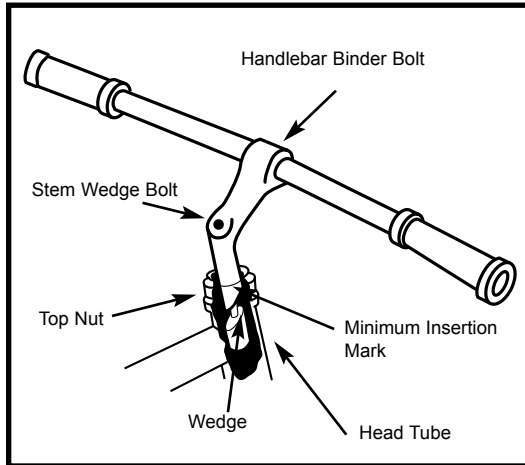
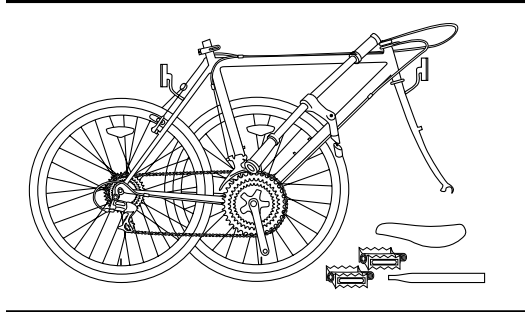




DERAILLEUR GEARED BICYCLES

Includes 20", 24", 26" Wheel Mountain Bikes
Assembly is the same for men and women's bikes.



Getting Started

Open the carton from the top and remove the bicycle. Remove the straps and protective wrapping from the bicycle. Inspect the bicycle and all accessories and parts for possible shortages. It is recommended that the threads and all moving parts be lubricated prior to installation. Do not discard packing materials until assembly is complete to insure that no required parts are accidentally discarded. Assemble your bicycle following the steps that pertain to your model. **NOTE:** Your bicycle may be equipped with different style components than the ones illustrated.

Handlebars

Remove the protective cap from the handlebar stem wedge and loosen the Allen key bolt using the 6mm Allen key. Some models may use a 13mm hexagonal bolt instead of an Allen key bolt. Place the handlebar stem into the top of the head tube, ensuring that all cables are free of tangles. Tighten the stem bolt observing the minimum insertion mark and checking that the forks and the handlebars are facing forward. Check the headset for smooth rotation and the top nut is secured tightly. Loosen the 6mm Binder Bolt and rotate the handlebar. Retighten the Binder Bolt to ensure the handlebar does not rotate in the stem. **NOTE:** Some bicycles may be equipped with a stem that has an adjustable angle. In addition to the normal assembly, these stems will require angling the stem to the desired position, and securely tightening the 6mm angle bolt located in the front of the stem bolt. **Failure to do this may cause loss of steering control.**



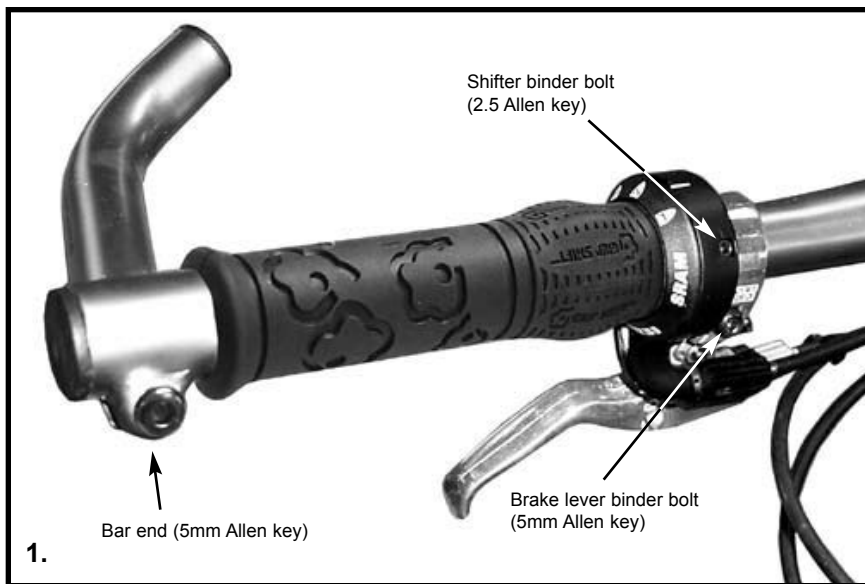
Warning: Over-tightening the stem bolt or the headset assembly may cause damage to the bicycle and/or injury to the rider.



The stem must be inserted so that the minimum insertion mark cannot be seen.



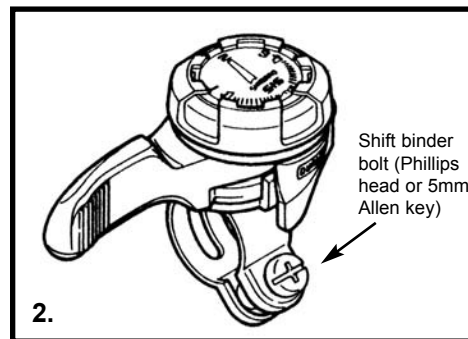
ASSEMBLY



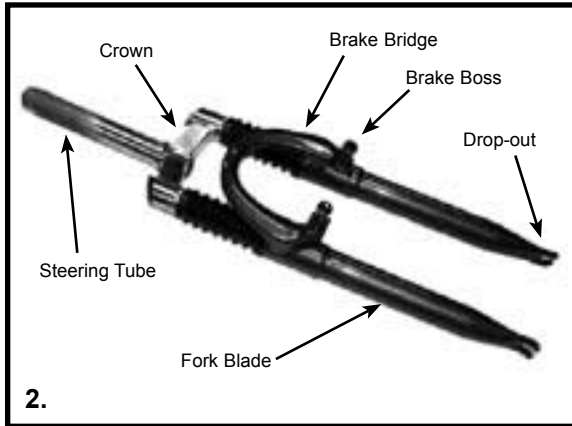
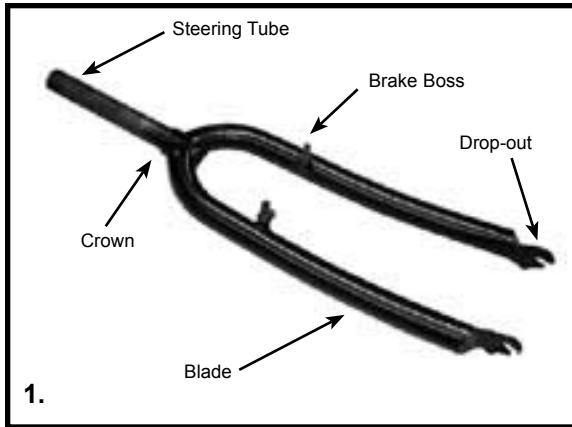
Tighten all bolts that clamp the shifters, brakes levers, and bar end to the handlebar using a 5mm Allen key or Phillips head screwdriver.

(Figure 1) Handlebar with Twist Shifter.

(Figure 2) Top mounted thumb shifter.



Failure to properly tighten clamping bolts may cause sudden movement of the component resulting in loss of steering control.



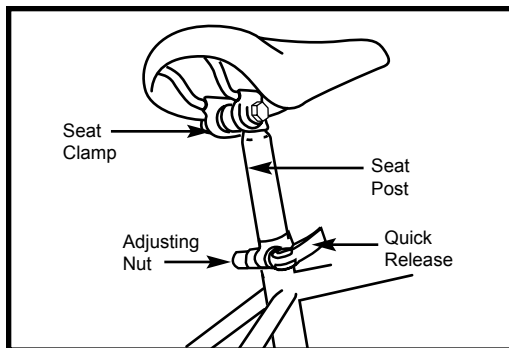
Forks

There are two different types of forks that range in styles and dimensions. One type is a rigid fork (Figure 1) consisting of stationary tubing with curved blades. The other type is a suspension fork (Figure 2) consisting of stanchion tubes riding on elastomers or springs inside of a straight fork leg. This mechanism acts as a shock absorber with a specified amount of travel that varies between models. Some suspension forks are not adjustable and are very difficult to disassemble. If service is needed on a suspension fork, consult a professional bicycle repair technician.



Do not attempt to disassemble a suspension fork yourself. Consult a professional bicycle repair technician.

Check the tightness of the headset and the fork. Rotate the fork checking for smoothness. If it feels like the fork is binding, then an adjustment will need to be made to the headset. Move the fork in a push/pull manner checking for tightness. If any play is detected, loosen the top nut, adjust the bearing cup, and retighten the top nut. Recheck the rotation and tightness. If necessary, readjust until a smooth rotation is achieved without backward or forward movement. If your bike is equipped with a suspension fork, check that the fork compresses and rebounds smoothly. To do this, place the fork dropouts against the ground, push and release the handlebar. The fork will generally compress 1-2" and rebound quickly. Most elastomer type forks will gradually soften with use.

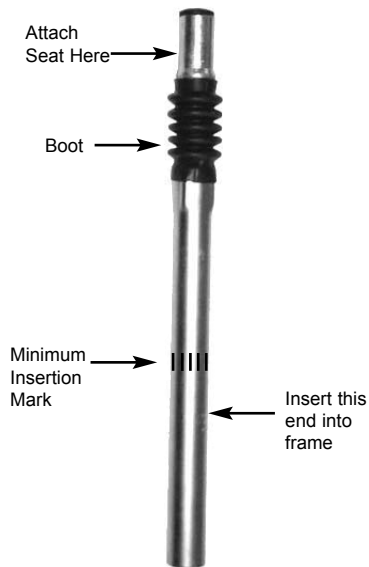


Seat and Seat Post

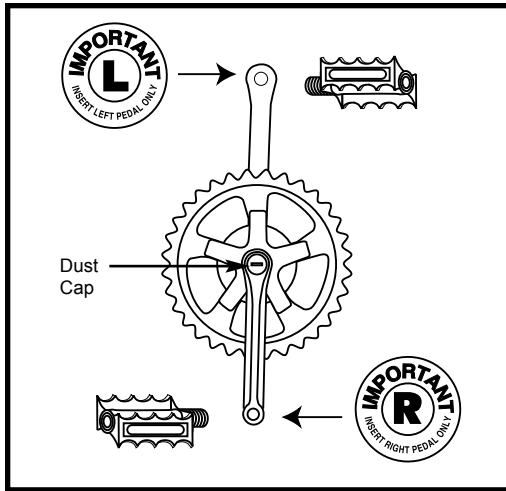
Attach the seat to the seat post by inserting the smaller end of the seat post into the seat clamp and tighten. Insert the larger end of the seat post into the seat tube of the bicycle frame observing the minimum insertion mark on the seat post. Turn the adjusting nut of the Quick Release seat bolt to ensure the locking lever is moved to the closed position with a firm action. Turn the bicycle upside down and rest in on the seat and handlebars.

NOTE: Comfort bicycles may be equipped with a suspension seat post (See Diagram-bottom left). Some suspension posts can be adjusted for stiffness using the preload adjusting screw. Turning the 6mm Allen screw **Clockwise** will decrease travel and make the suspension stiffer, while turning the 6mm Allen screw **Counter-clockwise** will increase travel and make the suspension less rigid.

Note: In addition to normal assembly, please be aware that the preload adjusting screw must be flush with the bottom of the post. **Failure to do this may cause irreparable damage.**



The seat post must be inserted so that the minimum insertion mark cannot be seen. The quick release mechanism must be tightened securely to prevent a sudden shift of the seat when riding. Failure to do this may cause loss of bicycle control.



Pedals & Crank Set

Look for the letters “R” for right, and “L” for left, stamped on each pedal spindle. Start each pedal spindle by hand to avoid stripping the threads. Tighten with a 15mm narrow open-ended wrench. Note that the right hand pedal attaches to the chainwheel side crank arm with a right-hand (clockwise) thread. The left pedal attaches to the other crank arm and has a left-hand (counter-clockwise) thread. It is very important that you check the crank set for correct adjustment and tightness before riding your bicycle. New cranks may become loose with initial use; refer to p. 82-85 for proper crank set adjustment and maintenance. Once the pedals have been installed, remove the dust caps from the center of each crank arm. Using a 14mm socket wrench, tighten the spindle nuts securely (approx. 350 in. lbs) and replace the dust caps.

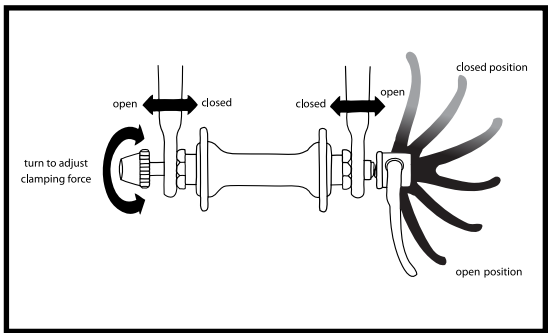
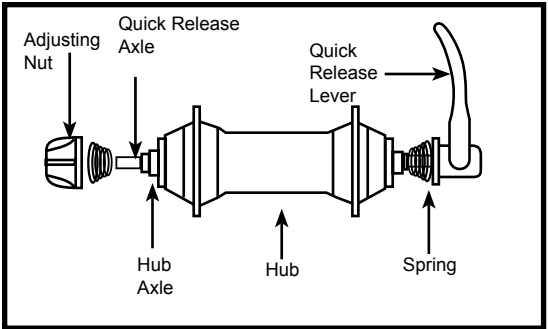


Attachment of an incorrect pedal into a crank arm will cause irreplaceable damage.



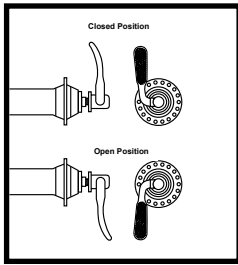
Front Wheel

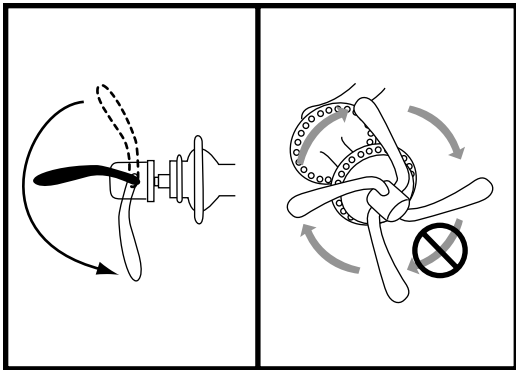
Check the wheel hub before attaching in to the fork by rotating the threaded axle. It should be smooth with no lateral movement. Insert the front wheel into the fork dropouts. Tighten the wheel nuts using the appropriate 14mm or 15mm wrench. Spin the wheel checking for trueness. Some bicycles have quick release wheel axles, turn the adjusting nut so the locking lever is moved to the closed position with a firm action. At the halfway closed position of the quick release lever, you should start to feel some resistance to this motion. If the quick release lever is moved to the closed position with no resistance, clamping strength is insufficient. Move the quick release lever to the open position, tighten the quick release adjusting nut, and return the quick release lever to the closed position.



Correct Quick Release Axle Setting

1. Place bike upside down, resting on the seat and handlebars.
2. To set, turn the lever to the open position so that the curved part faces away from the bicycle.
3. While holding the lever in one hand, tighten the adjusting nut until it stops.
4. Pivot the lever towards the closed position. When the lever is halfway closed, there must be firm resistance to turn it beyond that point. If resistance is not firm, open the lever and tighten the adjusting nut in a clockwise direction.
5. Continue to pivot the lever all the way to the closed position so that the

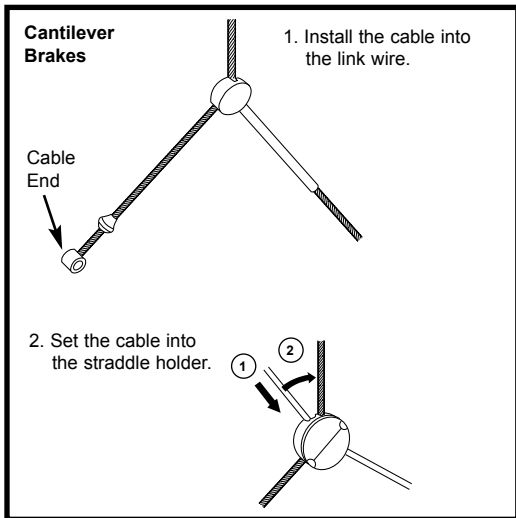




- curved part of the lever faces the bicycle.
- The wheel is tightly secured when the serrated surfaces of the quick release clamping parts actually begin to cut into the bicycle frame/fork surfaces.
- Note that the same procedure applies when operating a quick release seat post binder mechanism.



Warning – Correct adjustment of the quick release is vitally important to avoid an accident caused by loose wheel.



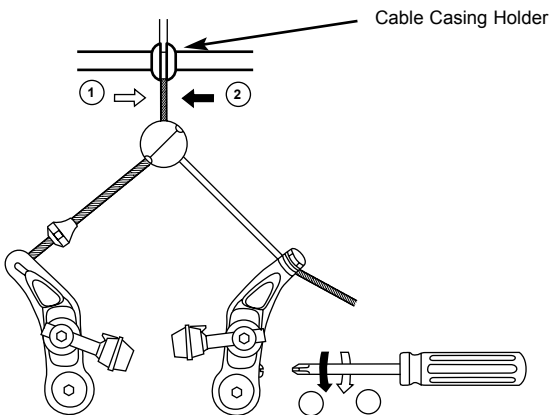
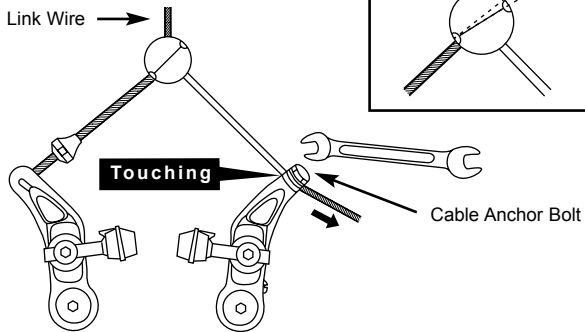
Front Brake

Determine which type of brake your bike is equipped with and refer to the appropriate assembly instructions. For more information on brake adjustment and maintenance.

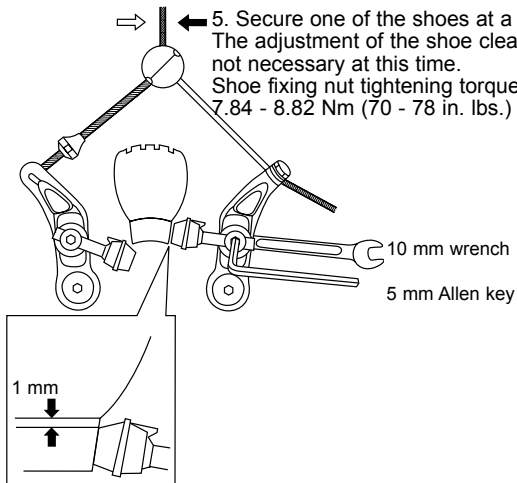
Cantilever Brakes – Link Wire

If fitted with cantilever type brakes, insert the brake cable into the link wire lead, and notch the cable end into the slot of the left brake cable under the tabbed washer. Squeeze both brake arms together so the brake shoes hit the rim, pull all slack out of the brake cable, and tighten the anchor bolt. With the cable fitted, the straddle holder should sit 10 – 20mm above the reflector bracket. Adjust the brake shoes using a 10mm wrench so that they are parallel with the rim and are positioned 1-2mm away from the rim. Several adjustments may be necessary to achieve the correct brake position.

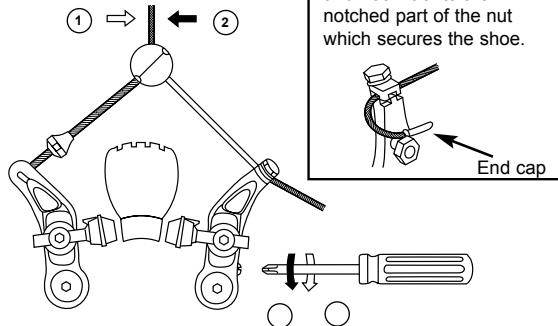
3. Temporarily tighten the cable so that the link wire is at the position in the illustration.



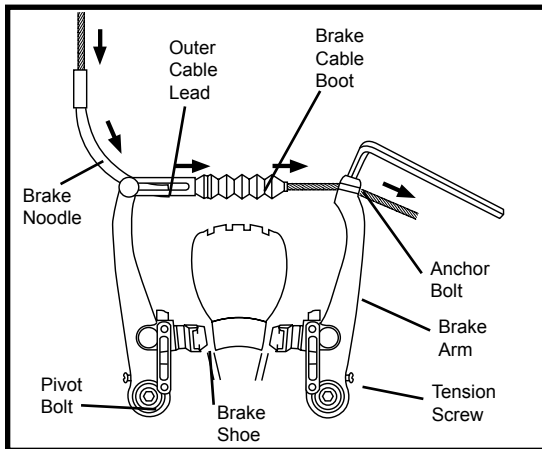
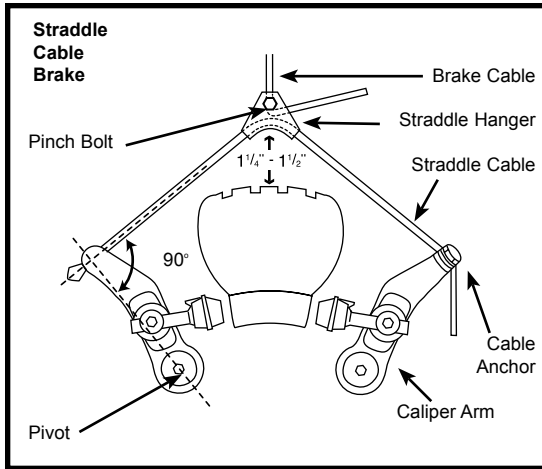
5. Secure one of the shoes at a time. The adjustment of the shoe clearance is not necessary at this time. Shoe fixing nut tightening torque: 7.84 - 8.82 Nm (70 - 78 in. lbs.)



Cut off any unnecessary cable, attach an end cap, and hook it onto the notched part of the nut which secures the shoe.



ASSEMBLY



Cantilever Brakes – Straddle Cable

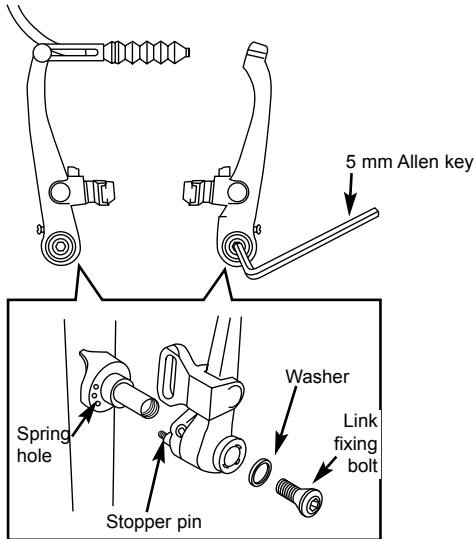
The length of the straddle cable, the height of the straddle hanger and the brake pad-to-caliper arm position all have an effect on braking power. Generally, the straddle cable should be high enough, however, to adequately clear the tire (and any debris that may stick to the tire) or to fit over the front reflector hanger. 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.

V-Style Brakes

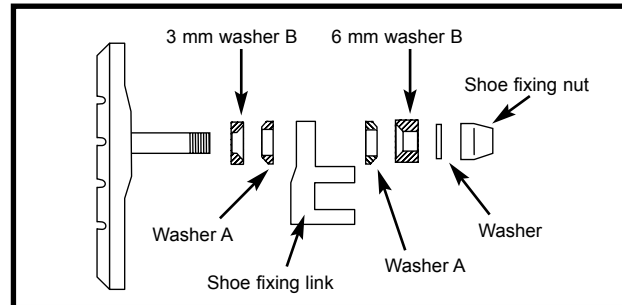
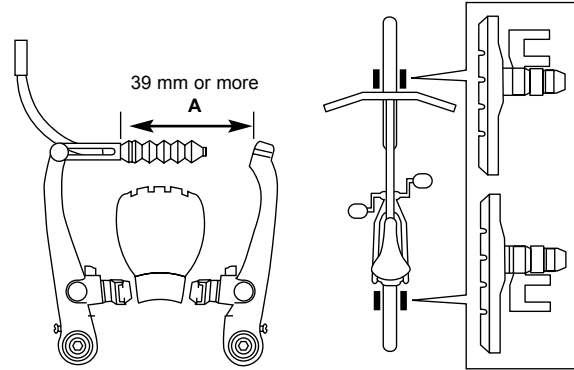
Take the brake noodle from the parts box and slide the cable through the larger opening. The cable housing will then seat into the end of the noodle. Slide the cable through the cable lead on the end of the left brake arm, this will cause the noodle to fit into the lead. Slip the brake cable boot over the cable and position it between both brake arms. Next, loosen the 5mm anchor bolt at the end of the right brake arm and slide the cable under the retaining washer. Pull the slack out of the cable making sure a distance of 39mm or more remains between the end of the lead and the start of the anchor bolt. Once the cable is secured to the brake arms, engage the brake lever several times, checking the position of the brake shoes at the rim. The brake shoes should be 1mm away from the rim when in a relaxed position. When the brake lever is engaged, the brake shoe should hit the rim flush (never the tire) with the front touching slightly before the rear. If this position is not achieved, adjustments to the brake shoe are required. Loosen the brake shoe hardware and reposition the brake shoe. It may take several shoe and cable adjustments before the required position is accomplished.

V - Brake

1. If fitted with V-Brakes, insert the brake body into the center spring hole in the frame mounting boss, and then secure the brake body to the frame with the link fixing bolt.



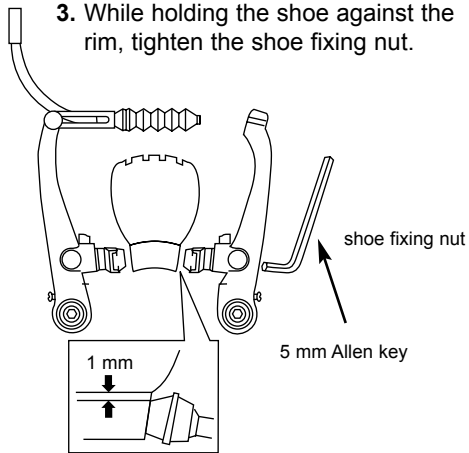
2. While holding the shoe against the rim, adjust the amount of shoe protrusion by interchanging the position of the B washers (i.e. 6 mm and 3 mm) so that dimension A is kept at 39 mm or more.



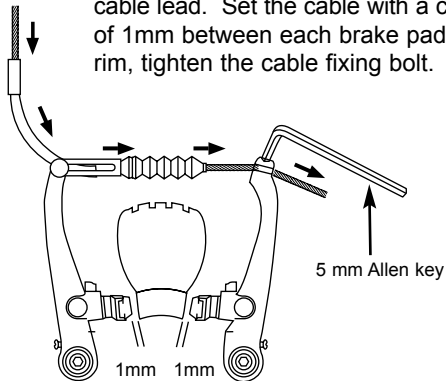


ASSEMBLY

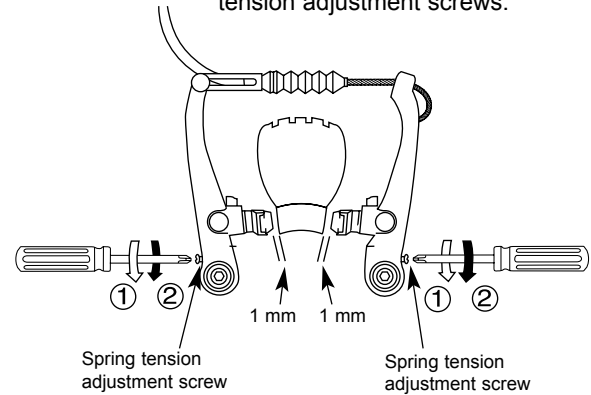
3. While holding the shoe against the rim, tighten the shoe fixing nut.



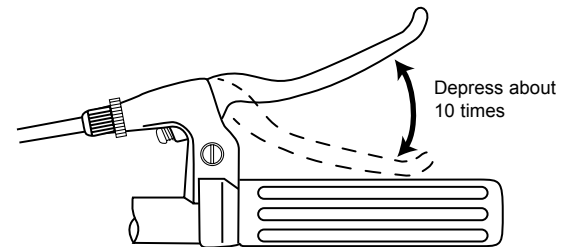
4. Pass the inner cable through the inner cable lead. Set the cable with a clearance of 1mm between each brake pad and the rim, tighten the cable fixing bolt.



5. Adjust the balance with the spring tension adjustment screws.

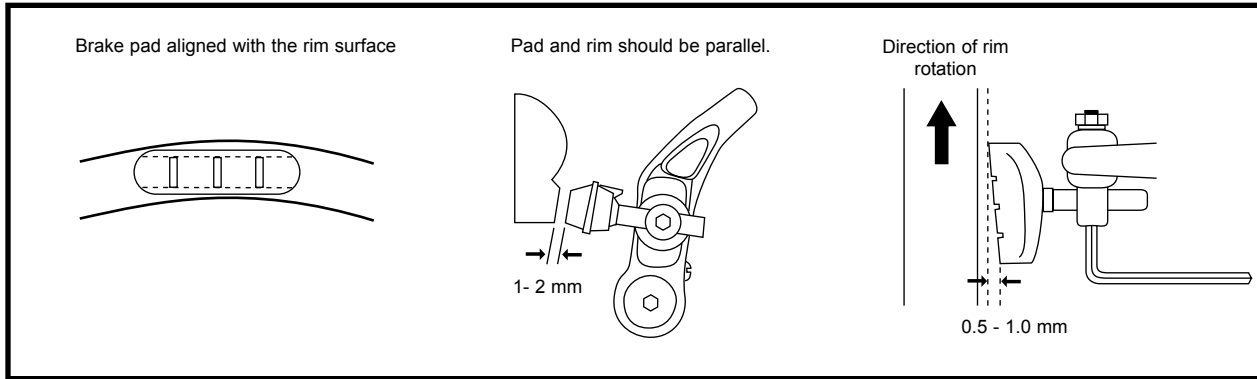


6. Depress the brake lever about 10 times as far as the grip to check that everything is operating correctly and that the shoe clearance is correct before using the brakes.



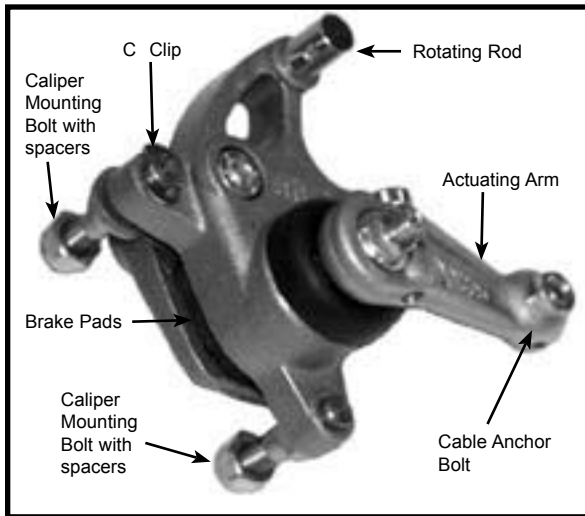
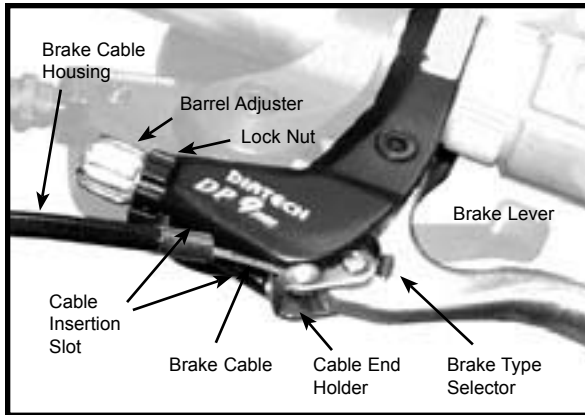
Check your Brakes

Press each brake lever to make sure that there is no binding and that the brake pads press hard enough on the rims to stop the bike. The brake pads should be adjusted so they are 1mm to 2mm away from the rim when the brakes are not applied. Brake pads should be centered on the rim and the rear portion of each brake pad should be about 0.5 – 1.0mm farther from the rim than the front portion of the brake pad.



Do not ride the bicycle until the brakes are functioning properly. To test, apply the brakes while trying to push the bike forward to make sure they will stop the bicycle.





Disk Brakes

If fitted with a front disc brake, the components should already be attached. However, please check all connections before attempting to ride the bicycle. Secure tightly the 6 bolts that hold the disc to the front wheel hub and the 2 bolts that hold the brake mechanism to the fork. Insert the front rim into the fork dropouts ensuring that the disc fits into the brake mechanism between the enclosed brake pads. Secure the front rim to the bicycle by tightening the quick release mechanism and clamping the lever to the closed position.

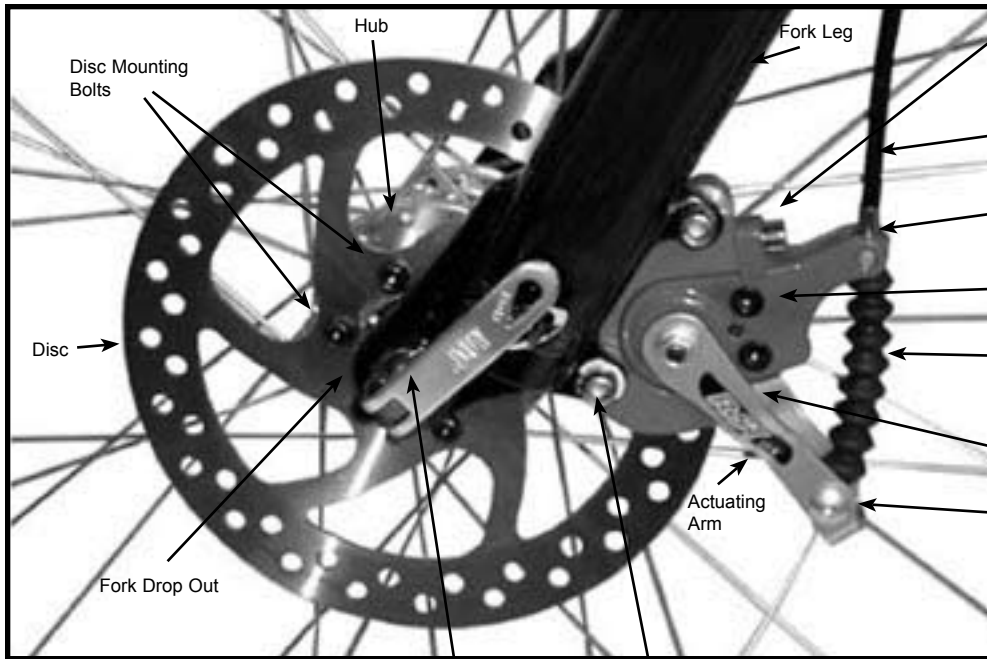
Next, attach the cable to the brake lever by inserting the cable end into the cable end holder after the barrel adjuster and lock nut slots have been aligned with the cable end holder. After the cable is secured to the lever, rotate the barrel adjuster and lock nut so the slots no longer line up. Ensure the cable housing seats appropriately into the end of the barrel adjuster and check for any kinks or damage.

Slide the exposed brake cable through the rotating rod located on the caliper body and seat the housing into the same stop. Insert the cable into spring and spring boot.

Next, slide the cable through the cable anchor and pull all the slack out. Secure the cable in place by tightening the bolts that comprise the anchor assembly. Some disc brakes will have a centering device while others are a free-floating mechanism. If your caliper body is equipped with centering bolts, apply the brake lever after the cable has been connected. While engaging the lever, tighten the centering bolts securely. This will center the caliper body on the disc.



DISC GETS HOT! Severe injury could result from contact with the hot disc! Mind your legs, as well as your hands.



Centering Bolt

Brake Cable Housing

Rotating Rod

Caliper Body

Cable Boot with Spring inside

Centering Bolt (inside)

Cable Anchor Bolt

Hub

Fork Leg

Disc Mounting Bolts

Disc

Fork Drop Out

Actuating Arm

Quick Release lever

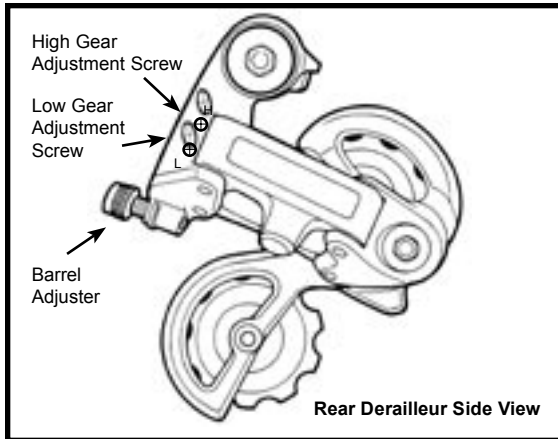
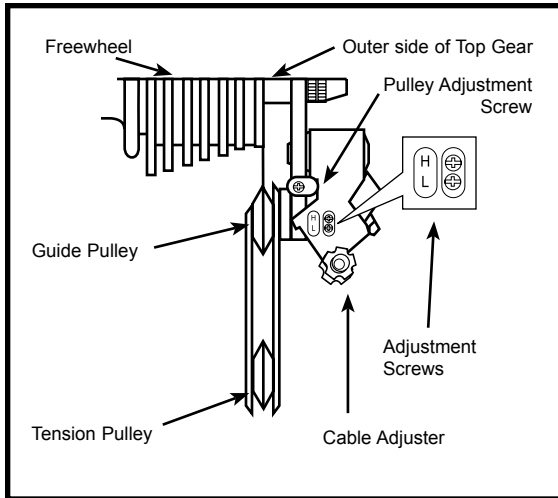
Caliper Mounting Bolts with spacers



ASSEMBLY



These brakes require breaking in! Ride and use the brakes gently for 13 miles before using the brakes in downhill conditions, for sudden stops, or any other serious braking. Please be aware that your brake system will change in performance throughout the wear-in process. The disc brake should be cleaned before the first ride using rubbing alcohol. NEVER use oil or similar products to clean your disc brake system.



DERAILLEUR

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

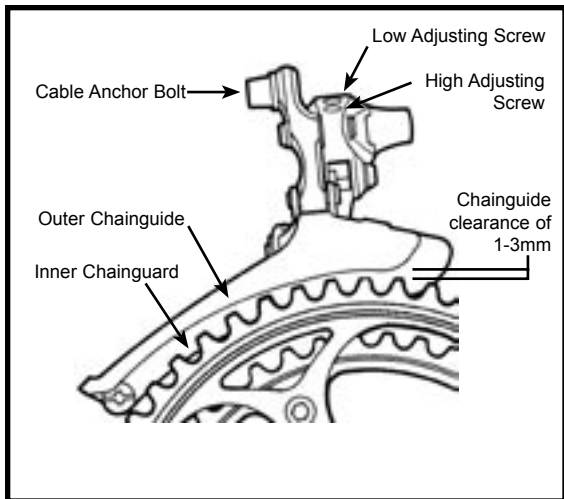
Rear Derailleur

Begin by shifting the rear shifter to largest number indicated, disconnect the cable from the rear derailleur cable anchor bolt, 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 to chain to go. For example, 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.



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



Front Derailleur

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 3-5mm 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.



Do not ride a bicycle that not shifting properly. Overlooking proper adjustments may cause irreparable damage to the bicycle and/or bodily injury.

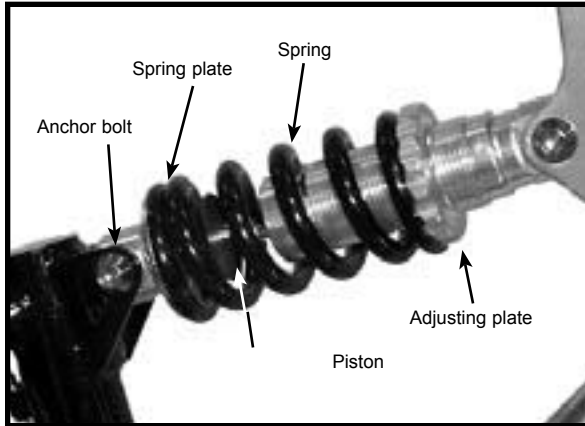


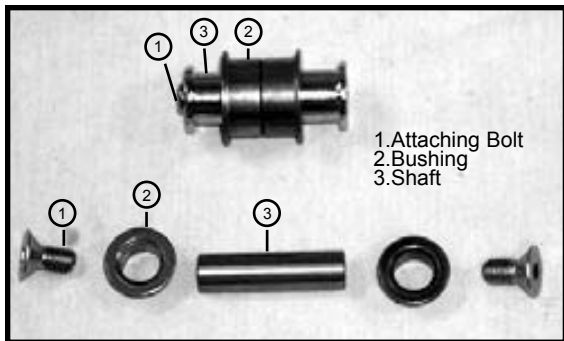
Dual Suspension

Dual suspension bikes are equipped with a front fork as well as a rear suspension generally located below the seat. The piston works in conjunction with a spring to allow the bike to rotate on a pivot point. Ensure all attaching hardware is secured and there is no lateral movement of the rear triangle. The amount of rear suspension travel can be adjusted by turning the adjustment plate. By turning the adjustment plate clockwise, you will increase spring tension and decrease travel, while turning counter-clockwise you will decrease spring tension and increase travel.



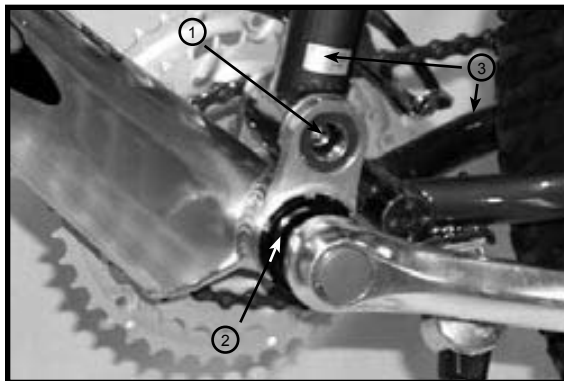
There must be enough tension on the spring to hold the spring in place. Failure to do this may cause the mechanism to fail.



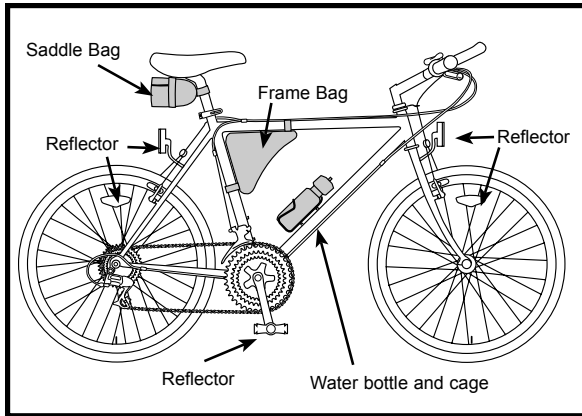


Rear Pivots

The pivots assembly is a simple mechanism that allows the rear triangle to move up and down in combination with a rear suspension. Size, shape, and compounds will vary between models; however, operating principles are the same. A shaft will pivot inside of two bushings secured in place with bolts. Pivots should be kept clean and free from grime and should be disassembled and regreased at least once a riding season. Please note the drive side crank arm must be removed from the spindle before attempting to work on the pivot. Some models have two small (2.5mm) Allen bolts on the underside of the bottom bracket shell. These must be removed before attempting to disassemble the pivot. After disassembling and cleaning, the shaft of the pivot assembly should be lightly coated with lithium-based grease, as well as the bushings and the threads of the attaching hardware. Please remember: Never use WD-40 to grease components. It is a degreaser that will not provide required lubrication and has a tendency to attract dust.



1. Pivot Assembly
2. Bottom Bracket Cup & Lockring
3. Rear Triangle



Accessories

If your bike is supplied with a water bottle and cage, attach the cage to the bicycle using the Allen bolts provided.

Some bikes come equipped with a saddlebag or frame bag. The saddlebag installs under the seat with the zipper facing the rear wheel. Undo the straps that wrap around the bag, thread them through the rails underneath the seat and secure around the bag. The smaller strap wraps around the seat post. Frame bags install at the apex of the top and seat tubes. Secure the straps around each tube.

NOTE: The frame bag straps must not bind the cables. The straps must go around the frame only.

Other: Some 20" and 24" model bicycles come with a rear derailleur guard to protect the rear derailleur from damage. To install, remove the rear wheel axle nut on the drive side, install the rear derailleur guard over the axle with the U-shaped guard pointing down, and retighten the axle nut. The guard will sit between the frame and the axle nut.

If provided with a handlebar mounted reflector, this reflector must be mounted as close to the center of the handlebar as possible.

Reflectors

Attach the white reflector to the front reflector bracket and secure to the handlebar or fork using the hardware provided. Attach the red reflector to the rear reflector bracket and secure to the frame or seat post, depending on the bracket style, with the hardware provided.



Tighten both rear wheel axle nuts and the quick release mechanism securely. Failure to do this may cause the rear wheel to dislodge from the frame dropouts resulting in serious damage or injury.



Final Check

After all adjustments have been made, shift through every gear several times at varying speeds. This will ensure all your adjustments are correct and will allow you to pinpoint any trouble areas. If you encounter any problems, refer to the appropriate section and make any necessary adjustments.

Check the tire pressure and inflate each tube to the recommended psi as stated on the sidewall of the tire.

Check that the kickstand operates smoothly and the kickstand bolt is secured tightly.

Finally, examine the bicycle. Make sure all accessories are attached and all quick releases, nuts and bolts have been tightened securely.

Correct maintenance of your bicycle will ensure many years of happy riding. Service your bicycle regularly by referring to the relevant sections of the manual, OR take it to a professional bicycle shop.

Remember: Always wear helmet and obey all traffic laws.



Do not over-inflate the tires.