. If the Hub Bearings need repair see Hub Bearings for more detail or bicycle mechanic for repair.
Bead Seating	Check for broken or loose spokes	See bicycle mechanic for repair.

Tire maintenance continued . . .

Inspect	Action	Maintenance
Tread	Inspect for signs or excessive wear, flat spots or cuts and damage.	Replace tire.
Valves	Check that valve caps are fitted and free of dirt.	Clean dirt from the valve.

Wheels

Frequency: Inspect and maintain before each use.

Inspect	Action	Maintenance
Rims	Inspect for dirt and grease	Use a clean rag or wash with soapy water, rinse, and air dry.
Wheels	Check the wheels are securely fastened to the bicycle and axle nuts are tight.	Adjust if necessary and tighten axle nuts.
	Spin wheel and check rotation / alignment is true	See bicycle mechanic for repair.
Spokes	Check for broken or loose spokes	See bicycle mechanic for repair.
Hub Bearings	Lift each wheel and see if there is movement side to side	See "Hub Bearings" for more detail or bicycle mechanic for repair.

Hub Bearings

Hub bearings require special thin wrenches called “cone wrenches”. If you do not own these tools, do not attempt hub bearing adjustments. Have a qualified bicycle mechanic perform the adjustment if you have any doubts.

1. Check to make sure neither locknut is loose.
2. To adjust, remove wheel from bicycle and loosen the locknut on one side of the hub while holding the bearing cone on the same side with a cone wrench.
3. Rotate the adjusting cone as needed to eliminate free play.
4. Re-tighten the locknut while holding the adjusting cone in position.
5. Re-check that the wheel can turn freely without excessive side play.

Inflating the Tire Tube



WARNING!

An unseated tire can rupture unexpectedly and cause serious injury or death. Be sure the tire is properly seated when inflating the tube.



CAUTION!

Over inflation or inflating the tube too quickly may result in the tire blowing off the rim and damage the bicycle or cause injury to the rider. Always use a hand pump to inflate the tube. Do not use a gas station service pump to inflate the tube.

Follow these steps to inflate a tire:

1. Remove the valve cap.
2. Add air.
3. Be sure the tire is evenly seated on the rim, both sides.
4. Spin the wheel and check for high and low areas.

5. Complete inflation.
6. Be sure the tire is evenly seated on the rim, both sides. If not release some air and repeat steps three through six.
7. Check for dirt in the valve cap or stem. If necessary, clean dirt from cap or stem.
8. Securely replace the valve cap on the stem.

Repairing a Flat Tire



An unseated tire can rupture unexpectedly and cause serious injury or death. Be sure the tire is properly seated when inflating the tube.

Follow these steps to fix a flat tire:

1. Match tube size and tire size (see tire sidewall for size).
2. Remove wheel from bicycle. Deflate tire completely.
3. Squeeze the tire beads into the center of the rim.
4. Opposite the valve, use a bicycle tire lever to pry the tire bead up and out of the rim. Repeat around the wheel until one bead is off the rim.
5. Remove tube. Release second tire bead. Remove tire.
6. Carefully inspect inside of the rim and tire for the cause of the flat.
7. Inflate the tube $\frac{1}{4}$ full and place inside tire.
8. Insert the valve stem through valve stem hole in rim.
9. Start at the valve stem and install the first bead onto the rim. Repeat for the second bead.
10. Slowly inflate the tire, checking the tire is seated properly and not pinched as the tire is inflated.
11. Inflate to recommended pressure (see tire sidewall).

Troubleshooting Guide

Problem	Possible Cause	Remedy
Gear shifts not working properly	<ul style="list-style-type: none"> • Derailleur cables sticking/stretched/damaged • Front or rear derailleur not adjusted properly • Indexed shifting not adjusted properly 	<ul style="list-style-type: none"> • Lubricate/tighten/replace cables • Adjust derailleurs • Adjust indexing
Slipping chain	<ul style="list-style-type: none"> • Excessively worn/chipped chainring or freewheel sprocket teeth • Chain worn/stretched • Stiff link in chain • Non compatible chain/chainring freewheel 	<ul style="list-style-type: none"> • Replace chainring, sprockets and chain • Replace chain • Lubricate or replace link • See advise at a bicycle shop
Chain jumping off freewheel sprocket or chainring	<ul style="list-style-type: none"> • Chainring out of true • Chainring loose • Chainring teeth bent or broken • Rear or front derailleur side-to-side travel out adjustment • Cross chaining and shifting under load 	<ul style="list-style-type: none"> • Re-true if possible, or replace • Tighten mounting bolts • Repair or replace chainring/set • Adjust derailleur travel
Constant clicking noises when pedaling	<ul style="list-style-type: none"> • Stiff chain link • Loose pedal axle/bearing • Loose bottom bracket axle/bearings • Bent bottom bracket or pedal axle • Loose crankset 	<ul style="list-style-type: none"> • Lubricate chain/adjust chain link • Adjust bearings/axle nut • Adjust bottom bracket • Replace bottom bracket axle or pedals • Tighten crank bolts

Problem	Possible Cause	Remedy
Grinding noise when pedaling	<ul style="list-style-type: none"> • Pedal bearings too tight • Bottom bracket bearings too tight • Chain fouling derailleurs • Derailleur jockey wheels dirty/binding 	<ul style="list-style-type: none"> • Adjust bearings • Adjust bearings • Adjust chain line • Clean and lubricate jockey wheels
Freewheel does not rotate	<ul style="list-style-type: none"> • Freewheel internal pawl pins are jammed 	<ul style="list-style-type: none"> • Lubricate. If problem persists, replace freewheel
Brakes not working effectively	<ul style="list-style-type: none"> • Brake pads worn down • Brake pads/rim greasy, wet or dirty • Brake cables are binding/stretched/damaged • Brake levers are binding • Brakes out of adjustment 	<ul style="list-style-type: none"> • Replace brake pads • Clean pads and rim • Clean/adjust/replace cables • Adjust brake levers • Center brakes
When applying the brakes they squeal/squeak	<ul style="list-style-type: none"> • Brake pads worn down • Brake pads toe-in incorrect • Brake pads/rim dirty or wet • Brake arms loose 	<ul style="list-style-type: none"> • Replace pads • Correct pads toe-in • Clean pads and rim • Tighten mounting bolts
Knocking or shuddering when applying brakes	<ul style="list-style-type: none"> • Bulge in the rim or rim out of true • Brake mounting bolts loose • Brakes out of adjustment • Fork loose in head tube 	<ul style="list-style-type: none"> • True wheel or take to a bike shop for repair • Tighten bolts • Center brakes and/or adjust brake pads toe-in • Tighten headset

Problem	Possible Cause	Remedy
Wobbling wheel	<ul style="list-style-type: none"> • Axle broken • Wheel out of true • Hub comes loose • Headset binding • Hub bearings collapsed • QR mechanism loose 	<ul style="list-style-type: none"> • Replace axle • True wheel • Adjust hub bearings • Adjust headset • Replace bearings • Adjust QR mechanism
Steering not accurate	<ul style="list-style-type: none"> • Wheels not aligned in frame 	<ul style="list-style-type: none"> • Align wheels correctly • Adjust/tighten headset • Take bike to a bike shop for possible frame realignment
Frequent punctures	<ul style="list-style-type: none"> • Inner tube old or faulty • Tire tread/casing worn • Tire unsuited to rim • Tire not checked after previous puncture • Tire pressure too low • Spoke protruding into rim 	<ul style="list-style-type: none"> • Replace inner tube • Replace tire • Replace with correct tire • Remove sharp object embedded in tire • Correct tire pressure • File down spoke

9 Warranty

Limited Warranty and Policy on Replacement Procedures and Responsibilities

Your purchase includes the following warranty which is in lieu of all other express warranties. This warranty is extended only to the initial consumer purchaser for non commercial use only. No warranty registration is required. This warranty gives you specific legal rights and you may have other rights which vary from state to state.

FRAME

Steel frames are guaranteed against faulty materials and workmanship for 5 years, subject to the condition of the warranty listed below. If frame failure should occur due to faulty materials or workmanship during the guarantee period, the frame will be replaced. For frame replacement under this Pacific Limited Warranty, contact us, stating the nature of the failure, model number, date received and the name of the store from which the bike was received, at the address given on this page. Frame must be returned for inspection at customer's expense. Please note: the fork is not part of the frame. A 5 year warranty on your frame does not guarantee that the

product will last for 5 years. The length of the useful life cycle will vary depending on the type of bike, riding conditions and care the bicycle receives. Competition, jumping, downhill racing, trick riding, trial riding, riding in severe conditions or climates, riding with heavy loads or any other non-standard use can substantially shorten the useful product life cycle. Any one or a combination of these conditions may result in an unpredictable failure that is not covered by this warranty. All bicycles and frame sets should be periodically checked by an authorized dealer for indications of potential problems, inappropriate use or abuse. These are important safety checks and are very important to help prevent accidents, bodily injury to the rider and shortened useful product life cycle.

PARTS

All other parts of the unit except Normal Wear Parts are warranted against defective materials and workmanship for a period of 1 year from the date of purchase by the initial consumer purchaser, subject to the Terms and Conditions of the warranty listed below. If failure of any part should occur due to faulty materials or workmanship

during the warranty period, the part will be replaced. All warranty claims must be submitted to the address below and must be shipped prepaid and accompanied by proof of purchase. Any other warranty claims not included in this statement are void. This especially includes installation, assembly, and disassembly costs. This warranty does not cover paint damage, rust, or any modifications made to the bicycle. Normal Wear Parts are defined as grips, tires, tubes, cables, brake shoes and saddle covering. These parts are warranted to be free from defects in material and workmanship as delivered with the product. Any claim for repair or replacement of Normal Wear Parts (grips, tubes, tires, cables, brake shoes and saddle covering) and missing parts must be made within thirty (30) days of the date of purchase. 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, misuse, neglect, or theft. Claims involving these issues will not be honored.

CONDITIONS OF WARRANTY

1. Your bicycle has been designed for general non commercial transportation and recreational use, but has not been designed to withstand abuse associated with stunting and jumping. This warranty

ceases when you rent, sell, or give away the bicycle, ride with more than one person, or use the bicycle for stunting or jumping.

2. This warranty does not cover ordinary wear and tear or anything you break accidentally or deliberately.
3. It is the responsibility of the individual consumer purchaser to assure that all parts included in the factory-sealed carton are properly installed, all functional parts are initially adjusted properly, and subsequent normal maintenance services and adjustments necessary to keep the bicycle in good operating condition are properly made. This warranty does not apply to damage due to improper installation of parts, installation of any kind of power plant or internal combustion engine, modification or alteration of the brakes, drive train, or frame in any way, or failure to properly maintain or adjust the bicycle.

NOTICE: Bicycle specifications subject to change without notice.

PACIFICCYCLE
© 2012

10 Purchase Record

Fill out this record and retain it as well as your sales receipt a record of your purchase and potential warranty claims.

Name: _____

Address: _____

State/City/Zip: _____

Date of Purchase: _____

Place of Purchase: _____

Serial Number: _____

Model Number: _____

Date Code: _____



PACIFICCYCLE™

4902 Hammersley Road
Madison, WI 53711
Service: 1-800-626-2811
www.pacific-cycle.com