LOUIS GARNEAU®

1983

BICYCLE USER'S MANUAL

⚠ WARNING

ADULT ASSEMBLY REQUIERED

⚠ WARNING

CHOKING HAZARD Small parts

WEIGHT LIMIT:
LG1: 110lbs (50kg)
LG2/3: 130lbs (60kg)
LG4: 155lbs (70kg)

FOR CHILDREN AGES:
LG1: 18 MONTHS – 4 YEARS OLD
LG2: 3 – 4.5 YEARS OLD
LG3: 4 – 6 YEARS OLD
LG4: 6 – 8 YEARS OLD

CONTAINS USEFUL INFORMATION. PLEASE KEEP THIS MANUAL.

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MAN-0008

FOREWORD

Dear customer,

We thank you for your purchase. In order to fully enjoy your new bike in a secure manner, it is strongly advised to read this owner's manual attentively. It contains technical information required for the good performance and maintenance of your bike, as well as important information for your safety. Negligence could result in expensive damage, as well as serious accidents.

If you have other questions, or if you haven't understood certain details, do not hesitate to contact your customer service who will be happy to inform you.

REGISTRATION

In order to offer quality products and provide good customer support, Louis Garneau Sports is offering an online registration system for your product. By completing the form below, you will be informed by Louis Garneau Sports of any development regarding your product. Your comments are appreciated as they help us develop and manufacture better cycling equipment.

Register your bike online at: **https://louisgarneau.com/kidsbikes**

WARRANTY

Your bike is covered by a limited warranty. Please consult this information on our website at **https://louisgarneau.com/kidsbikes,** in the Customer Service section.

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SECTION I: GENERAL INFORMATION

1. ABOUT THIS MANUAL

Louis Garneau Sports is proud to be part of your cycling rides!

You have just bought a Louis Garneau bicycle and become a happy cyclist. Louis Garneau bicycles are fully developped in St-Augustin-de-Desmaures, Québec, Canada. Moreover, many of our bike models are painted and assembled in our Québec factory. All bicycles comply with the quality standards in force in the United States and in Canada and will meet your expectations.

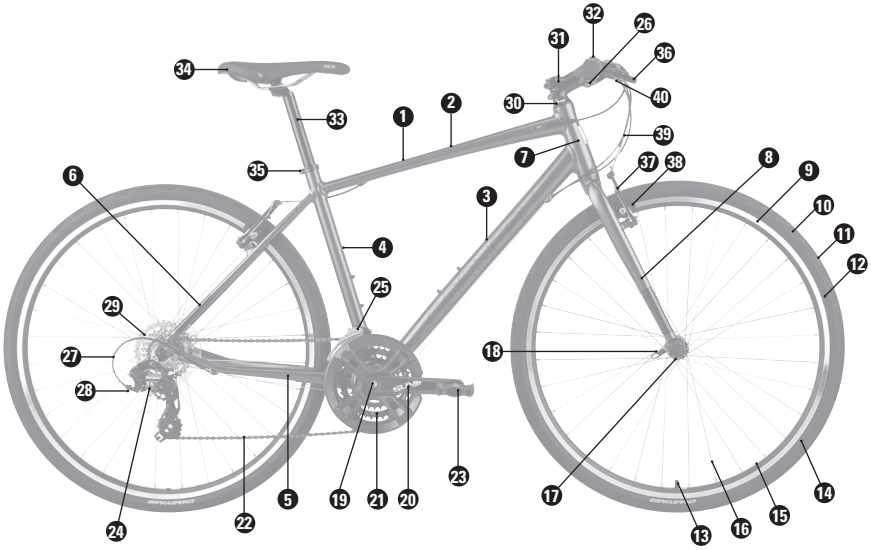
To get the most out of your new bicycle, we suggest that you read this manual carefully before enjoying your favorite sport, i.e. cycling. This manual features several explanations and drawings of several components on your bicycle. Please note that many recommendations are also included in this manual to ensure your safety and the proper operation of your bicycle.

We care about the satisfaction of our customers and, in a continuous effort to prove this, our excellent bilingual Customer Service is available to answer all your questions. You can contact Louis Garneau Sports Inc.:

Tel.: 418-878-4135 • 1-800-463-8356
E-mail: bikessupport@louisgarneau.com
Internet: https://louisgarneau.com/kidsbikes

2. BICYCLE COMPONENTS

1. Frame
2. Top tube
3. Down tube
4. Seat tube
5. Chain stay
6. Seat stay
7. Head tube
8. Fork
9. Wheel
10. Tire
11. Tread
12. Sidewall
13. Valve stem
14. Tube
15. Rim
16. Spokes
17. Hub
18. Quick release
19. Bottom bracket
20. Crank
21. Chainrings



22. Chain
23. Pedal/ Toe clip/Strap
24. Rear derailleur
25. Front derailleur
26. Shifter
27. Shifter cable
28. Adjusting barrel
29. Freewheel/Rear cluster/ Cassette
30. Headset
31. Stem
32. Handlebar
33. Seatpost
34. Saddle
35. Seat post clamb
36. Brake lever
37. Brake
38. Brake shoe
39. Brake cable
40. Adjusting barrel

Bicycle components
Fig. 1a

3. FIT AND SAFETY

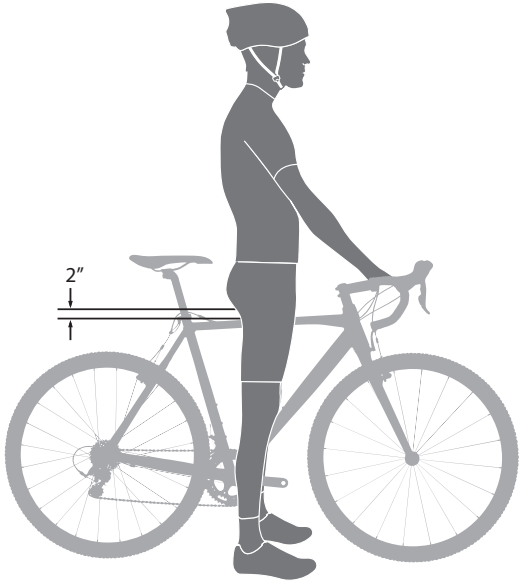
3.1 FIT

Make sure the bike fits. A bike that is too big or too small for the rider is more difficult to control and can be uncomfortable.

!WARNING: *IF THE BICYCLE DOES NOT FIT PROPERLY, YOU COULD LOSE CONTROL AND FALL. IF YOUR NEW BIKE DOESN'T FIT, ASK YOUR DEALER TO EXCHANGE IT BEFORE YOU RIDE IT.*

Size: Your dealer will have recommended the best bicycle size for you, based on the information provided. If you chose your bike at the dealer's, someone took the time to fit you to the correct size of bicycle. If someone else selected the bike for you, as a gift for example, it's important to make sure the bike fits before you ride it.

The first check for correct size is standover height. **Standover height** is the basic element of bike fit. It is the distance from the ground to the top of the top tube, at that point where your crotch would be if you were straddling the bike, standing halfway between the saddle and the handlebar stem. To check for a safe standover height, straddle the bike while wearing the kind of shoes in which you'll be riding. If your crotch touches the frame, the bike is too big for you. You should have a minimum standover height clearance of one to two inches **(see Fig. 2a).**



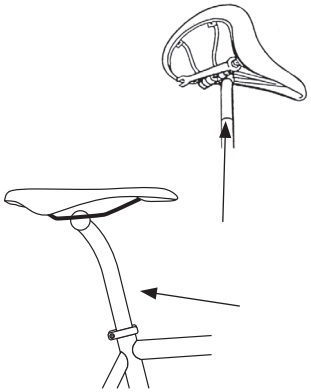
Standover height clearance
Fig. 2a

3.1.1 SADDLE ADJUSTMENT

Correct saddle adjustment is an important factor in getting the most performance and comfort from your bicycle. Your dealer will have positioned the saddle where experience tells him/her most people find it comfortable. If you find the saddle position is not comfortable, some adjustments can be made.

A saddle can be adjusted in three directions:

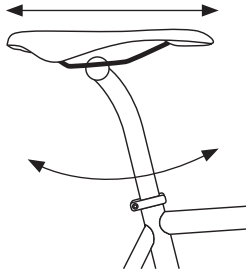
a. Up and down adjustment. To adjust the saddle height, loosen the seat binder bolt **(see Fig. 2b)** and move the seat post up or down as required. Then, make sure the saddle is parallel to the ground, and retighten the seat binder bolt tightly enough so that you cannot twist the saddle out of alignment. If it's a carbon frame, the maximum torque is extremely important. Please refer to the various manufacturers' guide charts. Check the adjustment as described above.



Minimum insertion mark (should not be visible) Maximum height Fig. 2b

Under no circumstances should the seat post project from the frame beyond its minimum insertion or maximum extension mark (Fig. 2b).

!WARNING: *IF YOUR SEAT POST PROJECTS FROM THE FRAME BEYOND THE MINIMUM INSERTION OR MAXIMUM EXTENTION MARK (SEE FIG. 2B), THE SEAT POST MAY BREAK, WHICH COULD CAUSE YOU TO LOSE CONTROL AND FALL.*



Saddle front and back adjustment Fig. 2c

b. Front and back adjustment. Many bicycles have saddles with adjustable clamps. If your saddle has an adjustable clamp **(see Fig. 2c),** loosen the saddle clamping mechanism and slide the saddle backward or forward on its rails. Start with the saddle clamped in near the middle, then adjust forward or backward until you find the position which is most comfortable for you. Then, retighten the saddle clamping mechanism tightly enough so that you cannot move or jiggle the saddle.

CAUTION: *FAILURE TO PROPERLY INSTALL AND ADJUST A SEAT POST WITH A QUICK RELEASE DEVICE COULD CAUSE THE SADDLE SEAT POST TO LOOSEN WHILE RIDING AND LEAD TO SERIOUS PERSONAL INJURY. (FOR MORE INFORMATION REGARDING QUICK RELEASES, SEE PAGE 15 OF THIS MANUAL).*

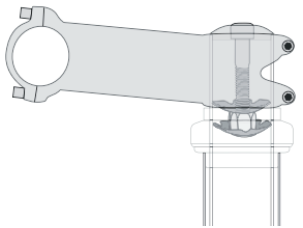
!CHECK YOUR QUICK RELEASE ADJUSTMENTS BEFORE EACH RIDE!

c. Saddle Tilt Adjustment.
Most people prefer a horizontal saddle, but some riders prefer to have the saddle nose tilted up just a little, and others prefer it to be tilted down just a little. Saddles with adjustable clamps **(see Fig. 2c)** can have their tilt adjusted by loosening the saddle clamping mechanism, tilting the saddle to the desired position, and retightening the saddle clamping mechanism tightly enough so that you cannot move or jiggle the saddle. Very small changes in saddle position can have a substantial effect on performance and comfort. Consequently, whenever you make a change to your saddle position, make only one directional change at a time, and make the changes in small increments until you have found the position where you are most comfortable.

!WARNING: *AFTER ANY SADDLE ADJUSTMENT, BE SURE TO TIGHTEN THE SADDLE ADJUSTING MECHANISM PROPERLY BEFORE RIDING. A LOSE SADDLE CLAMP OR SEAT POST BINDER CAN CAUSE DAMAGE TO THE SEAT POST, OR CAN CAUSE YOU TO LOSE CONTROL AND FALL. A CORRECTLY TIGHTENED SADDLE ADJUSTING MECHANISM WILL ALLOW NO SADDLE MOVEMENT IN ANY DIRECTION. PERIODICALLY CHECK TO MAKE SURE THAT THE SADDLE ADJUSTING MECHANISM IS PROPERLY TIGHTENED.*

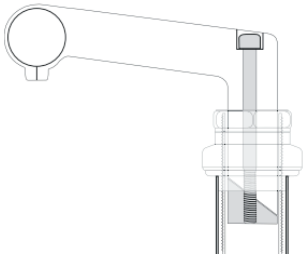
3.1.2 HANDLEBAR HEIGHT AND ANGLE

a. For Threadless Headset
If your bike is equipped with a stem which clamps directly onto the outside of the steering tube **(see Fig. 2d)**, your dealer may be able to change the bar height by moving height adjustment spacers from below the stem to above the stem, or vice versa. Otherwise, you'll have to get a stem of different length or rise. Consult your dealer. **Do not attempt to do this yourself as it requires special knowledge.**



Threadless Headset
Fig. 2d

b. For Threaded Headset
On most bikes, you can raise or lower your handlebars a bit by adjusting the stem height **(see Fig. 2e)**. Loosen the stem binder bolt by turning it counter-clockwise. If the bolt rises but the stem doesn't, get a piece of wood or a soft mallet and give the bolt a good whack to release the wedge. Adjust the stem position as desired, and retighten the binder bolt tightly enough so that it's well fixed and aligned.



Threaded Headset
Fig. 2e

Under no circumstances should the stem be retightened with its minimum insertion or maximum extension mark visible.

!WARNING: *THE STEM'S MINIMUM INSERTION MARK MUST NOT BE VISIBLE ABOVE THE TOP OF THE HEADSET. IF THE STEM IS EXTENDED BEYOND THE MINIMUM INSERTION MARK, THE STEM MAY BREAK OR DAMAGE THE FORK'S STEERER TUBE, WHICH COULD CAUSE YOU TO LOSE CONTROL AND FALL.*

If your bicycle has hand brakes, check to make sure that the handlebar rotates freely in both directions without the brake cable catching or binding on anything.

CAUTION: *ON SOME BICYCLES, CHANGING THE STEM HEIGHT CAN AFFECT THE TENSION OF THE FRONT BRAKE CABLE, LOCKING THE FRONT BRAKE OR CREATING SUFFICIENT CABLE SLACK TO MAKE THE FRONT BRAKE INOPERABLE. IF THE FRONT BRAKE SHOES MOVE IN TOWARDS THE WHEEL RIM OR OUT AWAY FROM THE WHEEL RIM WHEN YOU CHANGE STEM HEIGHT, TAKE YOUR BICYCLE TO YOUR DEALER FOR CORRECT BRAKE ADJUSTMENT BEFORE RIDING IT.*

You can change the angle of the handlebar by loosening its binder bolt(s), rotating the bar to the desired angle, recentering it and retightening the binder bolt(s) tightly enough so that the bar can't move in relation to the stem.

!WARNING: *FAILURE TO PROPERLY TIGHTEN THE STEM BINDER BOLT OR THE HANDLEBAR BINDER BOLT(S) MAY COMPROMISE STEERING ACTION, WHICH COULD CAUSE YOU TO LOSE CONTROL AND FALL. PLACE THE FRONT WHEEL OF THE BICYCLE BETWEEN YOUR LEGS AND ATTEMPT TO TWIST THE HANDLEBAR/STEM ASSEMBLY. IF YOU CAN TWIST THE STEM IN RELATION TO THE FRONT WHEEL OR TURN THE HANDLEBAR IN RELATION TO THE STEM, REALING AND TIGHTEN THE BOLTS.*

3.1.3 Control Position Adjustments

If your bicycle has hand-operated brakes, the brake levers are positioned on the handlebar where they work best for most people. The angle and position of the levers can be changed. If required, ask your dealer to make the adjustments for you.

3.1.4 Brake Reach

Many bikes with hand-operated brakes have brake levers which can be adjusted for reach. If you have small hands and find it difficult to squeeze the brake levers, your dealer can either adjust the reach or fit shorter reach brake levers.

!WARNING: *THE SHORTER THE BRAKE LEVER REACH, THE MORE CRITICAL IT IS TO HAVE CORRECTLY ADJUSTED BRAKES, SO THAT FULL BRAKING POWER CAN BE APPLIED WITHIN AVAILABLE BRAKE LEVER TRAVEL. BRAKE LEVER TRAVEL INSUFFICIENT TO APPLY FULL BRAKING POWER CAN RESULT IN LOSS OF CONTROL, WHICH MAY RESULT IN SERIOUS INJURY OR DEATH.*

3.2 SAFETY EQUIPMENT

!WARNING: *MANY PROVINCES REQUIRE SPECIFIC SAFETY DEVICES. IT IS YOUR RESPONSIBILITY TO FAMILIARIZE YOURSELF WITH THE LAWS OF THE PROVINCE IN WHICH YOU RIDE AND TO COMPLY WITH ALL APPLICABLE LAWS, INCLUDING PROPERLY EQUIPPING YOURSELF AND YOUR BIKE AS REQUIRED BY LAW.*

3.2.1 Helmet

While not all provinces require cyclists to wear approved protective headgear, common sense dictates that you should wear a helmet approved by the US Consumer Product Safety Commission (CPSC), whether the law requires it or not. Most serious bicycle injuries involve head injuries, which could have been avoided if the rider had worn a helmet. Louis Garneau Sports offers a wide range of quality helmets. Ask your dealer or visit our website at **garneau.com** to make your choice. Your helmet must fit correctly, be worn correctly and be properly secured to do its job. Ask your dealer to help you with the fit and adjustment of your helmet, and refer to the owner's manual provided with your helmet.

!WARNING: *ALWAYS WEAR AN APPROVED BICYCLE HELMET WHEN RIDING YOUR BIKE. ALWAYS KEEP THE CHINSTRAP SECURELY BUCKLED. FAILURE TO WEAR A BICYCLE HELMET MAY RESULT IN SERIOUS INJURY OR DEATH.*

3.2.2 Reflectors

Reflectors are important safety devices, which are designed as an integral part of your bicycle.

Provincial regulations require every bicycle to be equipped with front, rear, wheel and pedal reflectors. The size, performance and location of each reflector is specified by the US Consumer Product Safety Commission (CPSC). The reflectors are designed to pick up and reflect streetlights and car lights in a way that helps you to be seen and recognized as a moving cyclist.

CAUTION: *CHECK REFLECTORS AND THEIR MOUNTING BRACKETS REGULARLY TO MAKE SURE THAT THEY ARE CLEAN, STRAIGHT, UNBROKEN AND SECURELY MOUNTED. HAVE YOUR DEALER REPLACE DAMAGED REFLECTORS AND STRAIGHTEN OR TIGHTEN ANY THAT ARE BENT OR LOOSE.*

!WARNING: *DO NOT REMOVE THE FRONT OR REAR REFLECTOR BRACKETS FROM YOUR BICYCLE. ON SOME BIKES, THEY ARE AN INTEGRAL SAFETY DEVICE WHICH PROTECTS YOU FROM THE BRAKE STRADDLE CABLE CATCHING ON THE TIRE IN THE EVENT OF BRAKE CABLE FAILURE. IF A BRAKE STRADDLE CABLE CATCHES ON THE TIRE, IT CAN CAUSE THE WHEEL TO STOP SUDDENLY, CAUSING YOU TO LOSE CONTROL AND FALL.*

!WARNING: *DO NOT REMOVE THE REFLECTORS FROM YOUR BICYCLE. THEY ARE AN INTEGRAL PART OF THE BICYCLE'S SAFETY SYSTEM. REMOVING THE REFLECTORS MAY REDUCE YOUR VISIBILITY TO OTHERS USING THE ROADWAY. BEING STRUCK BY OTHER VEHICLES MAY RESULT IN SERIOUS INJURY OR DEATH. REMEMBER: REFLECTORS ARE NOT A SUBSTITUTE FOR LIGHTS. ALWAYS EQUIP YOUR BICYCLE WITH ALL PROVINCIALLY AND LOCALLY MANDATED LIGHTS.*

3.2.3 Lights

We strongly recommend that children do not ride after dusk or before full daylight. If you must ride your bike after dusk or before full daylight, your bicycle must be equipped with lights so that you can see the road and avoid road hazards, and so that others can see you. Vehicle laws treat bicycles like any other vehicle. That means you must have a white front and a red rear light operating if you are riding after dusk or before full daylight. Your bike dealer can recommend a battery or generator-powered lighting system appropriate to your needs.

!WARNING: *REFLECTORS ARE NOT A SUBSTITUTE FOR PROPER LIGHTS. IT IS YOUR RESPONSIBILITY TO EQUIP YOUR BICYCLE WITH ALL LEGALLY REQUIRED LIGHTS. RIDING AT DAWN, AT DUSK, AT NIGHT OR AT OTHER TIMES OF POOR VISIBILITY WITHOUT A BICYCLE LIGHTING SYSTEM WHICH MEETS LOCAL AND PROVINCIAL LAWS AND WITHOUT REFLECTORS IS DANGEROUS AND MAY RESULT IN SERIOUS INJURY OR DEATH.*

3.2.4 Pedals

Some higher performance model bicycles come equipped with pedals that have sharp and potentially dangerous surfaces. These surfaces are designed to add safety by increasing adhesion between the rider's shoe and the bicycle pedal. If your bicycle has this type of high-performance pedal, you must take extra care to avoid serious injury from the pedals' sharp surfaces.

Based on your riding style or skill level, you may prefer a less aggressive pedal design. Your dealer can show you a number of options and make suitable recommendations.

3.3 MECHANICAL SAFETY CHECK

Here is a simple, sixty-second mechanical safety check, which you should get into the habit of doing every time you're about to get on a bike.

3.3.1 Nuts, Bolts and Straps

Lift the front wheel off the ground by two or three inches, then let it bounce on the ground.

Does anything sound, feel or look lose ? Do a quick visual and hands-on inspection of the whole bike. Are there any loose parts or accessories? If so, secure them. If you're not sure, ask someone with experience to check.

3.3.2 Tires and Wheels
Are the tires correctly inflated? The manufacturer's recommended pressure appears on all tires' side wall. You should always follow these recommendations and keep your tires always well inflated.

Are the tires in good shape? Spin each wheel slowly and look for cuts in the tread and sidewall. Replace damaged tires before riding the bike.

Are the wheels true? Spin each wheel and check for brake clearance and side-to-side wobble. If a wheel wobbles from side to side or hits the brake pads, take the bike to your dealer.

CAUTION: *WHEELS MUST BE TRUE FOR BRAKES TO WORK EFFECTIVELY. WHEEL TRUING IS A SKILL WHICH REQUIRES SPECIAL TOOLS AND EXPERIENCE. DO NOT ATTEMPT TO TRUE A WHEEL UNLESS YOU HAVE THE KNOWLEDGE, EXPERIENCE AND TOOLS NEEDED TO DO THE JOB CORRECTLY.*

3.3.3 Brakes
If your bicycle has hand-operated brakes, squeeze the brake levers. Are the brake shoes contacting the wheel rim within an inch of brake lever movement? Can you apply full braking force at the levers without having them touch the handlebar? If not, your brakes need adjustment. Do not ride the bike until the brakes are properly adjusted. If your bicycle has a coaster brake, check to make sure that the coaster brake arm is securely clamped to the bicycle frame. If the arm or its mounting bracket is loose, do not ride the bike until the brake arm is properly secured.

!WARNING: *RIDING WITH IMPROPERLY ADJUSTED AND SECURED BRAKES OR WORN BRAKE SHOES IS DANGEROUS AND CAN RESULT IN SERIOUS INJURY OR DEATH.*

3.3.4 Wheel Nuts
Are the front and rear wheels straight and secure in the dropouts? Are the wheel nuts properly tightened?

!WARNING: *RIDING WITH AN IMPROPERLY INSTALLED OR INSUFFICIENTLY TIGHTENED WHEEL CAN CAUSE THE WHEEL TO WOBBLE OR DISENGAGE FROM THE BICYCLE, WHICH CAN CAUSE DAMAGE TO THE BICYCLE AND SERIOUS INJURY OR DEATH.*

3.3.5 Handlebar and Saddle Alignment
From a top view, are the saddle and handlebar stem correctly parallel to the bike's top tube and tight enough so that you can't twist them out of alignment? If not, readjust them.

3.3.6 Handlebar Ends
Are the handlebar grips secure and in good condition? If not, replace them. Are the handlebar ends plugged still in? If not, place some in before your ride.

!WARNING: *LOOSE OR DAMAGED HANDLEBAR GRIPS CAN CAUSE YOU TO LOSE CONTROL AND FALL. UNPLUGGED HANDLEBARS CAN CAUSE SERIOUS CUTS, AND CAN CAUSE INJURY IN AN OTHERWISE MINOR ACCIDENT.*

4. RIDING SAFETY AND RESPONSIBILITY

4.1 THE BASICS

1. Always do a mechanical safety check before you get on a bike.

2. Be thoroughly familiar with the controls of your bicycle.

3. Be careful to keep body parts and other objects away from the sharp teeth of chain rings, the moving chain, the turning pedals and cranks, and the spinning wheels of your bicycle.

4. Always wear a cycling helmet which meets the latest CPSC or other approved standard.

5. Always wear shoes that will stay on your feet and will grip the pedals. Never ride barefoot or wearing sandals.

6. Wear bright, visible clothing that is not so loose that it can catch on moving parts of the bicycle or be snagged by objects on the side of the road or trail.

7. Don't jump with your bike. Jumping a bike puts an incredible stress on everything from your spokes to your pedals. Perhaps most vulnerable to jumping-related damage is your front fork. Riders who insist on jumping their bikes risk serious damage to their bicycles as well as injuries.

4.2 ROAD RULES

1. Learn the local bicycle laws and regulations. Many communities have special regulations about licensing of bicycles, riding on sidewalks, laws regulating bike path and trail use, and so on. Many provinces have helmet laws, child carrier laws and special bicycle traffic laws. In Canada and in most other countries, a bicyclist is required to obey the same traffic laws as the driver of a car or motorcycle. It's your responsibility to know and obey the laws.

2. You are sharing the road or the path with others – motorists, pedestrians and other cyclists. Respect their rights, and be tolerant.

3. Ride defensively. Assume that the people with whom you are sharing the road are so absorbed with what they are doing and where they are going that they are oblivious to you.

4. Look ahead of where you're going, and be ready to avoid:
   - Vehicles slowing down or turning in front of you, entering the road or your lane ahead of you, or coming up behind you.
   - Parked car doors opening in front of you.
   - Pedestrians stepping out in front of you.
   - Children playing near the road.
   - Potholes, sewer gratings, railroad tracks, expansion joints, road or sidewalk construction, debris and other obstructions that could cause you to swerve into traffic, catch your wheel or otherwise cause you to lose control and have an accident.

- There are many other hazards and distractions which can occur on a bicycle ride.

5. Ride in designated bike lanes, on designated bike paths in the same direction as car traffic and as close to the edge of the road as possible.

6. 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.

7. Use hand signals for turning and stopping. Learn the local vehicle code for the correct signals.

8. 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.

9. Never carry a passenger.

10. Never carry anything that obstructs your vision or your complete control of the bicycle, or that could become entangled in the moving parts of the bicycle.

11. Never hitch a ride by holding on to another vehicle.

12. Don't do stunts, wheelies or jumps. They can cause you injury and damage your bike.

13. Don't weave through traffic or make any moves that may surprise people with whom you are sharing the road.

14. Observe and yield the right of way.

15. Never ride your bicycle while under the influence of alcohol or drugs.

16. If possible, avoid riding in bad weather, when visibility is obscured, at dawn, dusk or in the dark, or when you are extremely tired. Each of these conditions increases the risk of accident.

4.3 OFF-ROAD CYCLING RECOMMENDATIONS

1. **We recommend that children not ride off-road without being accompanied by an adult. In any event, never ride alone in remote areas.** Even when riding with others, make sure that someone knows where you're going and when you expect to be back. Always take along some kind of identification, so that people know who you are in case of an accident.

2. Surface hazards make off-road riding much more difficult and therefore more dangerous than riding on paved roads. Start slowly and build up your skills on easier terrain before tackling the more difficult.

3. Learn and obey the local laws regulating where and how you can ride off-road, and respect private property. Don't ride where you are not welcome or where you are not allowed.

4. You are sharing the trail with others – hikers, equestrians, and other cyclists. Respect their rights, and be tolerant.

5. Yield the right of way to pedestrians and animals. Ride in a way that does not frighten or endanger them, and stay far enough away so that their unexpected moves don't endanger you.

6. It is your responsibility to minimize your impact on the environment. Ride accordingly. Leave things as you found them, and always take out everything you brought in.

7. If your bicycle sustains an impact:
   - First check yourself for injuries.
   - Next, check your bike for damage, and fix what you can.
   - Then, when you get home, carefully perform the safety check on your bike and check for any other damaged parts. All bent, scored or discolored parts are suspect and should be replaced.

!WARNING: *A CRASH CAN PUT EXTRAORDINARY STRESS ON BICYCLE COMPONENTS, CAUSING THEM TO FATIGUE PREMATURELY. COMPONENTS SUFFERING FROM STRESS FATIGUE CAN FAIL SUDDENLY AND CATASTROPHICALLY, CAUSING LOSS OF CONTROL, SERIOUS INJURY OR DEATH.*

CAUTION: *IF YOU HAVE ANY DOUBT ABOUT THE CONDITION OF THE BICYCLE OR ANY OF ITS PARTS, TAKE IT TO YOUR DEALER FOR THOROUGH CHECK.*

4.4 WET WEATHER RIDING

!WARNING: *WET WEATHER IMPAIRS TRACTION, BRAKING AND VISIBILITY, BOTH FOR THE CYCLIST AND FOR OTHER VEHICLES SHARING THE ROAD. THE RISK OF AN ACCIDENT IS DRAMATICALLY INCREASED IN WET CONDITIONS.*

Under wet conditions, the stopping power of your brakes (as well as the brakes of other vehicles sharing the road) is dramatically reduced and your tires don't grip nearly as well. This makes it harder to control speed and easier to lose control. To make sure that you can slow down and stop safely in wet conditions, ride more slowly and apply your brakes earlier and more gradually than you would under normal, dry conditions.

5. HOW THINGS WORK

It's important to your performance, enjoyment and safety to understand how things work on your bicycle. Even if you're an experienced cyclist, don't assume that the way things work on your new bike is the same as how they work on older bikes. It is your responsibility to read – and to understand – this section of the manual. If you have even the slightest doubt as to whether you understand something, talk to your dealer.

5.1 BRAKES

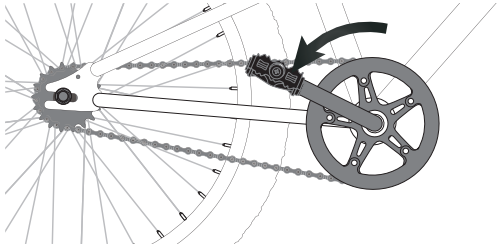
Your bicycle is equipped with either a coaster brake (described in paragraph 5.1.1 below) or with hand brakes (described in paragraph 5.1.2 below).

BE SURE THAT YOU UNDERSTAND HOW YOUR BICYCLE'S BRAKES WORK BEFORE YOU TAKE YOUR FIRST RIDE BY READING AND UNDERSTANDING PARAGRAPH 5.1.1 OR 5.1.2 BELOW.

5.1.1 Coaster Brake

a. How Coaster Brake Works

The coaster brake is a sealed mechanism which is part of the bicycle's rear wheel hub. The brake is activated by reversing the rotation of the pedal cranks **(see Fig. 3a).** Start with the pedal cranks in a nearly horizontal position, with the front pedal in about the 4-o'clock position, and apply downward foot pressure on the pedal that is to the rear. The more downward pressure you apply, the more braking force, up to the point where the rear wheel stops rotating and begins to skid.



Using the coaster brake:
Apply pressure to slow down or stop.
Fig. 3a

CAUTION: *BEFORE RIDING, MAKE SURE THAT THE BRAKE IS WORKING PROPERLY. IF IT IS NOT WORKING PROPERLY, HAVE THE BICYCLE CHECKED BY YOUR DEALER BEFORE YOU RIDE IT.*

b. Adjusting Your Coaster Brake

Coaster brake service and adjustment requires special tools and special knowledge. Do not attempt to disassemble or service your coaster brake. Take the bicycle to your dealer for coaster brake service.

5.1.2 Hand Brakes

a. How Hand Brakes Work

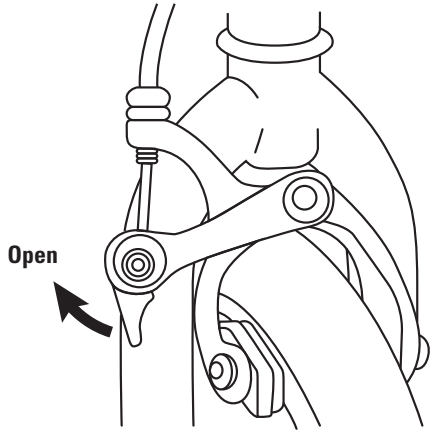
A bicycle with hand brakes may have one hand lever which operates a rear brake, or two hand levers, one that operates the front brake and the other, the rear brake. It is important for your safety that you instinctively know which brake lever controls which brake on your bike. In Canada, bikes are required to be set up with the right brake lever controlling the rear brake, and the left lever controlling the front brake.

!WARNING: *SUDDEN OR EXCESSIVE APPLICATION OF THE FRONT BRAKE MAY PITCH THE RIDER OVER THE HANDLEBARS, WHICH MAY RESULT IN SERIOUS INJURY OR DEATH.*

The braking action of bicycle hand brakes is a function of the friction between the brake shoes and the wheel rim. To make sure that you have maximum friction available, keep your wheel rims and brake shoes clean and free of lubricants, waxes or polishes.

Make sure that your hands can reach and squeeze the brake levers comfortably. If your hands are too small to operate the levers comfortably, consult your dealer before riding the bike. The lever reach may be adjustable, or you may need a different brake lever design.

Some hand brakes have a quick release mechanism to allow the brake shoes to clear the tire when a wheel is removed or reinstalled **(see Fig. 3b).** When the brake quick release is in the open position, the brakes are inoperative. Ask your dealer whether you have a quick release on your brakes; if you do, make sure that you understand how the brake quick release works, and check each time to make sure both brakes work correctly before you get on the bike.

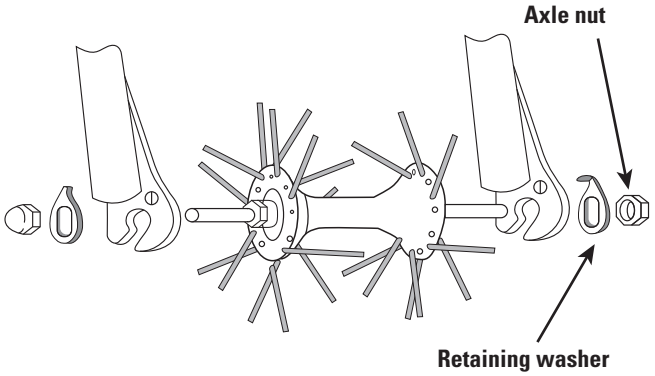


Brake quick release
Fig. 3b

5.2.1 Front Wheel

a. Front Wheel Secondary Retention Devices

The front fork of your bicycle utilizes a secondary wheel retention device to keep the wheel from disengaging if the wheel nuts are insufficiently tightened **(see Fig. 3c).**



Front wheel assembly
Fig. 3c

!WARNING: *SECONDARY RETENTION DEVICES ARE NOT A SUBSTITUTE FOR CORRECT WHEEL INSTALLATION. FAILURE TO PROPERLY TIGHTEN THE WHEEL NUTS CAN CAUSE THE WHEEL TO WOBBLE OR DISENGAGE, WHICH COULD CAUSE YOU TO LOSE CONTROL AND FALL. SUCH A FALL COULD RESULT IN SERIOUS INJURY OR DEATH.*

!WARNING: *REMOVING OR DISABLING THE SECONDARY RETENTION DEVICE IS EXTREMELY DANGEROUS AND MAY LEAD TO SERIOUS INJURY OR DEATH. IT MAY ALSO VOID THE WARRANTY. PLEASE ENSURE THAT THESE DEVICES ARE CORRECTLY INSTALLED AND MAINTAINED.*

b. Removing a Bolt-On Front Wheel

1. If your bicycle has a front wheel brake:
   - with quick release, open up the brake shoes.
   - with a “v” brake type, remove the 90 deg. elbow from its support.
   - with a lateral pull brake, unscrew the wire out of its bolt.

2. With a correctly sized box wrench or a six-inch adjustable wrench, loosen the two axle nuts.

3. Raise the front wheel a few inches off the ground and tap the top of the wheel with the palm of your hand to knock the wheel out of the fork ends.

c. Installing a Bolt-On Front Wheel

1. Do the 3 steps above backwards.

5.2.2 Rear Wheel

a. Removing a Bolt-On Rear Wheel with Hand Brake

1. If your bicycle has a rear wheel brake:
   - with quick release, open up the brake shoes.
   - with a "v" brake type, remove the 90 deg. elbow from its support.
   - with a lateral pull brake, unscrew the wire out of its bolt.

2. With a correctly sized box wrench or a six-inch adjustable wrench, loosen the two axle nuts.

3. Push the wheel forward to slacken the chain, and remove the chain from the chain ring and wheel sprocket.

b. Installing a Bolt-On Rear Wheel

1. Do the 3 steps above backwards.

c. Removing a Bolt-On Rear Wheel with Coaster Brake (see Fig. 3d)

1. If your bicycle has a rear wheel brake:
   - with quick release, open up the brake shoes.
   - with a "v" brake type, remove the 90 deg. elbow from its support.
   - with a lateral pull brake, unscrew the wire out of its bolt.

2. With a correctly sized box wrench or a six-inch adjustable wrench, loosen the two axle nuts.

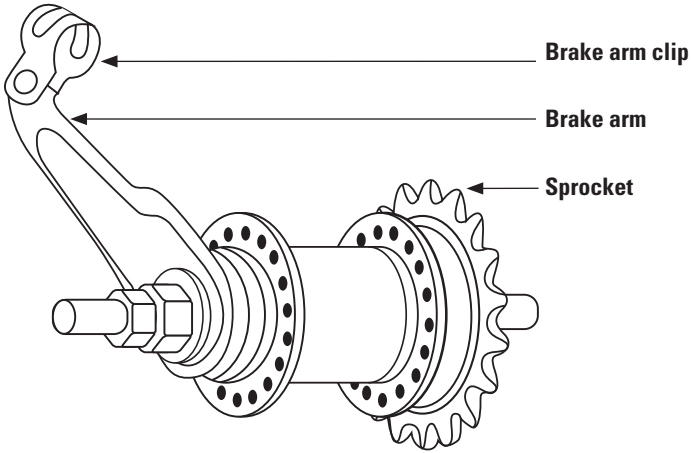
3. Push the wheel forward to slacken the chain and remove the chain from the chain ring and wheel sprocket.

4. Pull the wheel out of the frame.

d. Installing a Bolt-On Rear Wheel with Coaster Brake

1. Do the 4 steps above backwards.

IMPORTANT: *IF YOUR BIKE IS EQUIPPED WITH QUICK RELEASE AXLES ON EITHER THE FRONT OR REAR, PLEASE READ P.17 CAREFULLY.*



Rear coaster brake assembly
Fig. 3d

5.2.3 Quick Release Adjustment (see Fig.3e)

1. To set, turn the lever to the open position so that the curved part faces away from the bicycle.

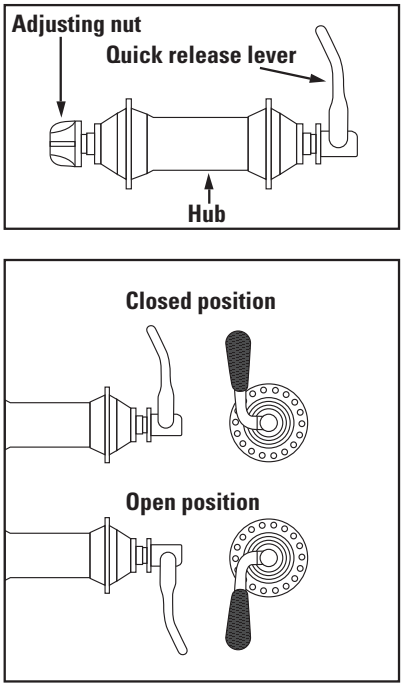
2. While holding the lever with one hand, tighten the adjusting nut until it stops.

3. Pivot the lever towards the closed position. When the lever is halfway closed, there must be firm resistance to turning it beyond that point. If the resistance is not firm, open the lever and tighten the adjusting nut a little more in the clockwise direction.

4. Continue to pivot the lever all the way to the closed position so that the curved part of the lever faces the bicycle.

5. The wheel is tightly secured when the serrated surfaces of the quick-release clamping parts actually begin to cut into the bicycle frame/fork surfaces.

!WARNING: *CORRECT ADJUSTMENT OF THE QUICK RELEASE IS VITALLY IMPORTANT TO AVOID AN ACCIDENT CAUSED BY LOOSE WHEELS.*



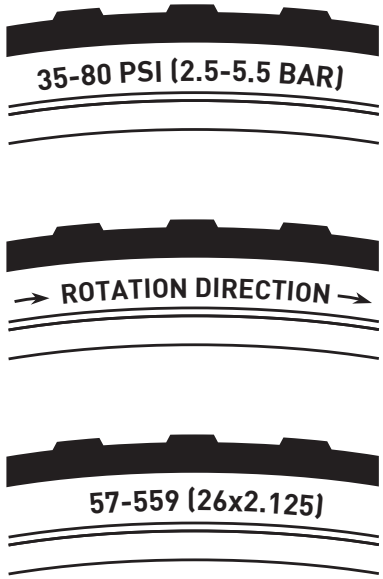
Correct quick release axle setting
Fig. 3e

5.3 TIRES AND TUBES

Bicycle tires are available in many designs and specifications, ranging from general-purpose designs to tires designed to perform best under very specific weather or terrain conditions. Your bicycle has been equipped with tires which the bike's manufacturer felt were the best balance of performance for the value, for the use for which the bike was intended. If, once you've gained experience with your new bike, you feel that a different tire might better suit your riding needs, your dealer can help you select the most appropriate design.

The size, pressure rating, and on some high-performance tires, the recommended use are marked on the sidewall of the tire **(see Fig. 3f).** The part of this information which is most important to you is **tire pressure**.

!WARNING: *NEVER INFLATE A TIRE BEYOND THE MAXIMUM PRESSURE MARKED ON THE TIRE'S SIDEWALL. EXCEEDING THE MAXIMUM RECOMMENDED PRESSURE MAY BLOW THE TIRE OFF THE RIM, WHICH COULD CAUSE DAMAGE TO THE BIKE AND INJURY TO THE RIDER AND BYSTANDERS.*



Tire markings
Fig. 3f

a. Tire Pressure
The best way to inflate a bicycle tire to the correct pressure is with a bicycle pump. Your dealer can help you select an appropriate pump.

CAUTION: *GAS STATION AIR HOSES MOVE A LARGE VOLUME OF AIR VERY RAPIDLY, AND WILL RAISE THE PRESSURE IN YOUR TIRE VERY RAPIDLY. TO AVOID OVER-INFLATION WHEN USING A GAS STATION AIR HOSE, PUT AIR INTO YOUR TIRE IN SHORT, SPACED BURSTS.*

Tire pressure is given as either maximum pressure or as a pressure range. How a tire performs under different terrain or weather conditions depends largely on tire pressure.

Inflating the tire to near its maximum recommended pressure provides the lowest rolling resistance, but also produces the harshest ride. High pressures work best on smooth, dry pavement.

Very low pressures, at the bottom of the recommended pressure range, give the best performance on smooth, slick terrain such as hard-packed clay, and on deep, loose surfaces such as deep, dry sand.

Tire pressure that is too low for your weight and the riding conditions can cause a puncture of the tube by allowing the tire to deform sufficiently to pinch the inner tube between the rim and the riding surface.

!WARNING: *RIDING YOUR BICYCLE WITH A FLAT OR UNDER-INFLATED TIRE CAN SERIOUSLY DAMAGE THE TIRE, TUBE AND BICYCLE, AND COULD CAUSE YOU TO LOSE CONTROL AND FALL.*

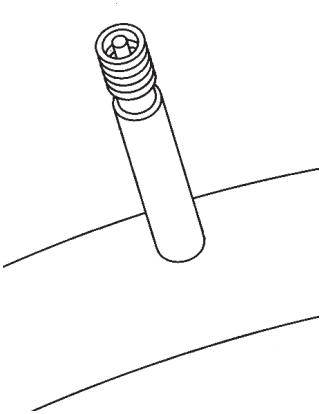
Ask your dealer to recommend the best tire pressure for the kind of riding you will most often do, and have the dealer inflate your tires to that pressure. Then check the pressure before each ride. Some tires may need to be brought up to pressure regularly.

Some special high-performance tires have unidirectional treads: their tread pattern is designed to work better in one direction than in the other. The sidewall marking of an unidirectional tire will have an arrow showing the correct rotation direction. If your bike has unidirectional tires, be sure that they are mounted to rotate in the correct direction.

b. Tire Valves
The tire valve allows air to enter the tire's inner tube under pressure, but doesn't let it back out unless wanted.

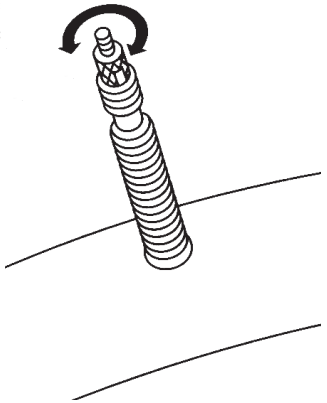
The most common bicycle tube valves are the Schraeder valve and the Presta valve. The bicycle pump you use must have the fitting that correspond to the valve stems on your bicycle.

The Schraeder valve (see Fig. 3g) is like the valve on a car tire. To inflate a Schraeder valve tube, just remove the valve cap and push the air hose or pump fitting onto the end of the valve stem. To let air out of a Schraeder valve, depress the pin in the end of the valve stem with the end of a key or other appropriate object.



Valve Schraeder
Fig. 3g

The Presta valve (see fig. 3h) has a narrower diameter valve stem and is only found on bicycle tires. To inflate a Presta valve tube using a Presta-headed bicycle pump, remove the valve cap, unscrew (counterclockwise) the valve stem lock nut, and push down on the valve stem to free it. Then push the pump head onto the valve head and inflate. To inflate a Presta valve with a gas station air hose, you'll need a Presta adapter (available at your bike shop) which screws onto the valve stem once you've freed up the valve. The adapter fits on the end of the air hose fitting. To let air out of a Presta valve, open the valve stem lock nut and depress the valve stem. Always close the valve stem lock after inflation.



Valve Presta
Fig. 3h

5.4 SUSPENSION

Some bicycles come equipped with suspension systems, which are designed to smooth out some of the shocks encountered when riding. There are many different types of suspension systems – too many to deal with individually in this manual. If your bicycle has a suspension system of any kind, ask your dealer to provide you with the appropriate adjustment and maintenance instructions.

!WARNING: *FAILURE TO MAINTAIN, CHECK, AND PROPERLY ADJUST THE SUSPENSION SYSTEM MAY RESULT IN SUSPENSION MALFUNCTION, WHICH COULD CAUSE YOU TO LOSE CONTROL AND FALL.*

CAUTION: *CHANGING THE SUSPENSION ADJUSTMENT CAN CHANGE THE HANDLING AND BRAKING CHARACTERISTICS OF YOUR BICYCLE. NEVER CHANGE THE SUSPENSION ADJUSTMENT UNLESS YOU ARE THOROUGHLY FAMILIAR WITH THE SUSPENSION MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS, AND ALWAYS CHECK FOR CHANGES IN THE HANDLING AND BRAKING CHARACTERISTICS OF THE BICYCLE AFTER A SUSPENSION ADJUSTMENT.*

CAUTION: *NOT ALL BICYCLES CAN BE SAFELY RETROFITTED WITH SOME TYPES OF SUSPENSION SYSTEMS. BEFORE RETROFITTING A BICYCLE WITH ANY SUSPENSION, CHECK WITH THE BICYCLE'S MANUFACTURER TO MAKE SURE THAT THE CHANGE YOU WANT TO MAKE IS COMPATIBLE WITH THE BICYCLE'S DESIGN.*

!WARNING: *IF YOUR BIKE HAS A SUSPENSION, THE INCREASED SPEED YOU MAY DEVELOP ALSO INCREASES YOUR RISK. WHEN BRAKING, THE FRONT DIPS AND THE REAR SHOCK IS CRUNCHED. YOU COULD LOSE CONTROL AND FALL IF YOUR SKILL IS NOT UP TO HANDLING THIS SYSTEM. GET TO KNOW HOW TO HANDLE YOUR SUSPENSION SYSTEM SAFELY BEFORE TRYING ANY DOWNHILL OR VERY FAST RIDING.*

For more specific suspension and shock setup information, refer to your local dealer.

6. SERVICE AND MAINTENANCE

NOTE: *TECHNOLOGICAL ADVANCES HAVE MADE BICYCLES AND BICYCLE COMPONENTS MORE COMPLEX THAN EVER BEFORE, AND THE PACE OF INNOVATION IS INCREASING. THIS ONGOING EVOLUTION MAKES IT IMPOSSIBLE FOR THIS MANUAL TO PROVIDE ALL THE INFORMATION REQUIRED TO PROPERLY REPAIR AND/OR MAINTAIN YOUR BICYCLE. TO HELP MINIMIZE THE CHANCES OF AN ACCIDENT AND POSSIBLE INJURY, IT IS CRITICAL THAT ANY REPAIR OR MAINTENANCE NOT SPECIFICALLY DESCRIBED IN THIS MANUAL BE PERFORMED BY YOUR DEALER.*

Equally important is that your individual maintenance requirements will be determined by everything from your riding style to your geographic location. Consult your dealer for help in determining your maintenance requirements.

How much of your bike's service and maintenance you can do yourself depends on your level of skill and experience, and on whether you have the special tools required.

!WARNING: *MANY BICYCLE SERVICE AND REPAIR TASKS REQUIRE SPECIAL TRAINING, SKILL, KNOWLEDGE AND TOOLS. DO NOT BEGIN ANY ADJUSTMENTS OR SERVICE ON YOUR BICYCLE UNLESS YOU KNOW THAT YOU CAN PROPERLY COMPLETE THEM. IMPROPER ADJUSTMENT OR SERVICE MAY RESULT IN DAMAGE TO THE BICYCLE OR IN AN ACCIDENT, WHICH CAN CAUSE SERIOUS INJURY OR DEATH.*

Correct routine maintenance of your bike will ensure:

- smooth running
- longer-lasting components
- safer riding
- lower running costs.

Every time you ride your bicycle, its condition changes. The more you ride, the more frequent maintenance will be required. Ask your dealer for the frequency you should have maintenance performed on your bike.

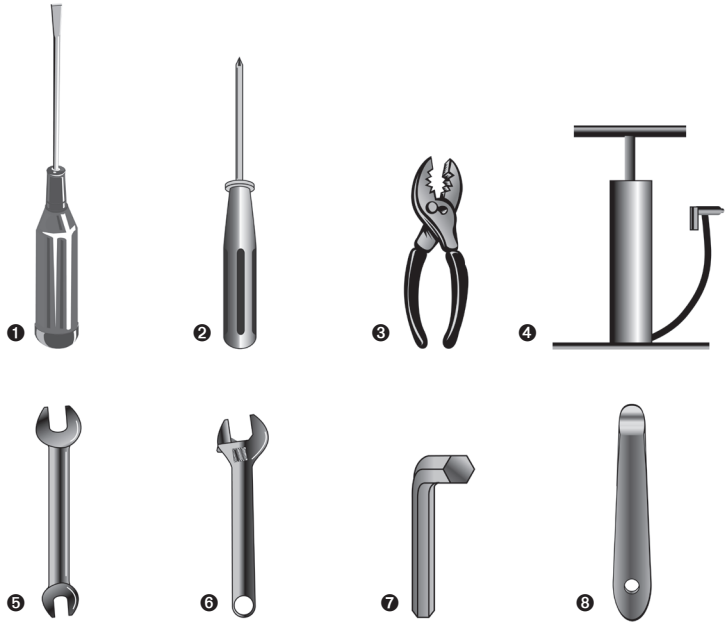
NOTE: *THE FREQUENCY OF MAINTENANCE SHOULD INCREASE WITH LOTS OF USAGE, AND USAGE IN WET OR DUSTY CONDITIONS.*
DO NOT OVER-LUBRICATE – REMOVE EXCESS LUBRICANT TO PREVENT DIRT BUILD-UP.

6.1 SERVICE CHECKLIST

FREQUENCY	TASK
BEFORE EVERY RIDE	Check tire pressure Check brake operation Check the truing of the wheels Check that all bolts, nuts and quick release are tight
AFTER EVERY RIDE	Quick wipe down with damp cloth
MONTHLY	Check derailleur adjustment Check brake adjustment Check tire wear Check that spokes and hubs are tight Check the bar stems, headset and crank bearings for looseness Check that pedals are tight Check that handlebars are tight Check that seat and seat post are tight and comfortably adjusted Check and replace brake pads, if required
EVERY SIX MONTHS	Check all points as per monthly service Check chain for excess play or wear
YEARLY	Complete disassembling, cleaning, greasing, replacing some parts if necessary

6.2 TOOLS REQUIRED

1. Standard flat head screwdriver
2. Standard Phillips head screwdriver
3. Standard slip joint pliers
4. Tire pump
5. Open-end or ring wrenches:
   8 mm, 9 mm, 10 mm, 12 mm, 13 mm,
   14 mm, 15 mm
6. Adjustable wrench
7. Allen wrenches:
   4 mm, 5 mm, 6 mm, 8 mm
8. Tire levers



Tools required
Fig. 4a

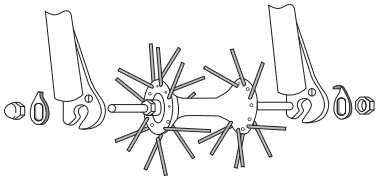
SECTION II: ASSEMBLY

7. ASSEMBLY

NOTE: *THE DIRECTIONS LEFT, RIGHT, FRONT, REAR, ETC., ARE USED IN THIS MANUAL AS SEEN BY A RIDER WHILE SEATED ON THE BIKE.*

7.1 FRONT WHEEL (WITHOUT A QUICK RELEASE LEVER)

1. Remove the plastic protectors (not shown) from the wheel axles. They are for shipping purposes only.
2. Install the front wheel in the fork.
3. On bikes with caliper brakes, remove a brake pad if needed to install the wheel. Re-install the brake cable (or brake pad) immediately (see brake adjustment section).
4. Put a washer retainer onto each end of the axle. Hook the retainers into the holes in the fork.
5. Loosely thread a flange nut onto each end of the axle. While keeping the wheel centered in the fork, securely tighten each flange nut, alternating from one nut to the other.

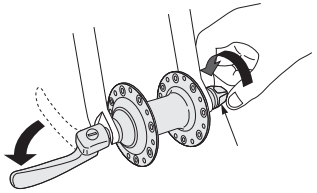


Front wheel assembly without a quick release lever Fig. 5a

6. Spin the wheel to make sure it doesn't wobble. Realign the wheel if necessary, then securely retighten the flange nuts.

7.2 FRONT WHEEL (WITH A QUICK RELEASE LEVER)

1. Remove the plastic protectors (not shown) from the wheel axles. They are for shipping purpose only.
2. Remove the brake cable and open up the brake shoe.
3. Install the front wheels in the fork.
4. Keep the wheel centered in the fork and securely tighten the nut until the quick release is very tight and well against the fork blade.
5. Reinstall the brake cable immediately (see brake adjustment section).



Front wheel assembly with a quick release lever Fig. 5b

6. Spin the wheel to make sure it doesn't wobble. Realign the wheel if necessary, then securely retighten the quick release.

7.3 HANDLEBARS AND HANDLEBAR STEMS

a. Stem with quill design installation procedure

1. Remove the protective plastic cap from the bottom of the handlebar stem and losen the stem bolt using a 6-mm Allen wrench (some stems will use a 13-mm bolt instead of an Allen bolt).

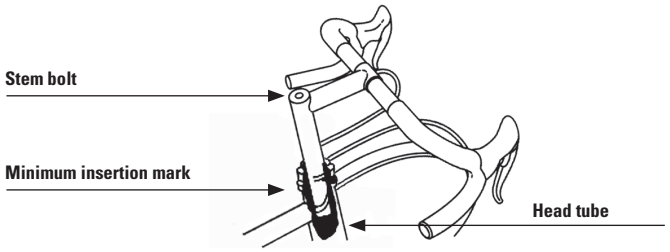
2. Insert the handlebar stem into the head tube **(see Fig 5c).** Make sure that the stem is inserted far enough in so that the minimum insertion line stamped on the stem disappears inside the head tube. Check to make sure that the cables are not tangled. Check to see that the fork and the handlebar are facing straight forward and aligned with the front wheel. Tighten the stem bolt.

3. Put the handlebars in a comfortable position. Tighten all handlebar clamp bolts equally using a 6-mm Allen wrench.

!WARNING: *IF THE HANDLEBAR CLAMP IS NOT TIGHT ENOUGH, THE HANDLEBAR CAN SLIP IN THE STEM. THIS CAN CAUSE LOSS OF CONTROL.*

4. Test the tightness of the handlebar clamp by holding the bicycle stationary and trying to move the handlebar forward and backward. If the handlebar moves, be sure to retighten the bolts without overtightening it.

!WARNING: *OVERTIGHTENING THE BOLTS OF THE HANDLEBAR STEM MAY DAMAGE THE STEM AND THE HANDLEBAR, WHICH CAN CAUSE YOU TO LOSE CONTROL AND FALL. SUCH A FALL COULD RESULT IN SERIOUS INJURY OR DEATH.*



Handlebar
Fig. 5c

b. Steel, alloy or carbon threadless (clamp on type) design installation procedure:

1. Remove the cap bolt and stem cap from the top of the fork stem **(see Fig. 5d).** If it's an alloy fork stem, you will see the star-flanged nut inside. If it's a carbon fork stem, make sure the carbon steerer expander is well fixed inside the fork stem.

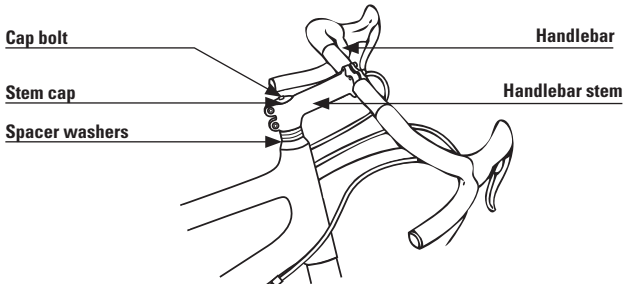
2. Take the handlebar stem, loosen the stem bolt using an Allen wrench (4, 5 or 6 mm depending on the model).

3. You can put a certain number of spacer washers at the bottom or at the top of the fork stem depending on the desired handlebar height. Insert the handlebar stem into the fork stem. Check to make sure that the cables are not tangled. Check to see that the fork and the handlebar are facing straight forward and are aligned with the front wheel. Tighten the stem bolt very carefully.

!WARNING: *IF YOUR BIKE HAS A CARBON HANDLEBAR STEM, YOU MUST FOLLOW THE HANDLEBAR STEM MANUFACTURER TORQUE SPECIFICATIONS FOR ALL BOLTS ON THE HANDLEBAR STEM. OVERTIGHTENING THE BOLTS OF A CARBON HANDLEBAR STEM MAY DAMAGE THE HANDLEBAR STEM, THE HANDLEBAR AND THE FORK STEM, WHICH COULD CAUSE YOU TO LOSE CONTROL AND FALL. SUCH A FALL COULD RESULT IN SERIOUS INJURY OR DEATH.*

4. Put the handlebar in a comfortable position. Tighten all handlebar clamp bolts equally using an Allen wrench (4, 5 or 6 mm depending on the model).

!WARNING: *IF THE HANDLEBAR CLAMP IS NOT TIGHT ENOUGH, THE HANDLEBAR CAN SLIP IN THE STEM. THIS CAN CAUSE LOSS OF CONTROL. DON'T FORGET, YOU MUST FOLLOW THE HANDLEBAR STEM MANUFACTURER TORQUE SPECIFICATIONS FOR ALL HANDLEBAR STEM BOLTS. OVERTIGHTENING THE BOLTS OF A CARBON HANDLEBAR STEM MAY DAMAGE THE HANDLEBAR STEM, THE HANDLEBAR AND THE FORK STEM WHICH COULD CAUSE YOU TO LOSE CONTROL AND FALL. SUCH A FALL COULD RESULT IN SERIOUS INJURY OR DEATH.*



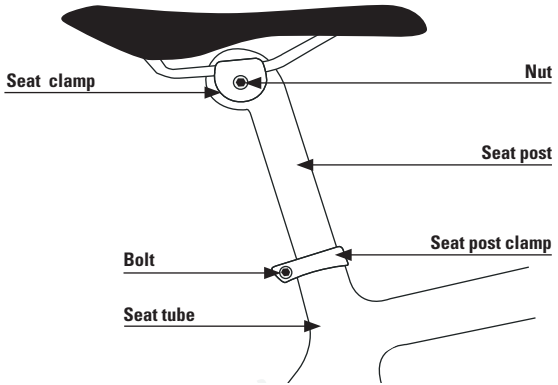
Handlebar stem
Fig. 5d

7.4. SEAT

1. Loosen the nut (or nuts) on the seat clamp **(see Fig. 5e).**

2. Insert the tapered end of the seat post up into the seat clamp until it is at the top of the clamp.

CAUTION: *MAKE SURE THAT THE SEAT POST IS ALL THE WAY THROUGH THE CLAMP, BUT DOESN'T HIT THE UNDERSIDE OF THE SEAT.*

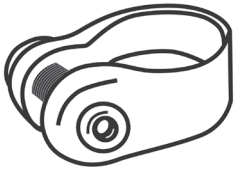


Seat
Fig. 5e

3. Partially tighten the nut (or nuts) on the seat clamp until the seat is snug, but can still be turned.

4. Put the seat post clamp onto the seat tube **(see Fig. 5f).** The lip on the clamp must fit completely against the top of the seat tube, the clamp opening must be centered with the slot in the seat tube.

5. Adjust the seat in the proper riding position, then securely tighten the seat post clamp and seat clamp bolts.



Seat post clamp
Fig. 5f

7.5 REFLECTORS

7.5.1 Front and Rear Reflectors

NOTICE: *IT IS IMPORTANT TO CHECK AND ADJUST THE POSITION OF THE REFLECTORS AS YOU ASSEMBLE YOUR BIKE. THE REFLECTORS MUST ALWAYS BE VERTICAL (PERPENDICULAR TO THE GROUND) AND POINTED TOWARD THE FRONT OR REAR OF THE BIKE. PLEASE MAKE SURE THAT THE ADJUSTMENT IS CORRECT AS A FINAL STEP OF THE ASSEMBLY OF YOUR BIKE.*

1. Put the seat post-mounted rear reflector in the correct position by loosening the screws of the rear reflector bracket.

2. Make sure that the rear reflector is vertical and points straight toward the rear of the bicycle.

3. Make sure there is a minimum clearance of 76.2 mm (3") between the top of the seat and the top of the red rear reflector.

7.5.2 Wheel Reflectors

NOTICE: *IF YOUR BIKE HAS ONE AMBER AND ONE RED WHEEL REFLECTOR, THE AMBER REFLECTOR MUST BE INSTALLED ON THE FRONT WHEEL AND THE RED ONE, ON THE REAR WHEEL.*

1. Position the reflector between the spokes on the side of the wheel opposite the valve stem. One spoke should fit into the slot under the bolt while two spokes are on the other side to keep it straight.

2. Slide the reflector toward the rim. The reflector should be about 76.2 mm (3") from the rim.

3. Tighten the bolt after making sure that it overlaps the spoke, then repeat with the other wheel.

7.6 PEDALS

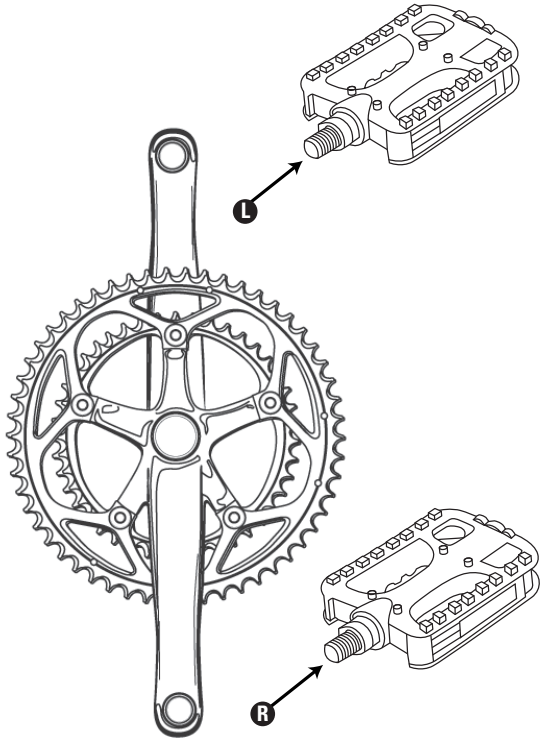
!WARNING: *FOR SAFE OPERATION, PEDALS MUST BE SECURELY TIGHTENED ON THE CRANK ARMS. ALWAYS REPLACE DAMAGED PEDALS, AND ALWAYS WEAR SHOES WHEN RIDING.*

NOTE: *TRY TO START EACH PEDAL BY HAND TO AVOID STRIPPING THE THREADS. USE A WRENCH IF NEEDED, BUT DO NOT FORCE THE THREADS.*

1. Look for the letter L (left) or R (right) stamped on the sides or ends of the pedal spindles **(see Fig. 5g).**

2. Thread the pedal marked R (right) by hand onto the crank arm on the right (sprocket side) of the bike. Turn the spindle in a clockwise direction. If the threads do not turn easily, back the spindle out and restart it. Securely tighten the spindle against the crank arm.

3. Thread the pedal marked L (left) onto the crank arm on the left side of the bike by hand. Turn the spindle in a counterclockwise direction. Securely tighten the spindle against the crank arm.



Pedals
Fig. 5g

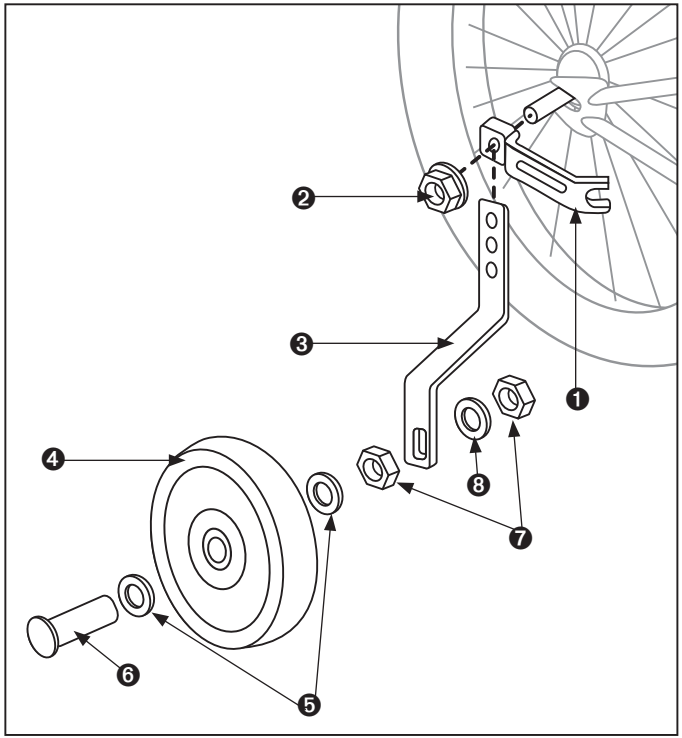
7.7 TRAINING WHEELS

1. Position a washer on the shoulder bolt. Insert the shoulder bolt through the wheel. Follow with another flat washer, then completely thread a nut on the shoulder bolt **(see Fig. 5h)**.

2. Insert the shoulder bolt through the wheel bracket. Set the star washer on the shoulder bolt. Lock it into place by screwing another nut onto the shoulder bolt.

3. Remove the nut and washer from the rear wheel axle. Align the stabilizer bracket onto the brace. Align the wheel bracket and stabilizer bracket on the wheel axle. Replace the axle nut and washer and secure tightly. The elongated hole on the brace is used for raising or lowering the training wheel to the proper height.

1. Stabilizer bracket
2. Axle nut
3. Wheel bracket
4. Training wheel
5. Washer
6. Shoulder bolt
7. Nut
8. Star washer



Training wheels
Fig. 5h

SECTION III: REPAIR AND MAINTENANCE

8. REPAIR AND MAINTENANCE

This section deals with the more technical aspects of bicycle functions, repairs and maintenance. Read carefully and make sure you understand the following pages.

There are many different types of brakes, almost as many as there are different types of bicycles, each of which requires a different set-up and maintenance. Some examples of brake styles are:

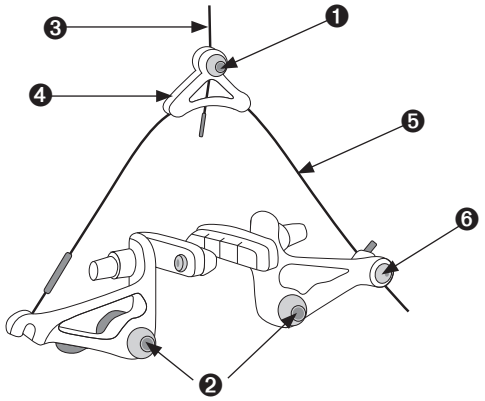
- Disc brakes
- Cantilever brakes
- V-brakes
- Coaster or pedal brakes
- Hydraulic brakes

The following pages deal with specific types of brakes and any special instructions regarding maintenance and proper care and set-up of these types. Please read carefully and understand these steps to ensure safe operation of your bicycle. If you have any questions, call your authorized bike dealer for more specific information and instructions.

9. TYPES OF BRAKES

9.1 CANTILEVER BRAKES – UTILIZING A STRADDLE CABLE **(see Fig.6a)**

1. Pinch bolt
2. Pivot
3. Brake cable
4. Straddle hanger
5. Straddle cable
6. Cable anchor



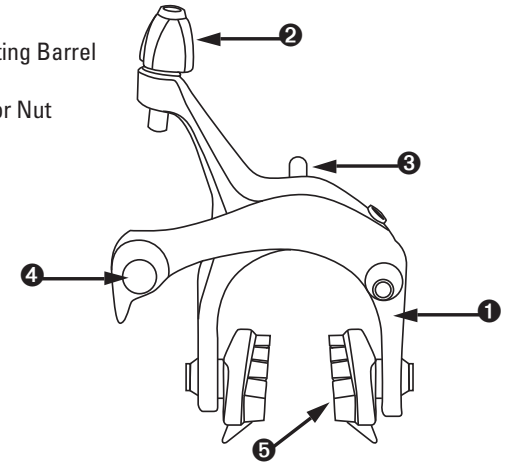
Straddle cable brake
Fig. 6a

The length of the straddle cable, the height of the straddle hanger, and the brake pad-to-caliper arm position all have an effect on braking power. Generally, the straddle cable bridge is set low and close to the tire for maximum braking force. The straddle cable should be high enough, however, to adequately clear the tire (and any debris that may stick to the tire) or to fit over the front reflector hanger. In the event of brake cable failure, the front reflector hanger would prevent the straddle cable from catching in the tire and locking up the front wheel. The straddle cable length (when adjustable) is set to transfer as much force to the brake pads as possible. For the most efficient transfer of force, the straddle cable and the line between the cantilever pivot and the cable anchor should form a right angle (90 degrees). If the force is not at a right angle, part of the force gets wasted in pulling on the brake post, which has no effect on braking.

9.2 SIDE PULL CALIPER BRAKE **(see Fig. 6b)**

Loosen the cable anchor nut and thread the brake cable through it. Squeeze the brake arms together against the rim of the wheel. Tighten the nut smoothly until the cable holds in place. Loosen the nuts on the brake shoes and turn until they match the angle of the rim. Retighten the nuts securely. Pull down on the end of the brake cable with pliers, hold tight and securely tighten the cable anchor nut. Spin the wheel. The brake shoes should not come into contact with the rim at any point and should be apart from the rim on both sides. Make sure that all nuts and bolts are securely tightened. Test the brake levers many times to take care of any initial cable stretch.

1. Brake Arm
2. Cable Adjusting Barrel
3. Centre Bolt
4. Cable Anchor Nut
5. Brake Shoe

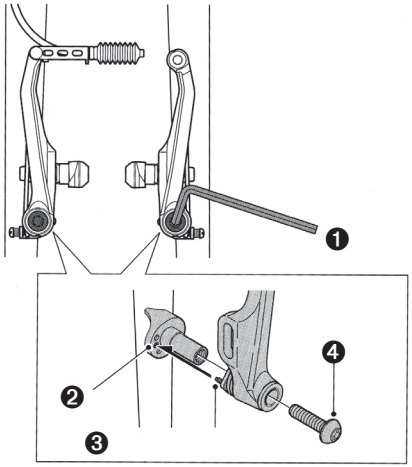


Side Pull Caliper Brake
Fig. 6b

9.3 V-BRAKE

1. If fitted with V-brakes, insert the brake body into the center spring hole in the frame mounting post, then secure the brake body to the frame with the link fixing bolt **(see Fig. 6c).**

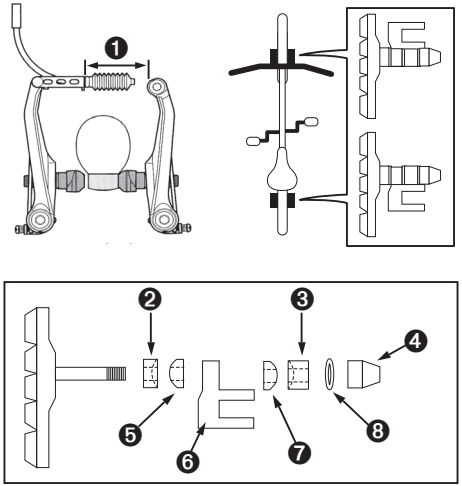
1. 5 mm Allen key
2. Spring pin hole
3. Stopper pin
4. Link fixing bolt



V-brake step 1
Fig. 6c

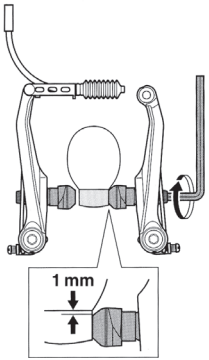
2. While holding the brake shoe against the rim, adjust the amount of shoe protrusion by interchanging the position of the B washers (i.e. 6 mm and 3 mm) so that dimension A is kept at 39 mm or more **(see Fig. 6d).**

1. Distance of 39 mm or more
2. 6 mm washer B
3. 3 mm washer B
4. Shoe fixing nut
5. Washer A
6. Shoe fixing link
7. Washer A
8. Washer



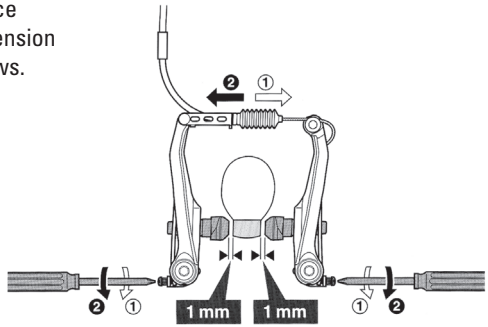
V-brake step 2
Fig. 6d

3. While holding the shoe against the rim, tighten the shoe fixing nut using a 5-mm Allen key. **(see Fig. 6e)**



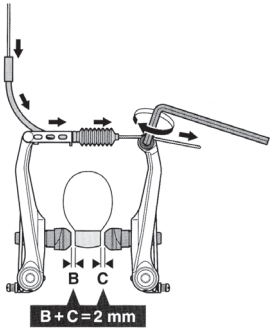
V-brake step 3
Fig. 6e

5. Adjust the balance with the spring tension adjustment screws. **(see Fig. 6g)**



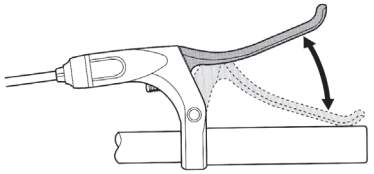
V-brake step 5
Fig. 6g

4. Pass the inner cable through the inner cable lead. Set the cable with a clearance of 1mm between each brake pad and the rim. Tighten the cable fixing bolt using a 5-mm Allen key. **(see Fig. 6f)**



V-brake step 4
Fig. 6f

6. Depress the brake lever many times as far as the handlebar and check that everything is operating correctly and that the shoe clearance is correct before using the brakes. **(see Fig. 6h)**



V-brake step 6
Fig. 6h

10. HEADSETS

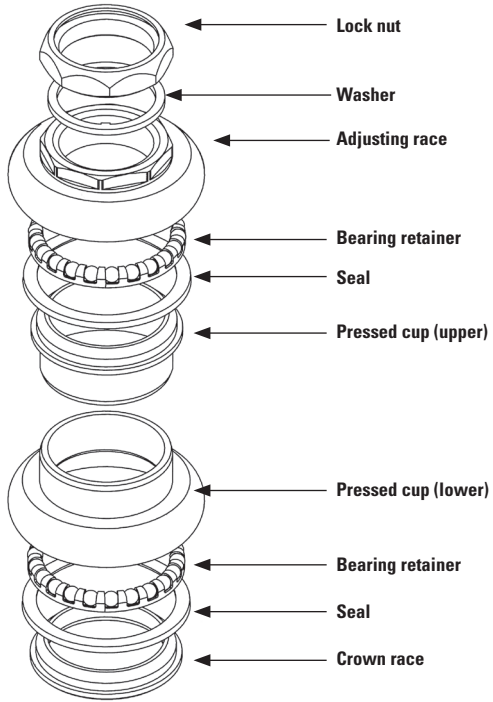
10.1 THREADED HEADSET (**see Fig. 7a**)

10.1.1 Inspection
The headset bearing adjustment should be checked frequently. This is important, as it is the headset that locks the fork into the frame, and if loose, can cause damage or result in an accident. Apply the front brake firmly and rock the bicycle back and forth. If you detect any looseness in the headset, it will need adjustment. Check that the headset is not overly tight by slowly rotating the fork to the right and left. If the fork tends to stick or bind at any point, the bearings are too tight.

10.1.2 Adjustment
Loosen the headset lock nut or remove it completely along with the reflector bracket, if fitted. Turn the adjusting cup clockwise until finger tight. Replace the lock washer or reflector bracket and retighten the lock nut using a suitable wrench.

NOTE: *DO NOT OVERTIGHTEN OR BEARING DAMAGE WILL OCCUR.*

Always make sure that the headset is properly adjusted and that the headset lock nut is fully tightened before riding.



Threaded headset
Fig. 7a

10.2 THREADLESS HEADSET (**see Fig. 7b**)

10.2.1 Inspection

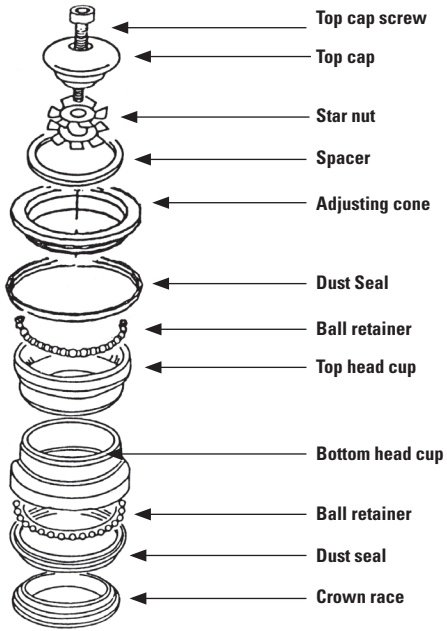
The headset bearing adjustment should be checked frequently. This is important, as it is the headset that locks the fork into the frame, and if loose, can cause damage or result in an accident. Apply the front brake firmly and rock the bicycle back and forth. If you detect any looseness in the headset, it will need adjustment. Check that the headset is not overly tight by slowly rotating the fork to the right and left. If the fork tends to stick or bind at any point, the bearings are too tight.

10.2.2 Steering Assembly Adjustment

a. Tightening is achieved by loosening the two stem bolts attaching the stem to the steer tube (fork steering column).
b. The stem cap bolt is then turned clockwise to slightly tighten this bolt and to remove any play from the bearing surfaces.
c. Center the stem to the front wheel and retighten the bolts securing the stem to the steer tube.

!WARNING: *IF YOUR BIKE HAS A CARBON HANDLEBAR STEM, YOU MUST FOLLOW THE HANDLEBAR STEM MANUFACTURER TORQUE SPECIFICATIONS FOR ALL BOLTS ON THE HANDLEBAR STEM. OVERTIGHTENING THE BOLTS OF A CARBON HANDLEBAR STEM MAY DAMAGE THE HANDLEBAR STEM, THE HANDLEBAR AND THE FORK STEM WHICH COULD CAUSE YOU TO LOSE CONTROL AND FALL. SUCH A FALL COULD RESULT IN SERIOUS INJURY OR DEATH.*

d. The handlebars should turn smoothly without any binding through the full range of rotation. If this is not the case, please have your bicycle inspected by a certified bicycle mechanic.



Threadless headset
Fig. 7b

11. GEAR CHANGING

A manual from the gear manufacturer is provided to offer advice on adjustment. Here we show you how to use derailleur gears. If your bike has a hub gear, ask your dealer for advice.

Derailleur gears consist of:
- a rear sprocket cluster called a freewheel or cassette and a chain
- rear derailleur
- usually a front derailleur
- one or two shifters with control cables
- one, two or three front chainrings

11.1 WHY ALL THOSE GEARS?

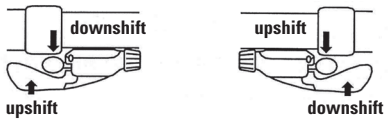
The number of gear combinations (speeds) is calculated by multiplying the number of sprockets at the rear by the number of chainrings at the front (for example: 7 x 3 = 21, 8 x 3 = 24). Select a gear that is easy to pedal; never push hard on the pedals if there is an easier gear available. You will find that pedalling with a faster action is more comfortable, though most riders will need to practice this. Pushing hard will not make you fitter. The optimum pedalling speed is between 60 and 90 pedal revolutions per minute.

11.2 SHIFTING GEARS

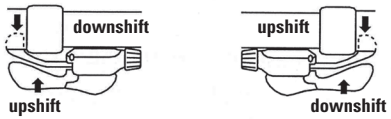
There are many different types of shifters and their operation is illustrated in **Figure 8a.** Identify the shifters on your bike.

Changing down is a shift to a "slower" gear, one that is easier to pedal. Changing up is a shift to a "faster", harder to pedal gear. Top gear is the hardest one to pedal and bottom gear is the easiest one to pedal. To make pedalling easier, either shift the chain to a smaller chainring at the front, or to a larger sprocket at the rear. With a derailleur, always pedal forward while changing gear. Never change gear while pedalling backwards.

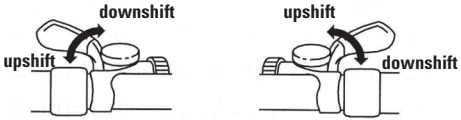
Trigger shifters:



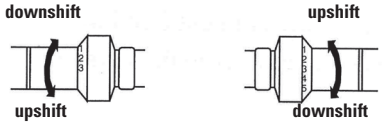
Trigger shifters:



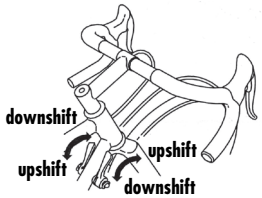
Top mount thumb shifters:



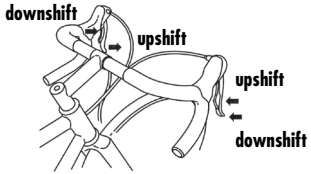
Twist-grip shifters:



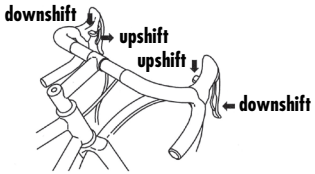
Downtube shifters:



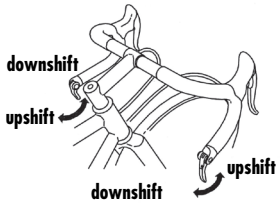
Combined brakes/shifters:



Combined ergo brakes/shifters:

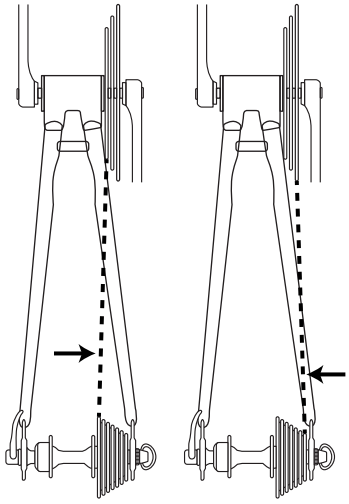


Bar-end shifters:



Types of shifters
Fig. 8a

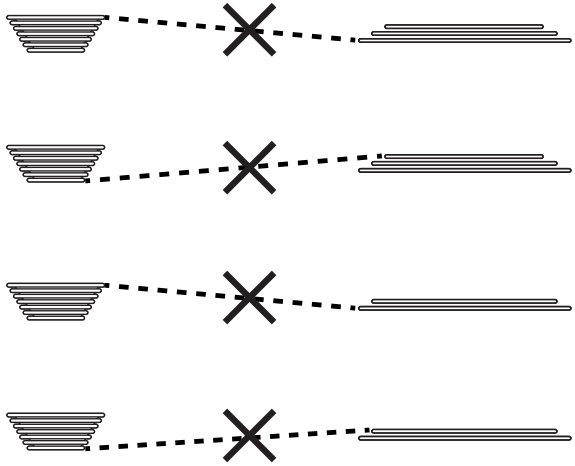
11.2.1 Shifting the Front and Rear Derailleur
The right shifter controls the rear derailleur, which moves the chain from one sprocket to another at the rear. The front derailleur, which is controlled by the left shifter, shifts the chain between the larger and smaller chainrings.



Choosing gears
Fig. 8b

11.2.2 Which Gear Should I Be In?
The combinaison of largest rear sprocket, smallest front chainwheel **(Fig. 8b)** is for steep hills. The smallest rear sprocket, largest front chainwheel **(Fig. 8b)** is for fast riding, downhill. It is not necessary to shift gears is sequence. First, find the gear which is easy enough to let you start from rest comfortably. Experiment with changing up and down to get a feel for the different gear combinations. Practice shifting where there are no hazards. Experience will soon teach you which gear is best for which condition, and practice will help you shift smoothly and at the right moment.

Don't use the following combinations (see Fig. 8c): largest chainwheel to largest sprocket; smallest chainwheel to smallest sprocket. They will cause rapid wear of your gears and chain.



Combinations to avoid
Fig. 8c

12. ASSEMBLY GUIDE

12.1 LG1

1. Install the stem on the fork steerer tube. Align the stem.

2. Tighten the screw (5mm hex key).

3. Tighten the two side screws (4mm hex wrench). Tightening torque: 5Nm

4. Put the front wheel into the fork. Pay attention to the rotational direction (written on the tire side).

5. Tighten the two axle screws (5mm hex key). Tightening torque: 14Nm

6. Insert the seat post. Align the saddle. Tighten and close the seat collar lever.

12.2 LG2 / LG3 / LG4

1. Install the stem on the fork steerer tube. Align the stem.

2. Tighten the screw (4mm hex key).

3. Tighten the side screw (4mm hex wrench). Tightening torque: 10Nm

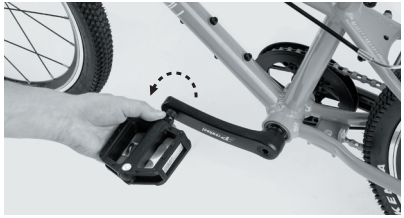
4. Put the front wheel in the fork. Pay attention to the rotational direction (written on the tire side).

5. Tighten the quick release lever or the two axle screws (5mm hex key). Tightening torque: 14Nm

6. Set up the front brake.

7. Insert the seat post. Align the saddle. Tighten and close the seat collar lever.

8. Mount and tighten the pedals (15mm open-end wrench or 6mm hex key). Make sure you identify them (R: right side).



9. Mount and tighten the pedals (15mm open-end wrench or 6mm hex key). Make sure you identify them (L: left side).