

# BICYCLE

## Assembly

Any Questions or Concerns?

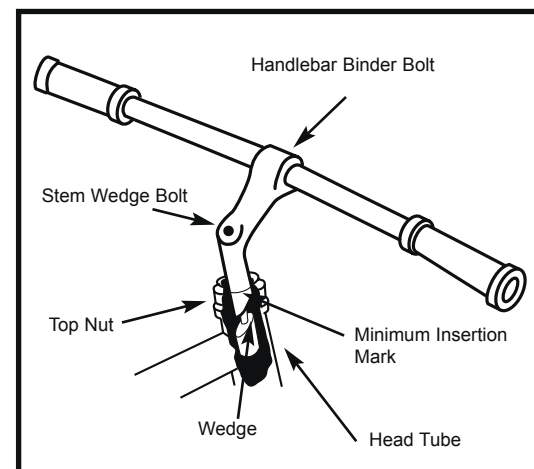
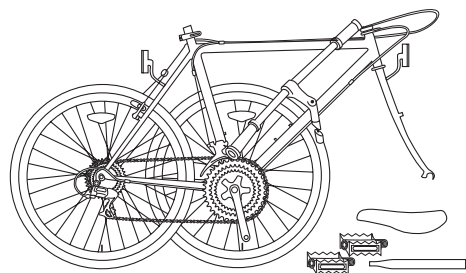
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## DERAILLEUR GEARED BICYCLES

Includes 20", 24", 26", 27.5, 29" 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 in the parts package 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

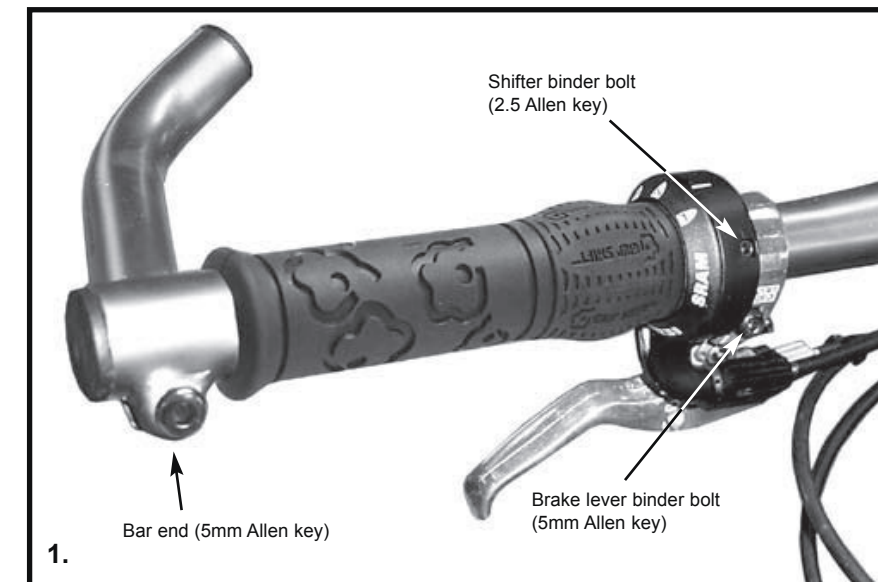
Remove the protective cap from the handlebar stem wedge and loosen the Allen key bolt using the 6mm Allen key. Some models may use a 13mm hexagonal bolt instead of an Allen key bolt. Place the handlebar stem into the top of the head tube, ensuring that all cables are free of tangles. Tighten the stem 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.



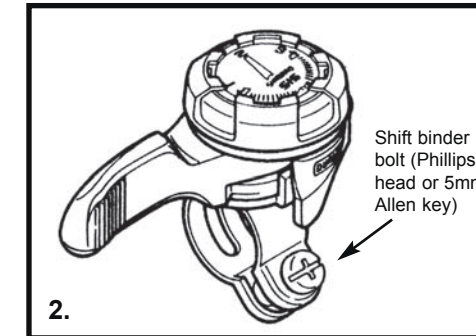
Tighten all bolts that clamp the shifters, brakes levers, and bar end to the handlebar using a 5mm Allen key or Philips head screwdriver.

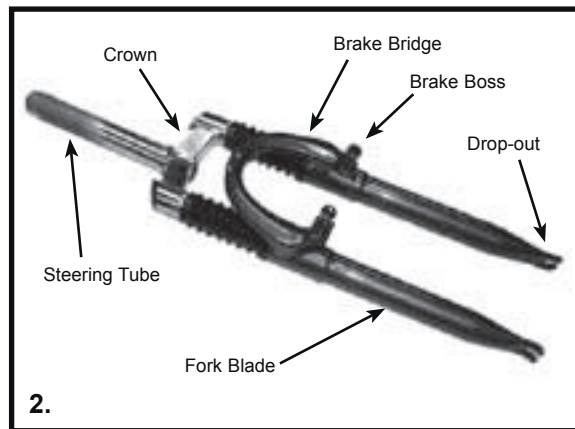
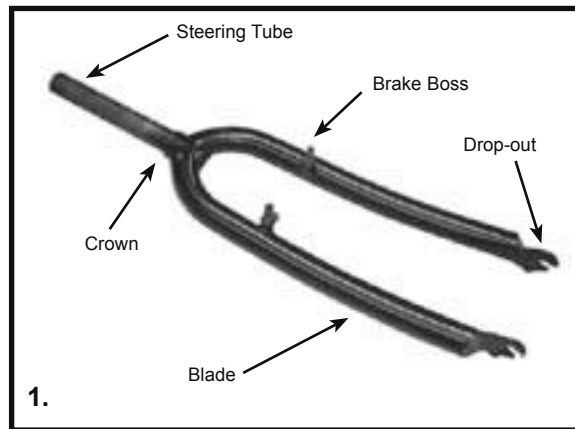
(Figure 1) Handlebar with Grip Shifter.

(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.





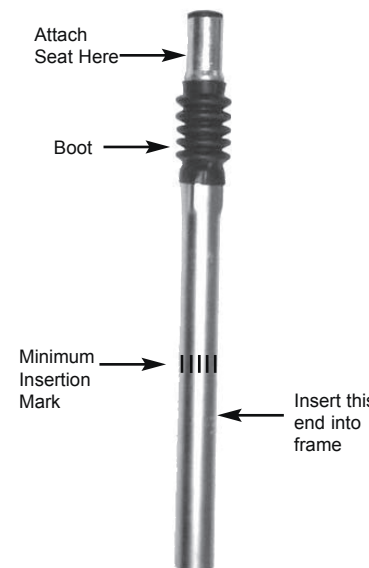
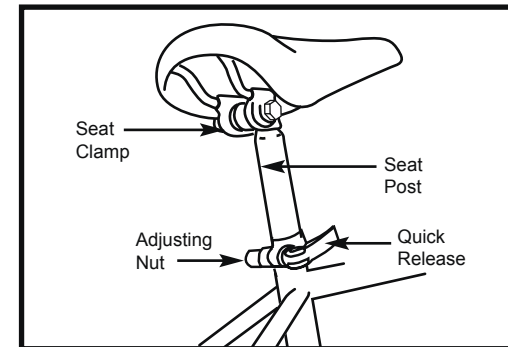
## Forks

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

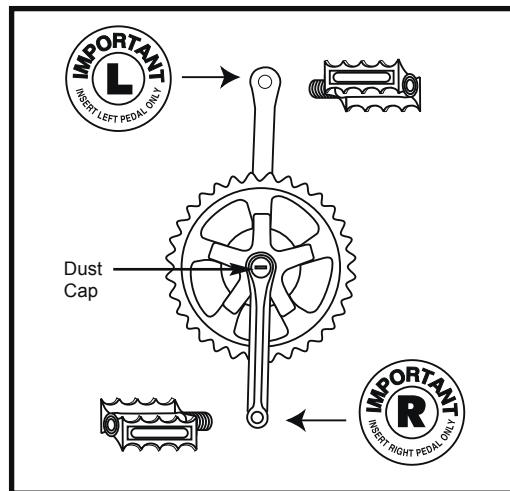
Attach the seat to the seat post by inserting the smaller end of the seat post into the seat clamp and tighten. Insert the larger end of the seat post into the seat tube of the bicycle frame observing the minimum insertion mark on the seat post. Turn the adjusting nut of the Quick Release seat bolt to 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.**

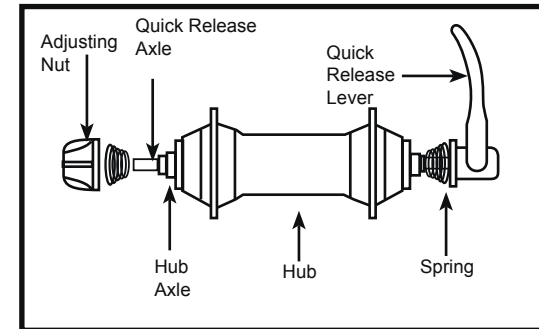


### Pedals & Cranks Set

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. 74-77 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.**

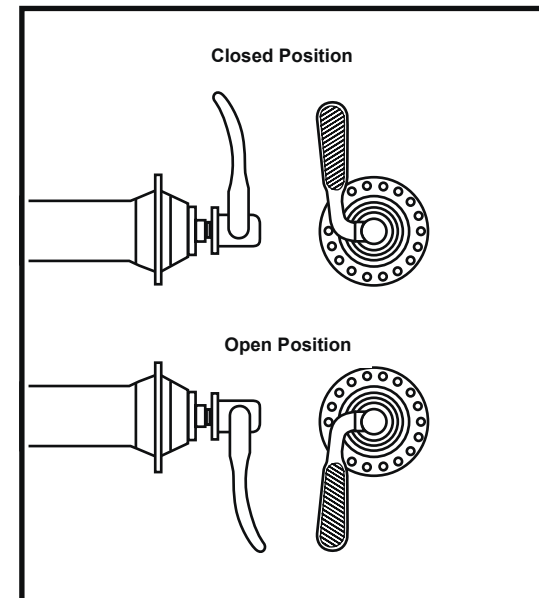


### Front Wheel

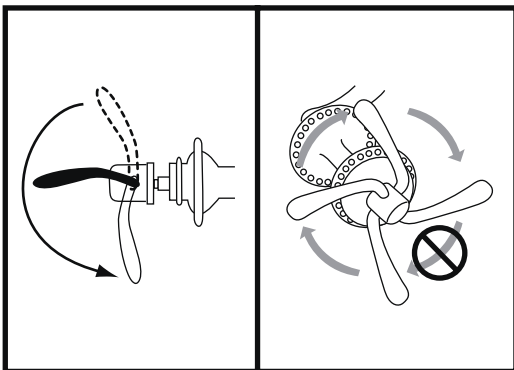
Check the wheel hub before attaching in to the fork by rotating the threaded axle. It should be smooth with no lateral movement. Insert the front wheel into the fork dropouts. Tighten the wheel nuts using the appropriate 14mm or 15mm wrench. Spin the wheel checking for trueness. Some bicycles have wheel 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. Do not tighten 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. To set, turn the lever to the open position so that the curved part faces away from the bicycle.
2. While holding the lever in 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 turn it beyond that point. If resistance is not firm, open the lever and tighten the adjusting nut in a 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.



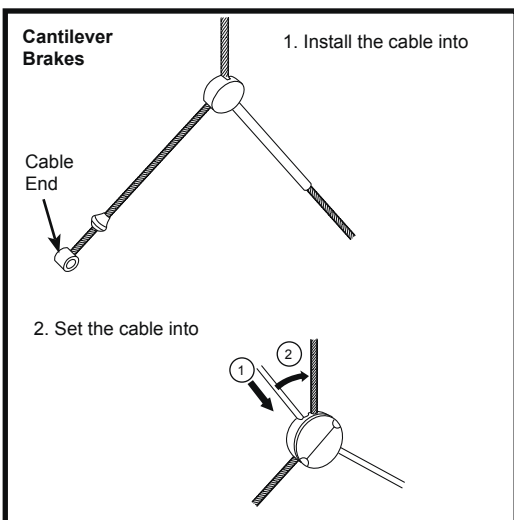




5. The wheel is tightly secured when the serrated surfaces of the quick release clamping parts actually begin to cut into the bicycle frame/fork surfaces.
6. Note that the same procedure applies when operating a quick release seat post binder mechanism.
7. Turn the bicycle upright using the kickstand to support it.



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

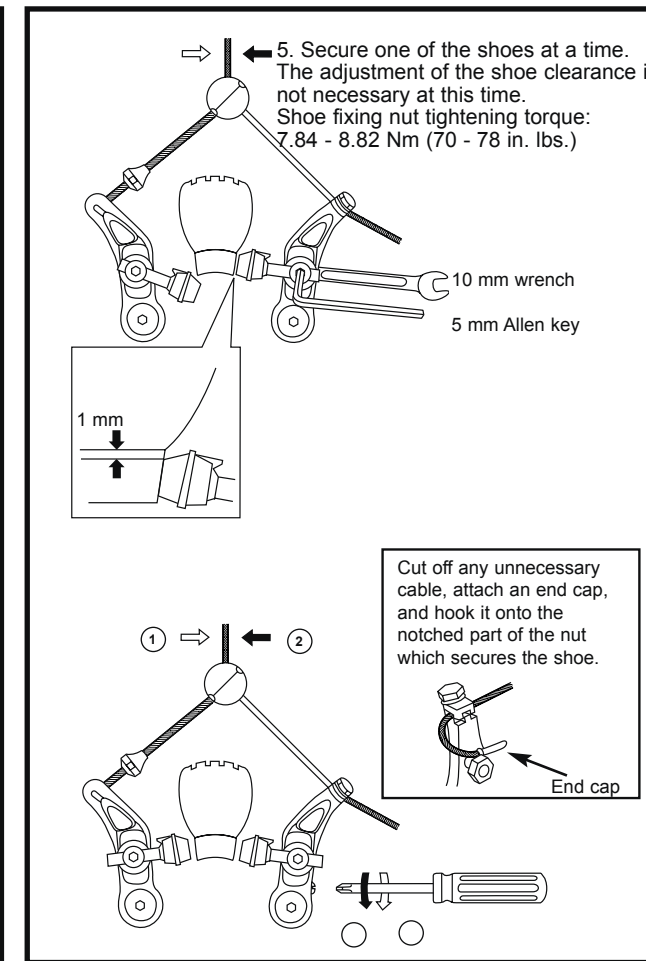
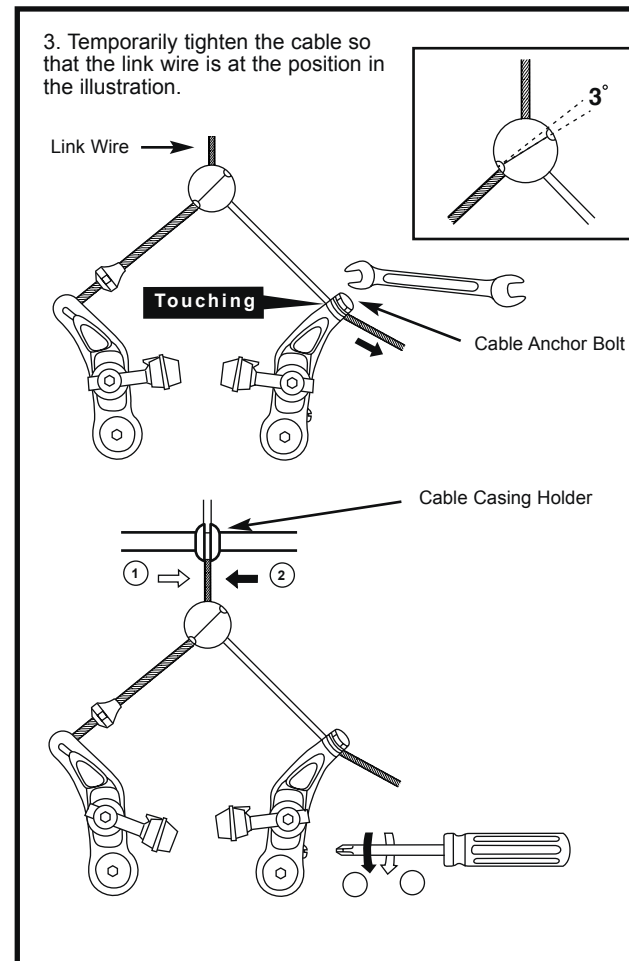


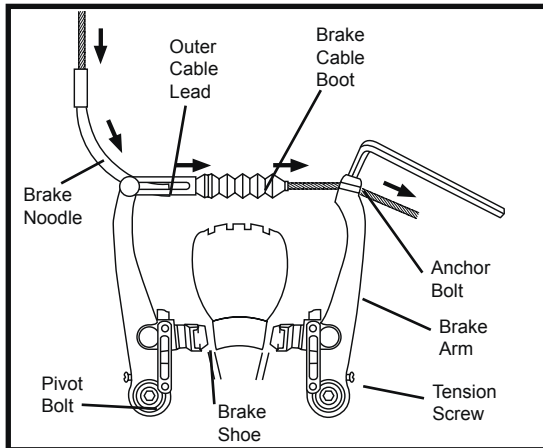
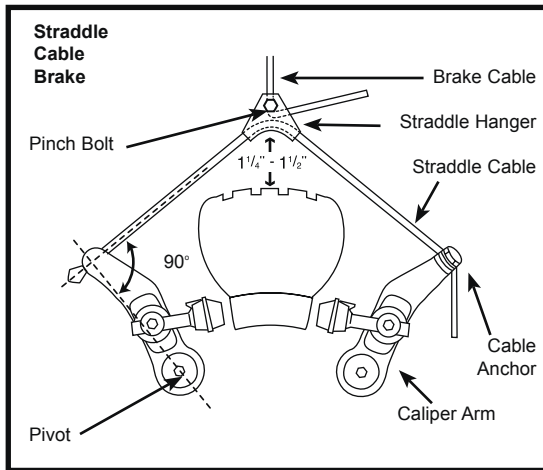
## Front Brake

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, refer to p. 66 – 69.

### 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.





### Cantilever Brakes – Straddle Cable

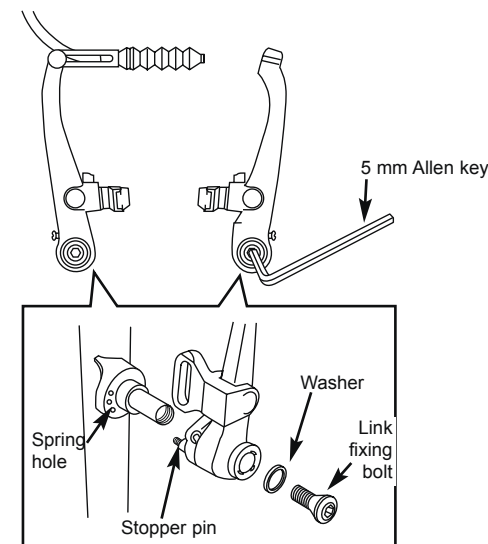
The length of the straddle cable, the height of the straddle hanger and the brake pad-to-caliper arm position all have an effect on braking power. Generally, the straddle cable should be high enough, however, to adequately clear the tire (and any debris that may stick to the tire) or to fit over the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

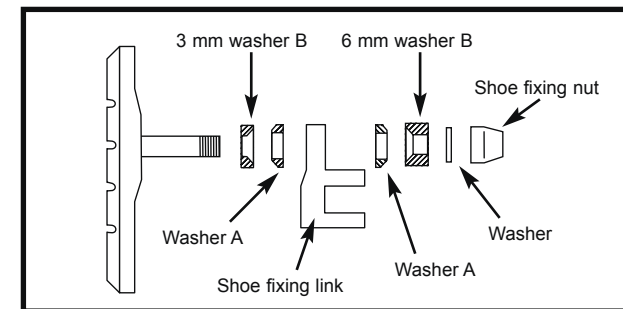
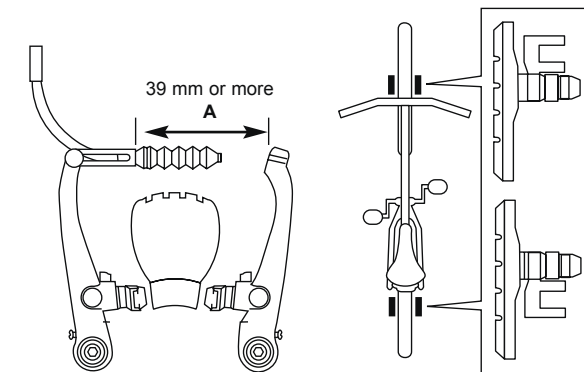
Take the brake noodle from the parts box and slide the cable through the larger opening. The cable housing will then seat into the end of the noodle. Slide the cable through the cable lead on the end of the left brake arm, this will cause the noodle to fit into the lead. Slip the brake cable boot over 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

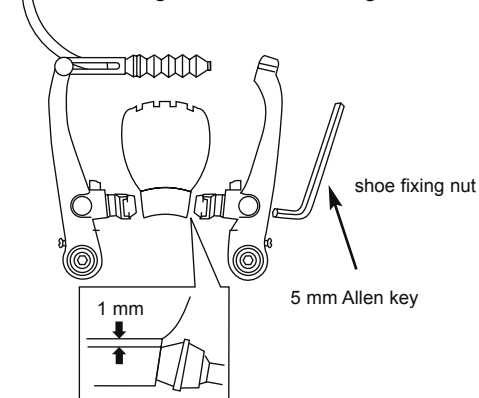
1. If fitted with V-Brakes, insert the brake body into the center spring hole in the frame mounting boss, and then secure the brake body to the frame with the link fixing bolt.



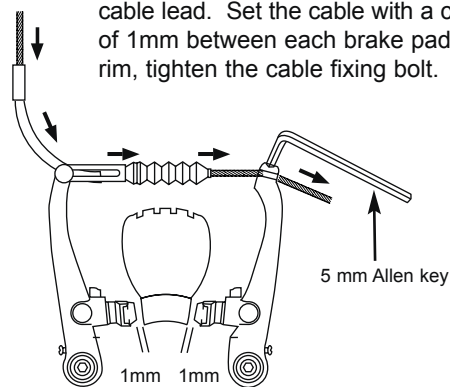
2. While holding the shoe against the rim, adjust the amount of shoe protrusion by interchanging the position of the B washers (i.e. 6 mm and 3 mm) so that dimension A is kept at 39 mm or more.



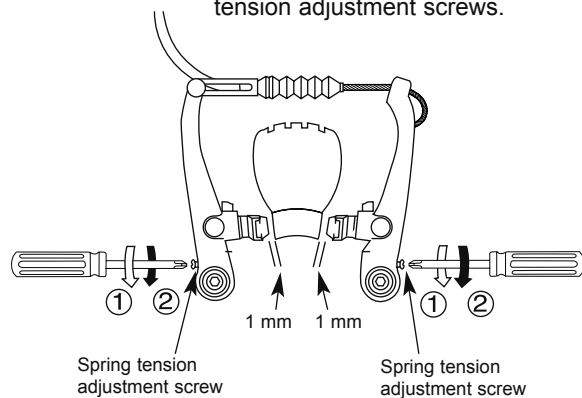
3. While holding the shoe against the rim, tighten the shoe fixing nut.



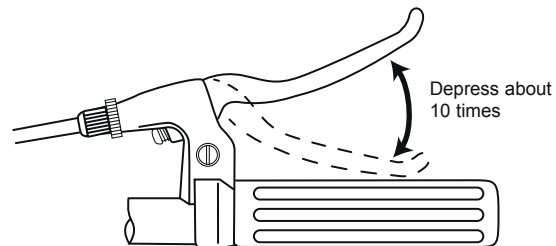
4. Pass the inner cable through the inner cable lead. Set the cable with a clearance of 1mm between each brake pad and the rim, tighten the cable fixing bolt.



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

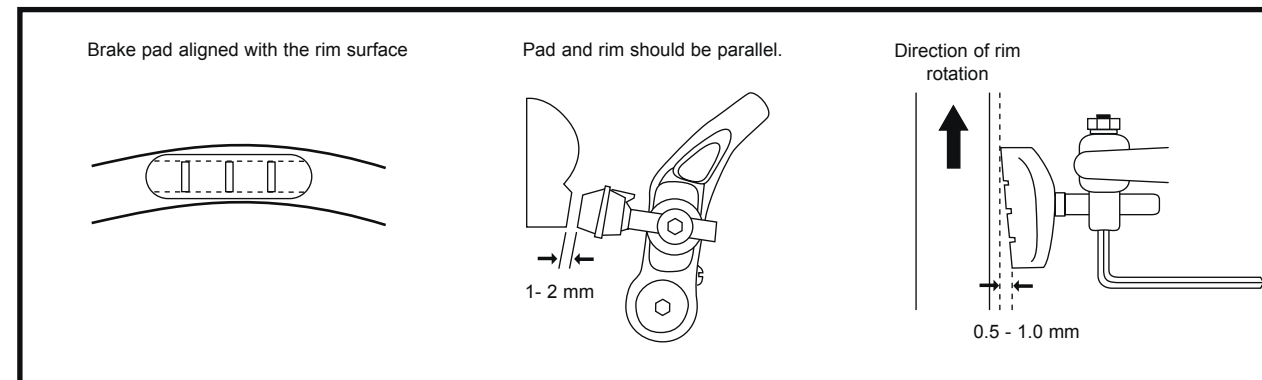


6. Depress the brake lever about 10 times as far as the grip to check that everything is operating correctly and that the shoe clearance is correct before using the brakes.

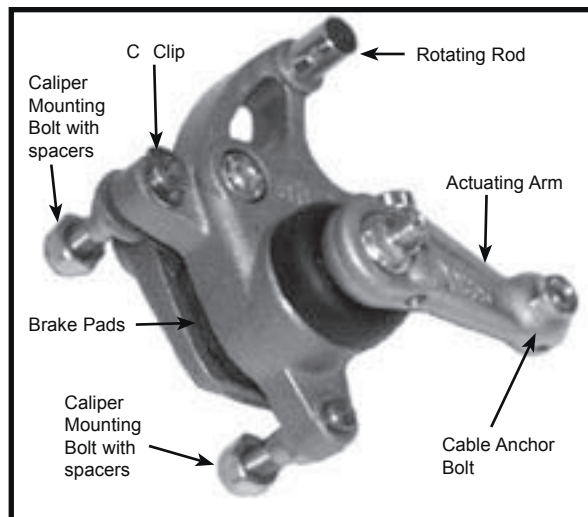
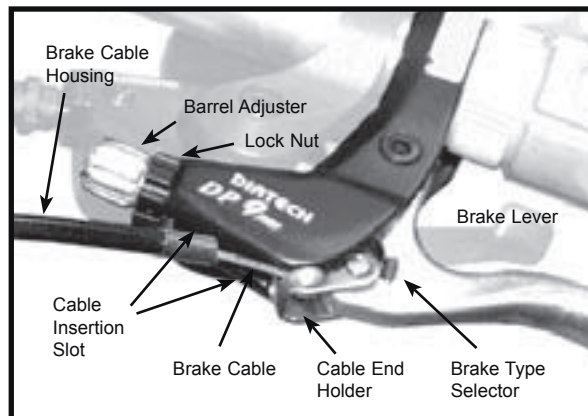


### Check your Brakes

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. Please Refer to section 6 for further instruction on quick release mechanisms.

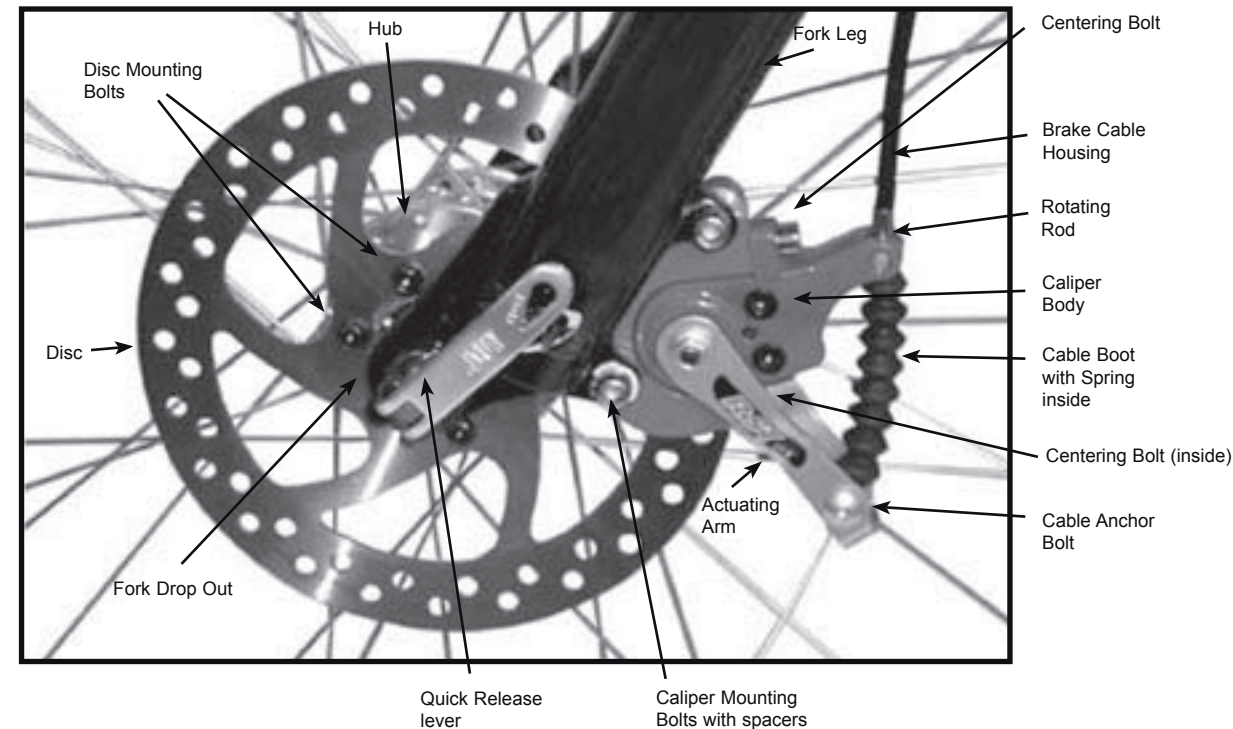
Next, attach the cable to the brake lever by inserting the cable end into the cable end holder after the barrel adjuster and lock nut slots have been aligned with the cable end holder. After the cable is secured to the lever, rotate the barrel adjuster and lock nut so the slots no longer line up. Ensure 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.

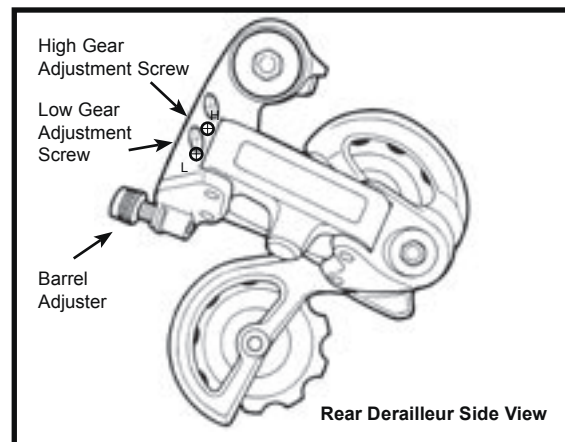
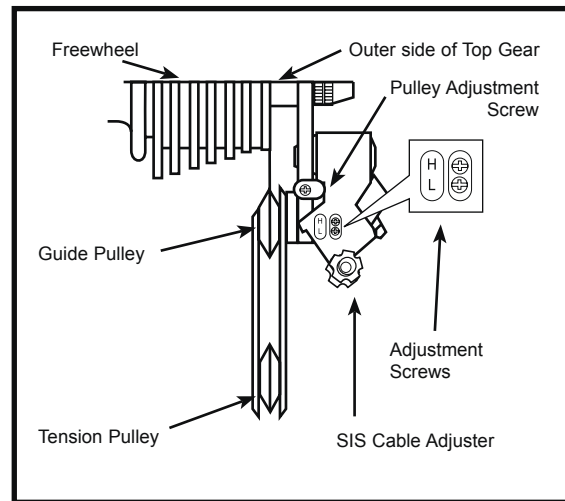


**DISC GETS HOT!** Severe injury could result from contact with the hot disc! Mind your legs, as well as your hands.



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.

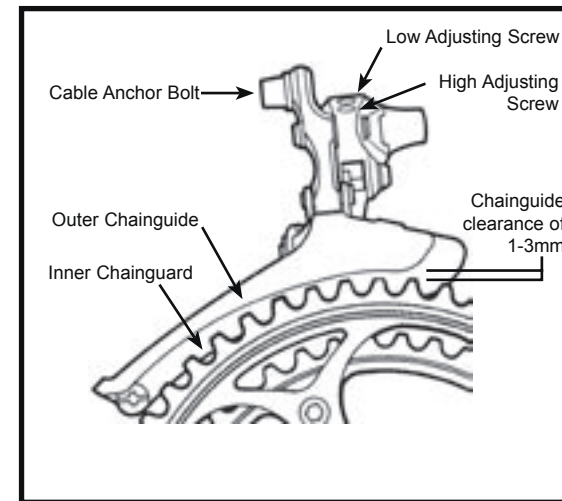
### Rear Derailleur

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 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.

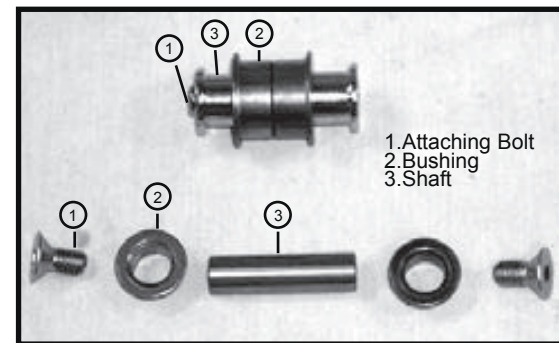
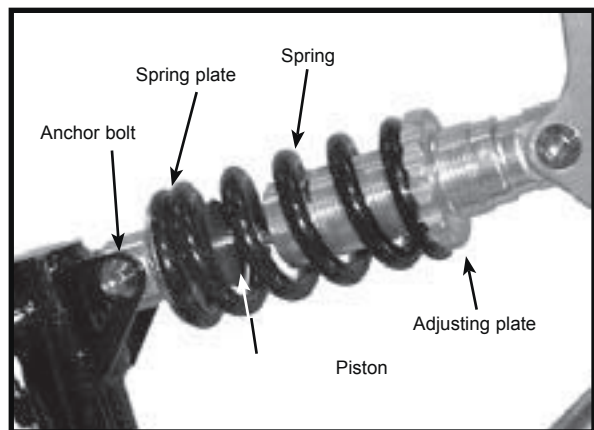


### Dual Suspension

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.



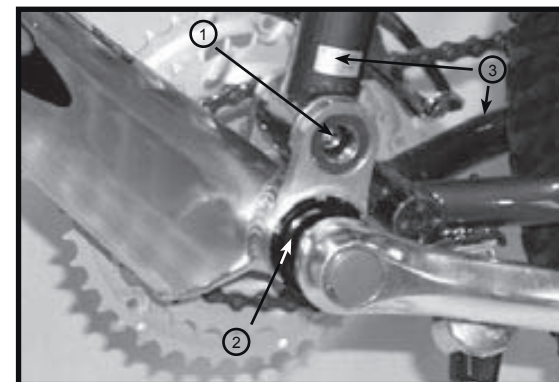
**There must be enough tension on the spring to hold the spring in place. Failure to do this may cause the mechanism to fail.**



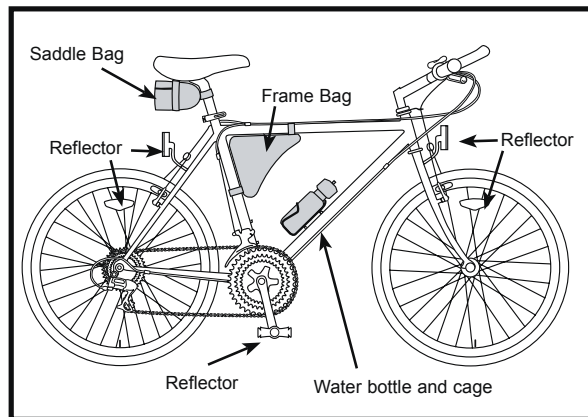
### Rear Pivots

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 dry up and leave a gummy residue.

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.

Most 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.

### Reflectors

Attach the white reflector to the front reflector bracket and secure the 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.**

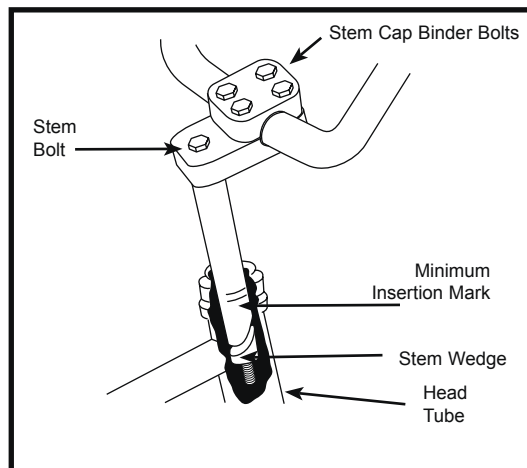
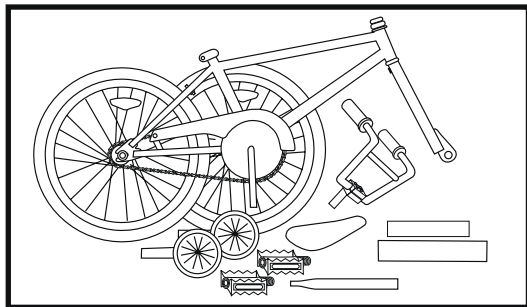


**Do not over-inflate the tires.**

## SINGLE SPEED & BMX

Includes 16" and 20" BMX Bikes

Assembly is the same for boy and girl's bikes.



**Foreword:** Assembling a bicycle is an important responsibility. Proper assembly not only gives the rider more enjoyment of the bicycle; it also offers an important measure of safety.

### 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 in the parts package 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.

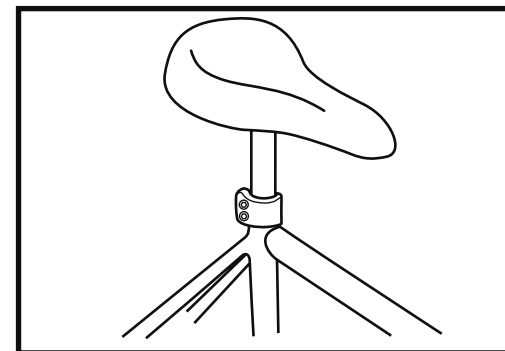
**Note:** Your bicycle may be equipped with different style components than the one illustrated.

### Handlebars

Remove the protective cap from the stem wedge and loosen the stem bolt using the 6mm Allen key. Some models may use a 13mm hexagonal bolt. Place the handlebar stem into the head tube, observing the minimum insertion mark on the handlebar stem and ensuring that all cables are free of tangles. Check that the fork and the handlebar are facing forward, and that they are properly aligned with the front wheel. Tighten the stem bolt. Rotate the handlebar to the desired position and tighten the Stem Cap Binder Bolts securely using a 5mm Allen key.



**The handlebar must be inserted so that the minimum insertion mark cannot be seen. Warning: Over-tightening the stem bolt or headset assembly may cause damage to the bicycle and/or injury to the rider.**

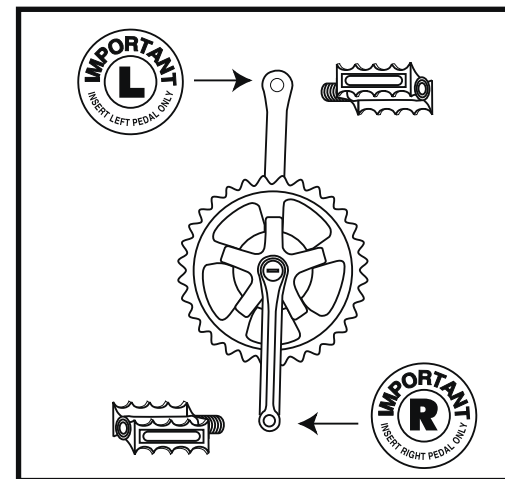


### Seat

Loosen nut on the seat clamp and add 3 or 4 drops of oil onto the threads of the bolt. Place the smaller end of the seat post into the seat clamp until it stops with the bolt to the rear of the seat post. Thread the nut on the seat clamp loosely. 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. Position the top surface of the seat parallel with the ground. The serrations on the seat clamp must mesh completely with the seat frame serration on the seat clamp must mesh completely with the seat. Securely tighten the bolts on the seat post clamp. Turn the bicycle upside down and rest it on the seat and handlebars. If your bicycle is equipped with a quick release mechanism, please refer to page 24-25.



**The seat pillar must be inserted so that the minimum insertion mark cannot be seen.**

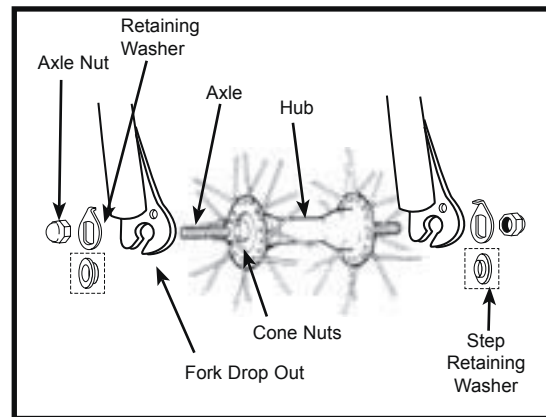


### Pedals & Crank Set

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 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. 74-77 for proper crank set adjustment and maintenance. Once the pedals have been attached, check that the crank arm rotates smoothly and that there is no lateral movement.



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



### Front Wheel

1. Make sure the brakes are loose enough to allow the wheel to pass through the brake pads easily.
2. Place wheel into fork drop outs.
3. Install retaining washers with raised lip pointed towards the fork, and insert into the small hole of the fork blade.
4. Install axle nut and tighten. Make sure the wheel is centered between the fork blades.
5. Spin the wheel to make sure that it is centered and clears the brake shoes. Tighten the brakes if necessary.
6. Turn the bicycle upright using the kickstand to support it.

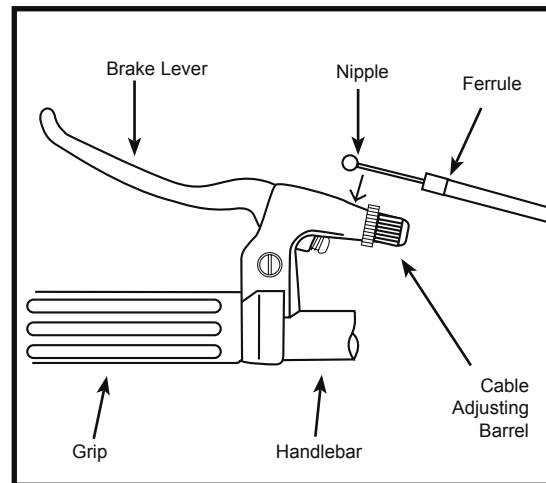


**It is very important to check the front wheel connection to the bicycle. Failure to properly tighten may cause the front wheel to dislodge.**

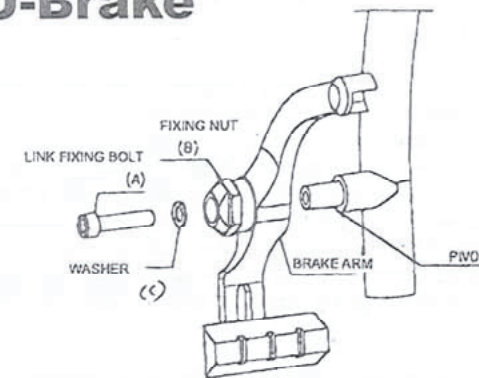
### Front Brake

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, refer to p. 68-71. A greater force is required to activate the rear brake due to longer cable length. It is advisable to mount the rear brake on the side of the stronger hand. It is important to become familiar with the use of hand brakes. When properly adjusted, hand brakes are an efficient brake system. Keep the rim and brake shoes clean and free from wax, lubricant and dirt at all times. **Keep brakes properly adjusted and in good working condition at all times.**

Open the brake lever and place the nipple end of the short brake cable into the lever, then close the lever. Secure the ferrule against the lever using the cable adjusting barrel.



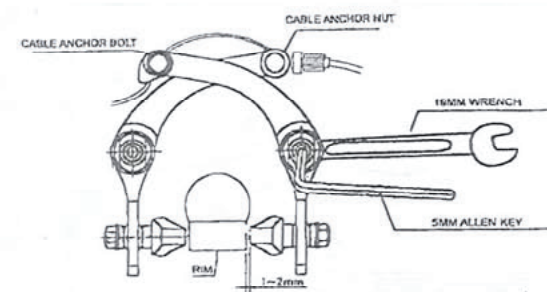
### U-Brake



1. Install left brake arm onto pivot on the frame, assemble washer(C) and the inner hex fixing bolt(A) without fastening them tightly. Repeat the same procedure to assemble the right arm.



2. Position the brake pads and make sure they match well with the rim.
3. Turn 90° clockwise to fasten the tension adjuster washer(B) with a 19mm wrench. Then fasten inner hex fixing bolt with a 5mm Allen key.



4. Repeat 2 and 3 to fix the right arm.

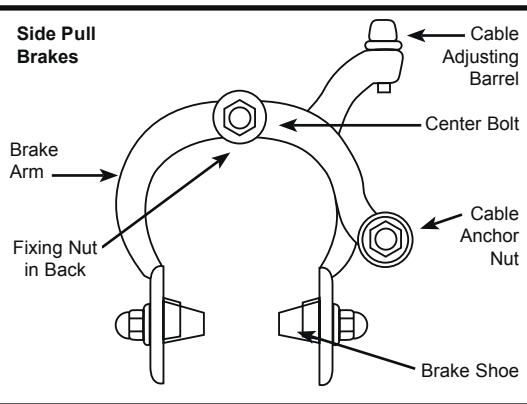
5. Loosen the anchor bolt, then install the cable into the cable anchor nut and then slide the cable under the tabbed washer of anchor bolt.

6. 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.

7. 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.

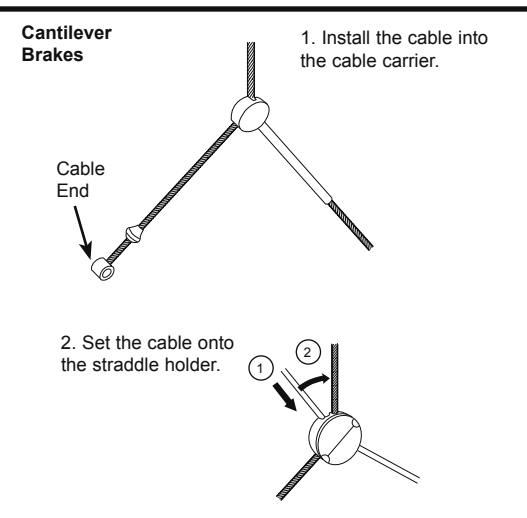
**Warning:** Cut off any unnecessary cable, attach an end cap, and hook it.

**Note:** Both arms are equipped with return spring. To obtain a normal return spring tension, adjust the tension adjuster washer(B) by rotating the washer(B) to the right or to the left.



### Side Pull Brake

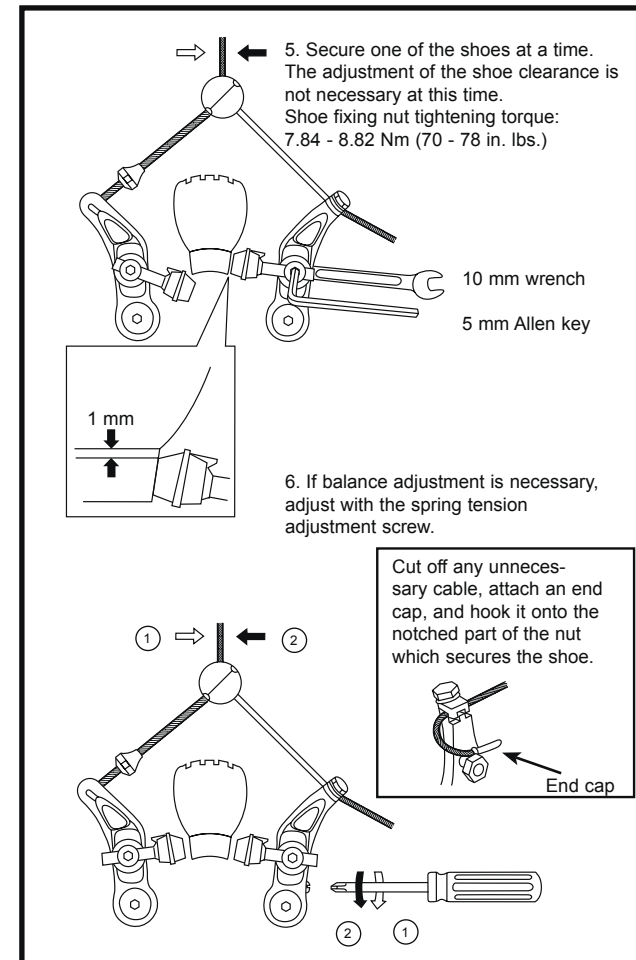
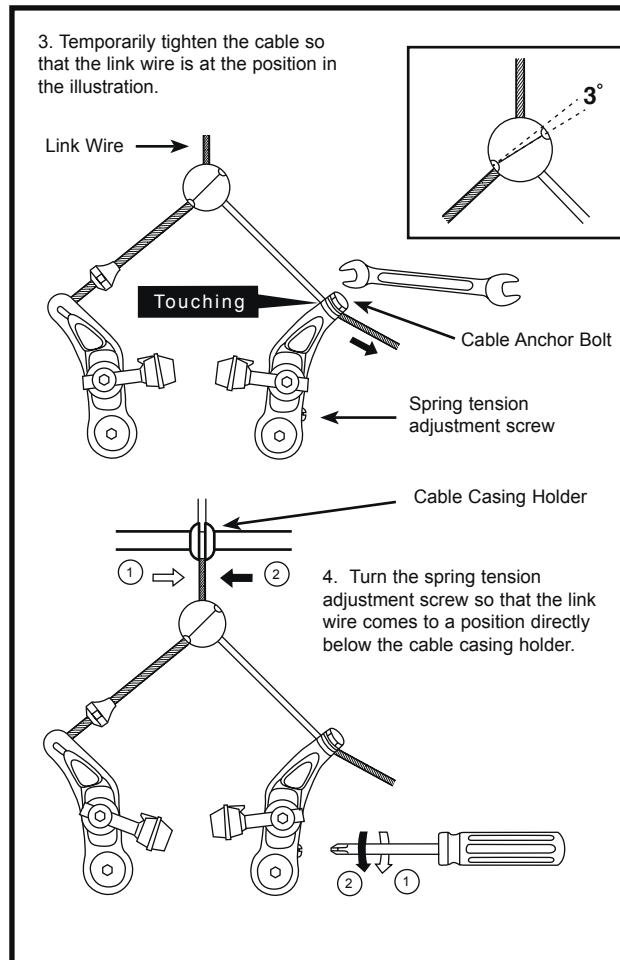
Loosen the cable anchor nut and thread the brake cable through it. Tighten the nut by hand until it holds the cable in place. Squeeze the brake arms together against the rim of the wheel. Loosen the nuts on the brake shoes and turn until they match the angle of the rim. Tighten the nuts securely. Pull down on the end of the brake cable with pliers, hold taut and securely tighten the cable anchor nut. Spin the wheel, the brake shoes should not contact the rim at any point and should be an equal distance from the rim on both sides. Make sure all nuts and bolts are securely tightened. Test the brake levers 20-25 times to take care of any initial cable stretch. Be sure to tightly secure the brake fixing nut behind the fork.



**When assembling or adjusting the brakes, make sure the cable anchor is tight. Failure to securely tighten the nut could result in brake failure and personal injury.**

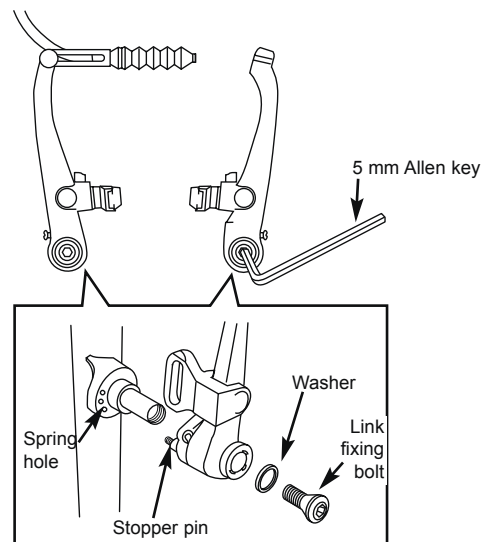
### Cantilever Brakes – Link Wire

If fitted with cantilever type brakes, insert the brakes cable into the link wire lead, and notch the cable end into the slot of the left brake arm. Loosen the anchor bolt on the right brake arm and slide the brake cable under the tabbed washer. Squeeze both brake arms together so the brake shoes hit the rim, pull all slack out 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.

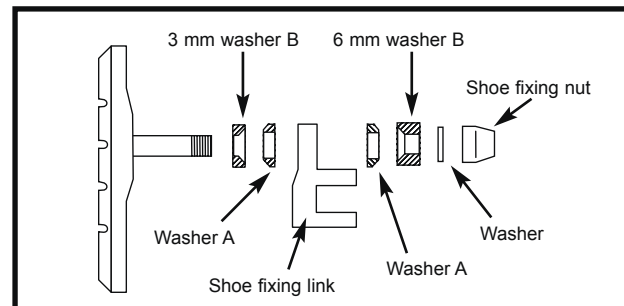
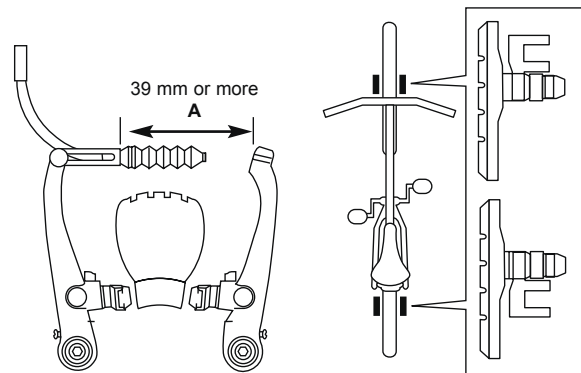


## V - Brake

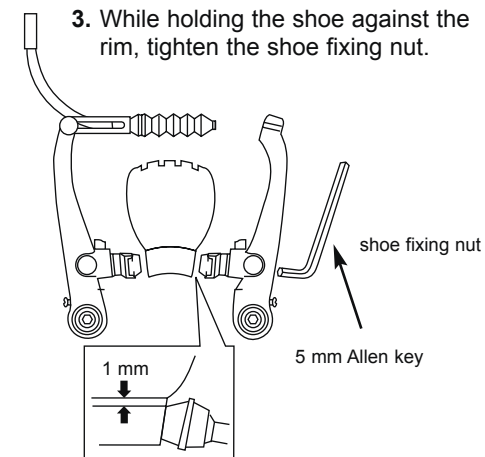
1. If fitted with V-Brakes, insert the brake body into the center spring hole in the frame mounting boss, and then secure the brake body to the frame with the link fixing bolt.



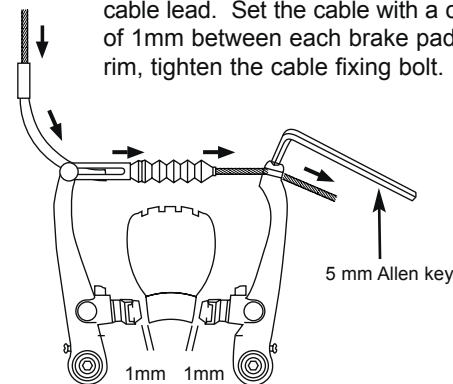
2. While holding the shoe against the rim, adjust the amount of shoe protrusion by interchanging the position of the B washers (i.e. 6 mm and 3 mm) so that dimension A is kept at 39 mm or more.



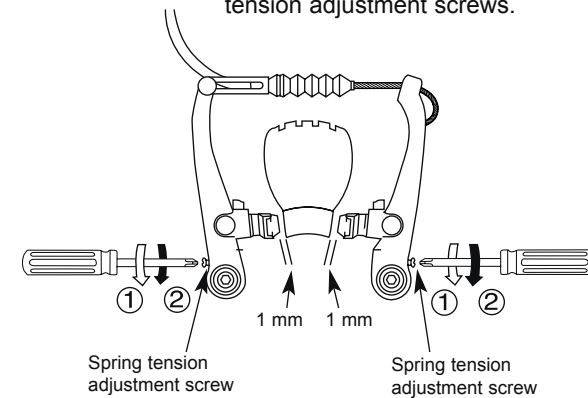
3. While holding the shoe against the rim, tighten the shoe fixing nut.



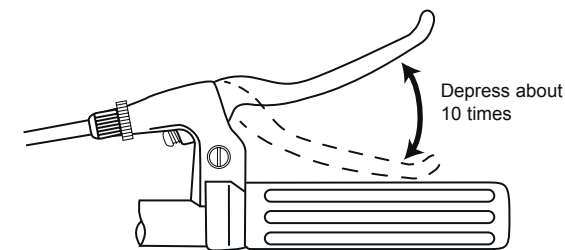
4. Pass the inner cable through the inner cable lead. Set the cable with a clearance of 1 mm between each brake pad and the rim, tighten the cable fixing bolt.



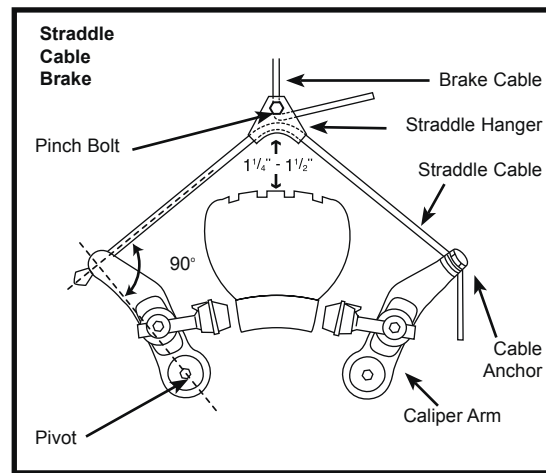
5. Adjust the balance with the spring tension adjustment screws.



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.

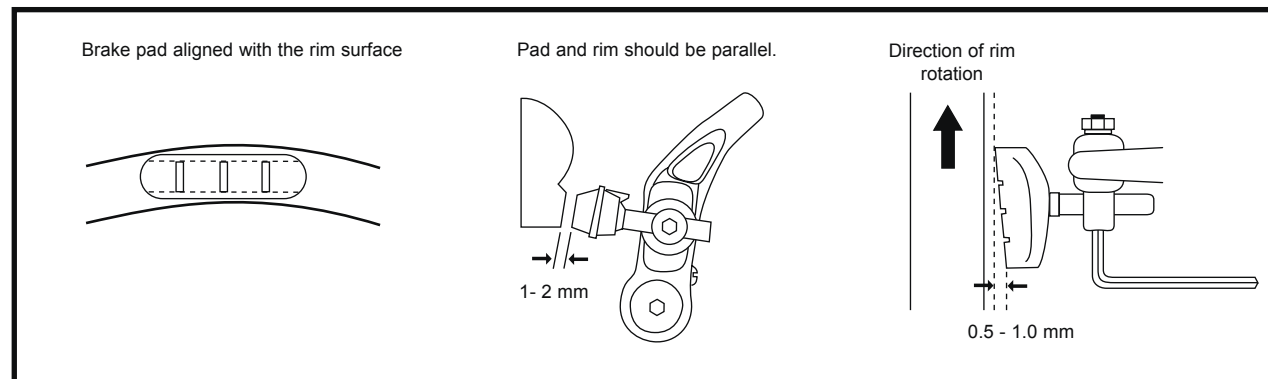






### Cantilever Brakes – Straddle Cable

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 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.

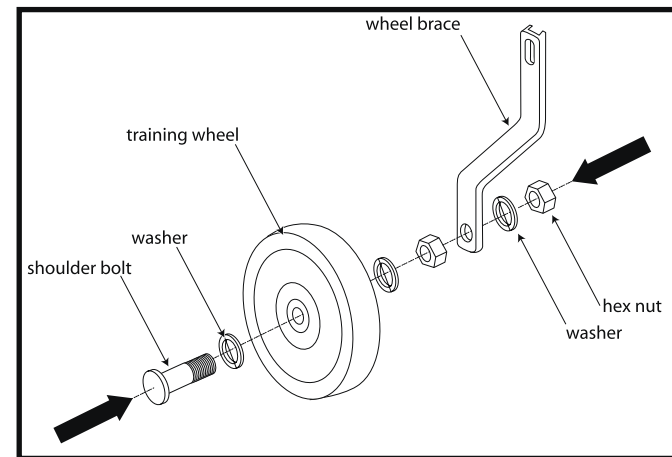


### Check your Brakes

Press each brake lever to make sure that there is no binding and that 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.**



### 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.
2. Insert the shoulder bolt through the brace. Set the "star" washer on the shoulder bolt. Lock into place by screwing another nut onto the shoulder bolt.
3. Remove the nut and washer from the rear wheel axle. Align stabilizer bracket on the wheel axle. Replace the axle nut and washer, secure tightly. The elongated hole on the brace allows for raising or lowering the training wheel to the proper height.



## Rotors

Some freestyle BMX bicycles come equipped with a detangler system that will allow the handlebar to spin 360-degrees with binding the cables. It is very important that this system is adjusted correctly. Installation should only be done by a qualified bicycle mechanic with the correct tools.

### Upper Cable

1. First connect the barrel end of the upper cable to the rear brake lever. Make sure the long cable casing is on top of the short cable casing; otherwise, the upper cable will have a twist in it.
2. Route the upper cable through the handlebars (below the crossbar) with the short cable casing on the same side as the rear brake lever.
3. Connect the upper cable to the upper plate by passing the football ends of the upper cable through the threaded holes in the upper plate and connecting them to the bearing.
4. Screw the adjusting barrels into the upper plate. Don't tighten the locknut at this time.

### Lower Cable

1. Slide the cable casing through the cable guide on the frame.
  2. Connect the lower cable to the lower plate by passing the football ends of the lower cable through the threaded holes in the lower plate and connecting them to the bearing.
  3. Screw the adjusting barrels into the lower plate. Don't tighten the locknut at this time.
  4. Connect the lower cable to the rear brake. Don't adjust the rear brake at this time.
- NOTE: Check to make sure all 11 cable casing ends on the upper and lower cables are seated correctly, and that the spring tension of the rear brake is pulling the bearing down.

### Adjustment

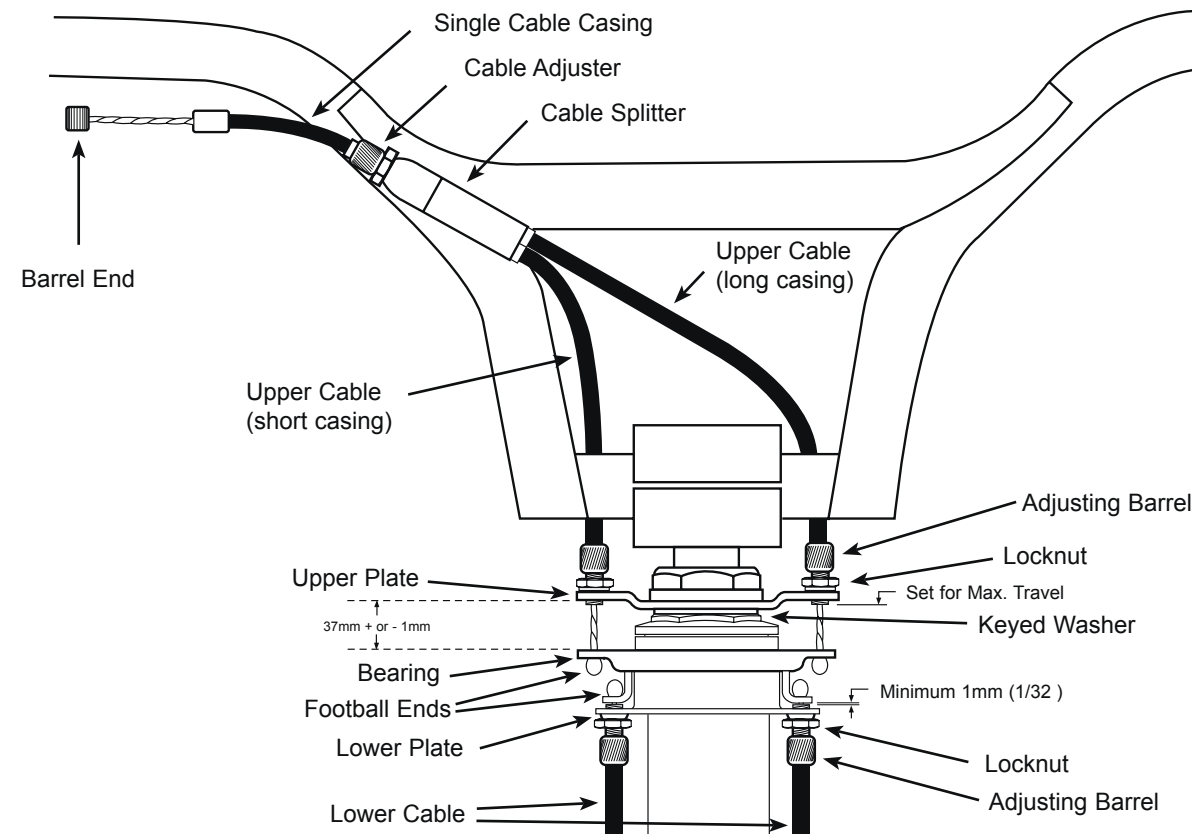
1. Screw the cable adjusters on the rear brake lever and the upper

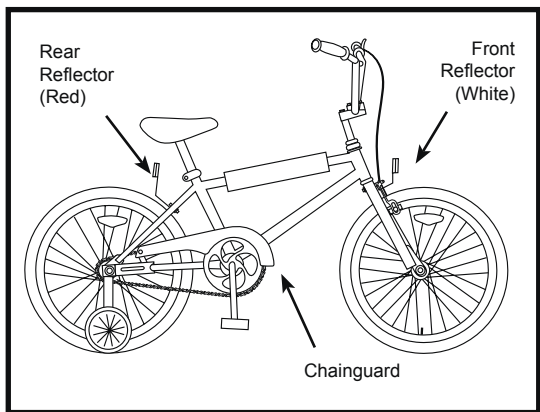
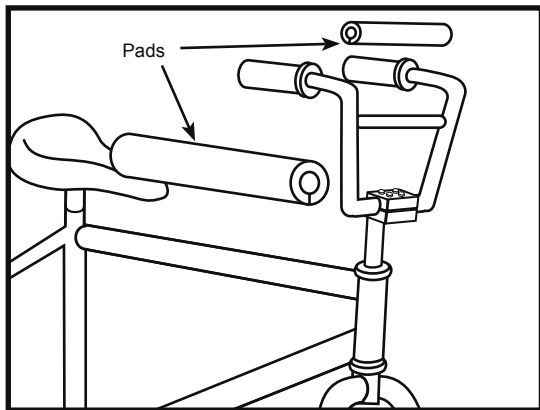
cable splitter all the way in.

2. Screw the adjusting barrels in the upper plate in (or out) to set the bearing for maximum travel. The bearing should be as far down as it can go without resting on the lower plate or the adjusting barrels screwed into the lower plate.
3. Use the adjusting barrels that are screwed into the upper plate. Use a 10mm wrench to tighten the locknut on the left adjusting barrel of the upper cable. Leave the right adjusting barrel loose.
4. Screw the lower cable-adjusting barrel into (or out of) the lower plate until they are as close to the bearing as they can get without touching it.
5. Screw the cable adjuster on the upper cable splitter out until all slack is removed from the upper cable. Then screw the cable adjuster out one more turn to raise the bearing an additional 1mm away from the lower cable adjusting barrels.  
CAUTION: Don't screw the cable adjuster on the upper cable splitter out more than 8mm. Use the cable adjuster on the rear brake lever if more adjustment is needed.
6. Check for bearing flop by placing the handlebars in the normal riding position; then quickly rotate the handlebars back and forth. Perform the following steps to eliminate bearing flop.  
NOTE: The bearing should never be allowed to rest on the lower plate or lower cable adjusting barrels.
  - a. Screw the lower cable adjusting barrels out of (or into) the lower plate until all of the bearing flop is eliminated.
  - b. Tighten the locknut of the right adjusting barrel on the lower cable.
  - c. Rotate the handlebars 180 degrees and recheck for bearing flop. If there is any bearing flop, use the "loose" adjusting barrels on the upper and lower cable to remove it.
  - d. Repeat steps (6a) and (6c) until the handlebars can be rotated 360 degrees without any bearing flop.
7. Finish adjusting the rear brakes.



Failure to adjust correctly may result in loss of braking power and personal injury.





## Final Check

Install any additional parts that are supplied with your bike.

**NOTE:** Your bicycle may be equipped with different style components than the ones illustrated.

**Reflectors:** Attach the white reflector to the front bracket and the red reflector to the rear bracket using a 8mm wrench or a Philips head screwdriver. Attach the brackets to the bicycle using the hardware provided. For some models, the front reflector bracket will be mounted on the front brake assembly bolt that fits through the fork. It is important to make sure all connections are tightened securely and that the reflectors are properly angled.

**Pads:** If your bike is supplied with pads, wrap the foam inner cushion around the appropriate bar. Place the outer cover over the inner cushion and press the velcro together securely. Turn the pad so the velcro faces the ground.

**Chainguards:** If not already attached, attach the chainguard to the bicycle frame using the clamps provided. Secure in place making sure the guard does not bind or get caught on the chain.

**Tire Pressure:** Check tire pressure, inflate to the range recommended on the tire sidewalls.



**Before riding, ensure all nuts, bolts and fittings on the bicycle have been correctly tightened.**