velourban
BICYCLE

MOUNTAINBIKE
OWNER'S MANUAL

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

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Contents

Helmets Save Lives!

- **ALWAYS WEAR A PROPERLY FITTED HELMET WHEN RIDING YOUR BICYCLE**
- **DO NOT RIDE AT NIGHT**
- **AVOID RIDING IN WET CONDITIONS**

Correct Fit ng

Make sure your helmet covers your forehead

Incorrect Fit ng

Forehead is exposed and vulnerable to serious injury

1 Safety

SAFETY SIGNAL WORDS

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

This manual contains many Warnings and Cautions concerning the consequences of failure to follow safety warnings. Because any fall can result in serious injury or even death, we do not repeat the warning of possible injury or death whenever the risk of falling is mentioned.

⚠ WARNING!

Indicates a hazard or unsafe practice that will result in severe injury or death. Failure to read, understand and follow the safety information in this manual may result in serious injury or death.

⚠ CAUTION!

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

NOTICE

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

USER RESPONSIBILITY

⚠ WARNING!

Do not install any kind of power plant or internal combustion engine to a bicycle. Adapting a bicycle in this manner poses an extreme safety risk to rider and could result in loss of control or death.

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

It is the responsibility of the user, or in the case of a child rider, an adult, to ensure the bicycle is properly maintained and in proper operating condition. Doing so will reduce the risk of injury. Always conduct regular maintenance and inspection of your bicycle. Complete the Safety Checklist at the end of this section before each use.

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

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

BICYCLE SETUP

⚠ WARNING!

I Inability to safely reach the handlebars and dismount the bicycle may result in loss of control of the bicycle. If the bicycle has a top tube on the frame, ensure there is one to three inches of clearance between the rider and the top tube.

Improper setup or maintenance of the bicycle may result in an unexpected movement, loss of control, and serious injury or death.

Correct Bicycle Size

Riding a bicycle that is not correctly sized to the rider may result in the rider's feet not being able to touch the ground and balance the bicycle, properly reach the handlebar for steering or braking, and loss of control when pedaling.

Use the wheel size in the following table as a guide to match the rider and bicycle. For example, bicycles with a wheel size of 12 inches fit a rider that is 28 to 38 inches tall. **Note:** Some bicycles such as folding bicycles may have smaller wheels but still fit adults.

the bicycle has a top tube on the frame, check that there is one to three inches of clearance between the rider and the top tube. **Figure 1.1**

Wheel Size	Riders Approximate Height
12 inch	28 - 38 inches tall
16 inch	38 - 48 inches tall
18 inch	42 - 52 inches tall
20 inch	48 - 60 inches tall
24 inch	56 - 66 inches tall
26 inch, 27.5 inch, 29 inch	64 - 74 inches tall

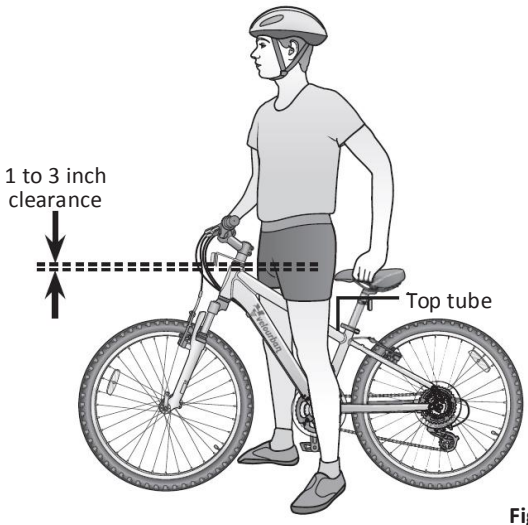

Figure 1.1

Seat Height and Handlebar Reach

⚠ WARNING!

Improperly adjusted seat height could affect the rider's ability to reach the handlebar and pedals may result in an unexpected movement, loss of control, and serious injury or death. Follow these guidelines when adjusting the seat height. Always ensure the seat post ***minimum insertion marks*** are below the seat clamp and ***cannot*** be seen. Ensure the seat clamp is locked and the seat cannot move.

1. Your legs should be almost completely straight when the pedal is in the down most position, just a slight bend in the knee. **Figure 1.2**

   Note: The rider's feet may not touch the ground easily. If this is the case the rider can simply move forward off the seat to mount and dismount the bicycle or the seat can be adjusted lower if the rider is uncomfortable with the height, but note that riding is more difficult with the seat too low, as the legs are in an unnatural position.

   Do not raise the seat so much the knees lock straight when pedaling or you have to move forward off the seat to pedal. This is unsafe and the bicycle cannot be controlled in this condition.

2. You should be able to safely reach the handlebar with your arms bent slightly (approximately 10 degrees) at the elbow.

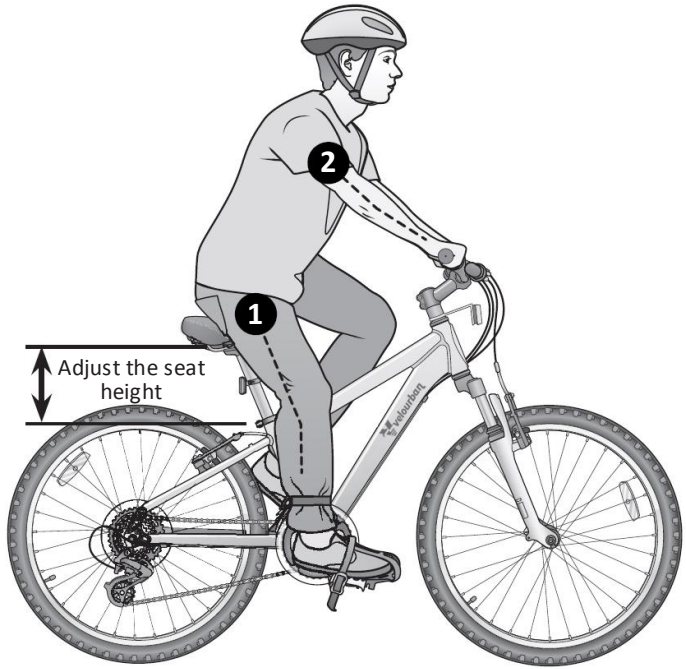

Figure 1.2

Quick-release Levers

⚠ WARNING!

Improper setup or maintenance of the quick-release levers may result in an unexpected movement, loss of control, and serious injury or death. Before riding always check that the quick-release lever is firmly locked in place and the seat does not move.

Wheels

1. Some bicycles will come equipped with quick-release levers for the front wheel. The wheels must be securely locked. Ensure the wheel quick-release lever is firmly locked in place. **Figure 1.3**

Seat Post

2. Ensure the seat post's ***minimum insertion marks*** are **not** visible above the quick-release seat clamp and the clamp is locked in place.

   Note: See ***Section 4: Adjusting the Seat Height*** if adjustments are needed.

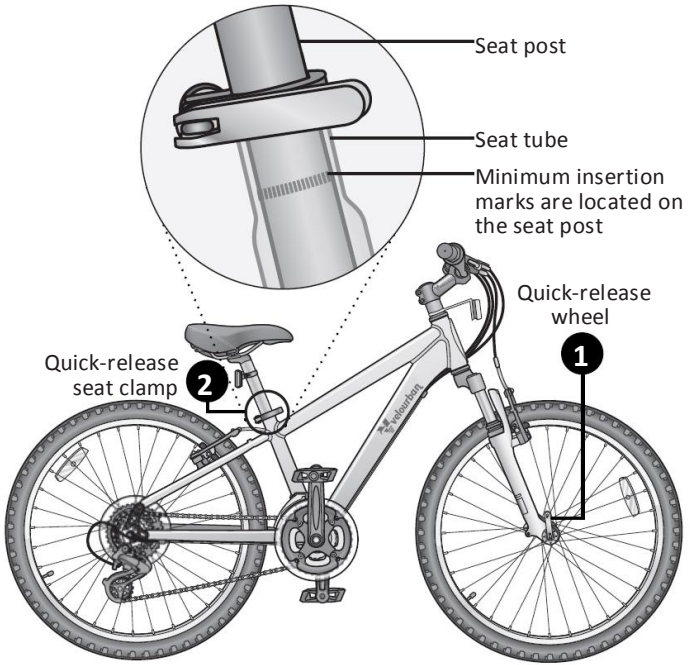

Figure 1.3

PERSONAL SAFETY

⚠ WARNING!

Riding a bicycle without protective gear, clothing, or a helmet may result in serious injury or death. Always wear protective gear, clothing, and helmet when riding the bicycle. Ensure protective gear does not interfere with steering, braking, and pedaling.

Protective Gear and Clothing

Always wear: Figure 1.4

- Colors that are easily seen and, if possible, reflective clothing.
- Clothing appropriate for the weather conditions.
- Use of protective gear such as pads for the knees and elbows is highly recommended for children.

Do not wear:

- Loose clothing parts, strings, or jewelry that may become entangled with moving parts on the bicycle or interfere with handling of the bicycle.
- Pants with loose pant legs. If necessary, always tuck pant legs into a sock or use a leg band to avoid the clothing becoming caught in the drive chain.
- Shoes with untied shoe laces.

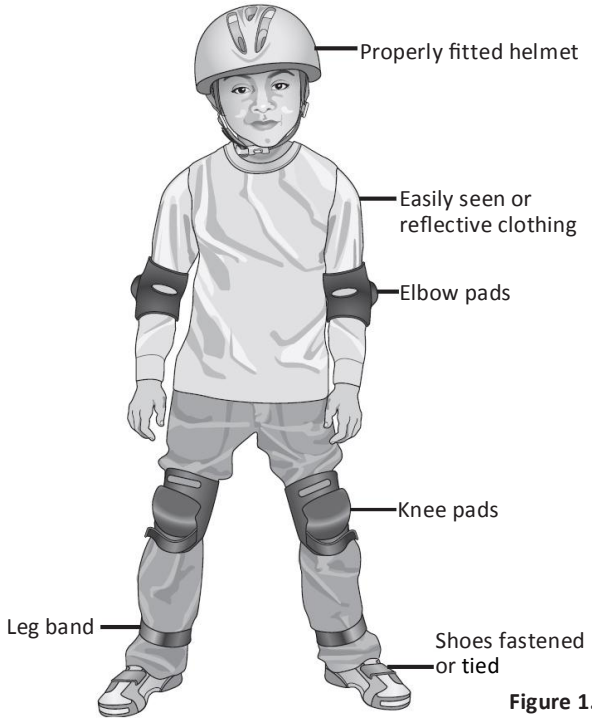

Figure 1.4

Helmet Use

Important! Many states and provinces have passed helmet laws. Make sure you know your state's helmet laws. It is your job to enforce these rules with your children. Even if your state/ province does not have a children's helmet law, it is recommended that everyone wear a helmet when cycling. When riding with a child carrier seat or trailer, children must wear a helmet.

It is strongly advised that a properly fitting, ASTM or SNELL approved, bicycle safety helmet be worn at all times when riding your bicycle. In addition, if you are carrying a passenger in a child safety seat, they must also be wearing a helmet.

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The correct helmet should: Figure 1.5

- Be comfortable
- Have good vent lat on
- Fit correctly
- Cover forehead

Incorrect helmet position:: Figure 1.6

- Helmet ***does not*** cover the forehead

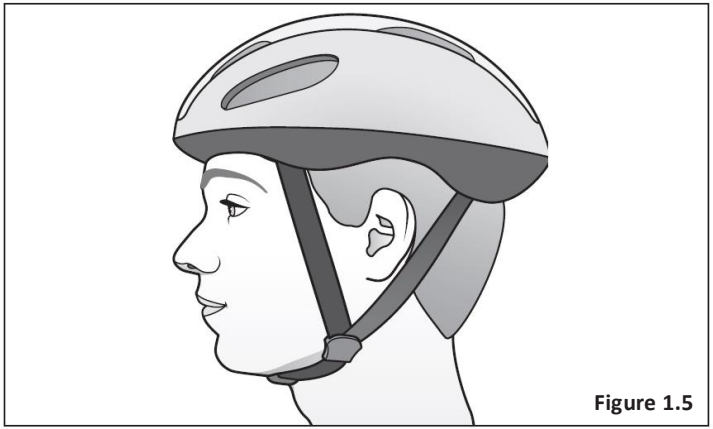


Figure 1.5

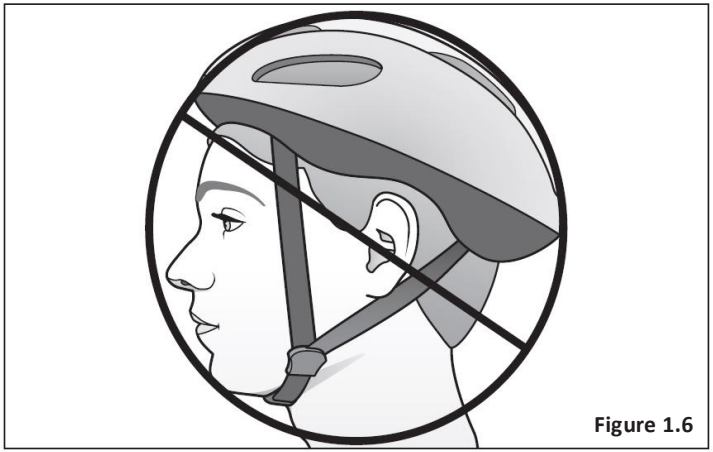


Figure 1.6

Reflectors

⚠ WARNING!

Missing, damaged, or dirty reflectors will affect the ability of others to see and recognize you as a moving bicyclist, increasing the risk of being hit, serious injury or death. Always check the reflectors are in place and make sure they are clean, straight, unbroken and securely mounted before riding the bicycle.

Important! Federal regulations require every bicycle over 16 inches to be equipped with front, rear, wheel, and pedal reflectors. Many states require specific safety devices. It is your responsibility to familiarize yourself with the laws of the state where you ride and to comply with all applicable laws, including properly equipping yourself and your bike as the law requires. Bicycles under 16 inches are considered “sidewalk bicycles” and may not be fitted with reflectors. These bicycles should **not** be ridden on streets, at night or unsupervised by an adult.

Check and confirm the front and rear reflectors are in the correct position: **Figure 1.7**

- **Front Reflector:** Should aim forward (when viewed from above) and be mounted so it is within 5 degrees of vertical.
- **Rear Reflector:** Should aim straight back (when viewed from above) and be mounted so it is within 5 degrees of vertical.

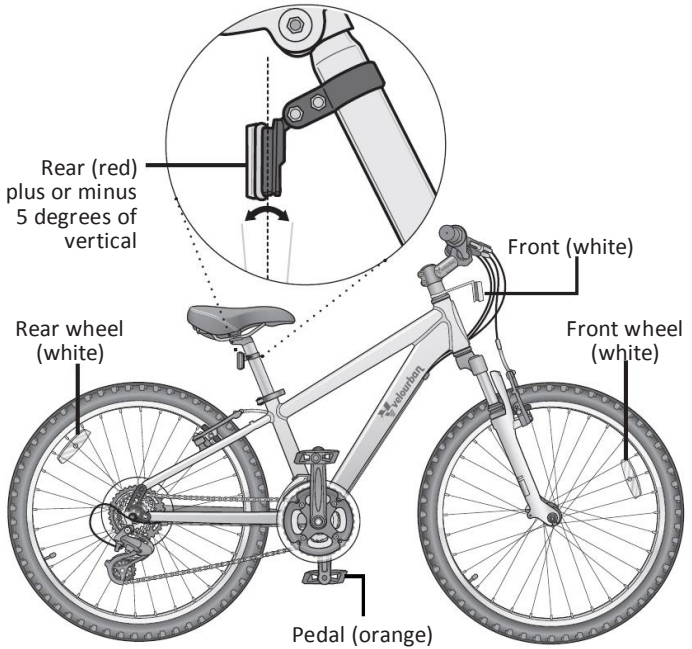


Figure 1.7

BEFORE YOU RIDE SAFETY CHECKLIST

Before every ride, it is important to carry out the following safety checks. Do not ride a bicycle that is not in proper working condition!

Accessories

☐ The reflectors are properly placed and not obscured.

☐ All other fittings on the bike are properly and securely fastened, and functioning.

☐ The rider is wearing a properly fitted helmet (protective gear if necessary) and that clothing and loose items are properly constrained.

Bearings

☐ All bearings are lubricated, run freely and display no excess movement, grinding or rattling.

Brakes

☐ The front and rear brakes work properly.

☐ The brake pads are not overly worn and are correctly positioned in relation to the discs.

☐ The brake control cables are lubricated, correctly adjusted and display no obvious wear.

☐ The brake control levers are lubricated and t ghtly secured to the handlebar.

Chain

☐ The chain is oiled, clean and runs smoothly.

Cranks and Pedals

☐ The pedals are securely tightened to the crank arms.

☐ The crank arms are secured to the axle and are not bent.

Frame and Fork

☐ The frame and fork are not bent or broken.

☐ The quick-release clamps are locked in place.

Steering

☐ The handlebar and post are correctly adjusted and tightened, and allow proper steering.

☐ The handlebars are set correctly in relat on to the forks and the direct on of travel.

☐ The handlebar binder bolt is tightened.

Wheels and Tires

☐ The rims do not have dirt or grease on them.

☐ The wheels are properly attached to the bicycle and axle.

☐ The tires are properly inflated within the recommended pressures displayed on the tires sidewall.

☐ The tires have the proper amount of tread, no bulges or excessive wear.

❷ Parts Identification

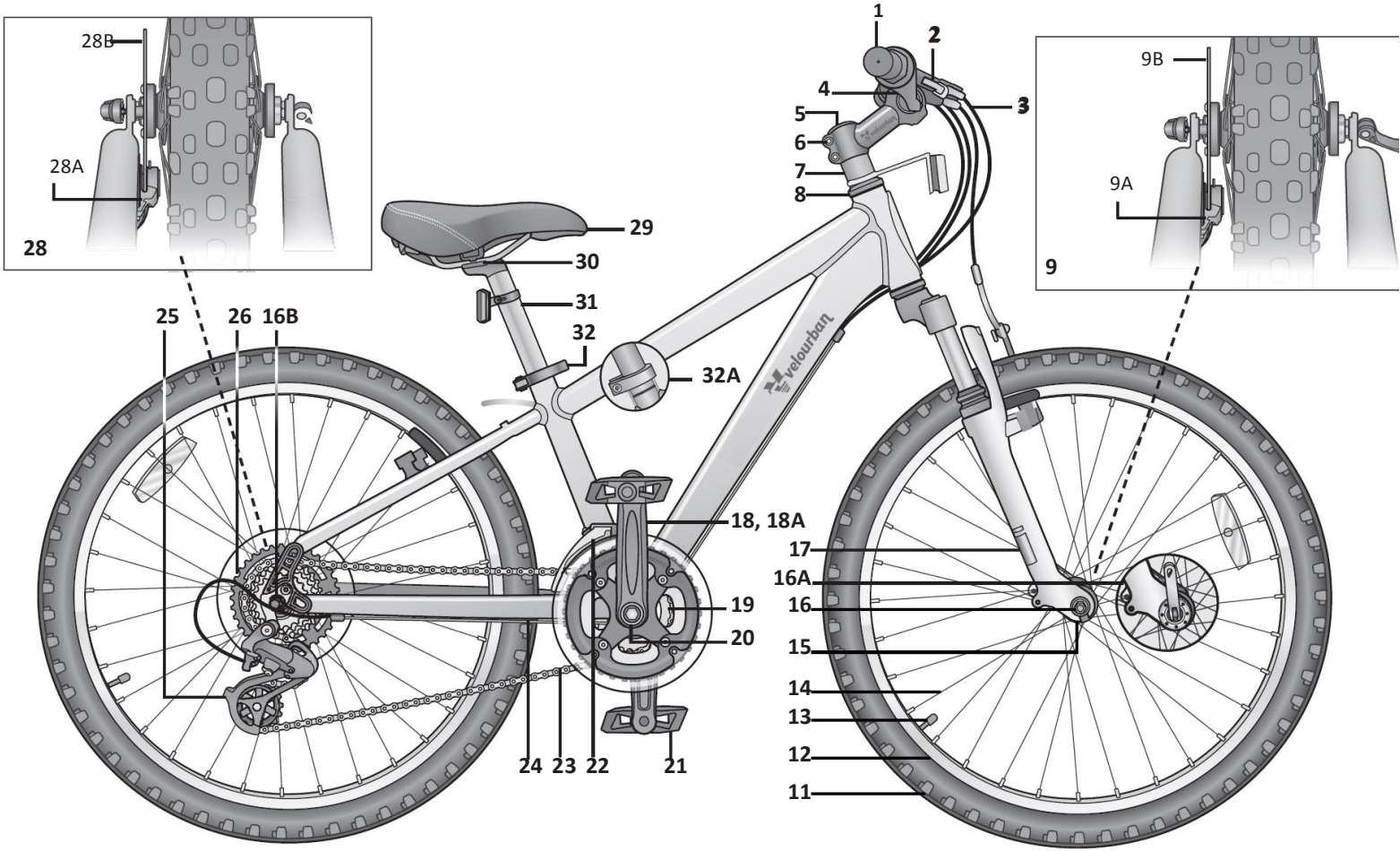
Mountain Bicycle

Get to know the parts of your bicycle. This will help with assembly, maintenance, and troubleshoot ng. Models vary in color and style.

	Part name	
1	Handle grip	
2	Rear brake lever	
3	Brake cable	
4	Handlebar	
5	Stem binder bolt	
6	Handlebar binder bolt(s)	
7	Stem	
8	Headset	
9	Caliper brake assembly	
9A	Brake caliper	
9B	Brake disc	
9C	Brake pads hardware	
10	Caliper brake attaching nut	
11	Tire	
12	Rim	

	Part name	
13	Valve stem	
14	Spoke	
15	Fork dropout	
16	Wheel axle nut (front)	
16A	Wheel quick-release (opt on)	
16B	Wheel axle nut (rear)	
17	Front fork	
18	Crank arm (1-piece)	
18A	Crank arm (3-piece)	
19	Chainwheel	
20	Bottom bracket lockring	
21	Pedal	
22	Front derailleur	
23	Chain	
24	Chain stay	

	Part name	
25	Rear derailleur	
26	Freewheel	
27	Linear brake assembly	
28	Brake caliper assembly	
28A	Brake caliper	
28C	Brake disc	
29	Saddle (seat)	
30	Seat post attaching hardware	
31	Seat post	
32	Seat post quick-release	
32A	Seat post bolted clamp (opt.)	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❸ Assembly

⚠ WARNING!

- Improper assembly of this product may result in serious injury or death. Always follow the instructions in this manual and check critical components (e.g. wheels, seat, pedals, brakes, derailleurs, tires) before each use.
- We recommend that you consult a bicycle specialist if you have doubts or concerns as to your experience or ability to properly assemble, repair, or maintain your bicycle. If your bicycle was obtained assembled, we recommend that you read these instructions and perform checks specified in this manual before riding.

Your new bicycle was assembled and tuned in the factory and then partially disassembled for shipping. You may have purchased the bicycle already fully assembled and ready to ride **or** in the shipping carton in the partially disassembled form. The following instructions will enable you to prepare your bicycle for years of enjoyable cycling.

For more details on inspection, lubrication, maintenance and adjustment of any area please refer to the relevant sections in this manual. If you have questions about your ability to properly assemble this unit, please consult a qualified specialist before riding

TOOLS REQUIRED

GETTING STARTED

1. Open the carton from the top and remove the bicycle. **Figure 3.2**

2. Remove the straps and protective packaging from the bicycle. **Important!** Do not discard packing materials until assembly is complete to ensure that no required parts are accidentally discarded.

3. 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. **Note:** We recommend using a lithium based grease on the parts before assembly.

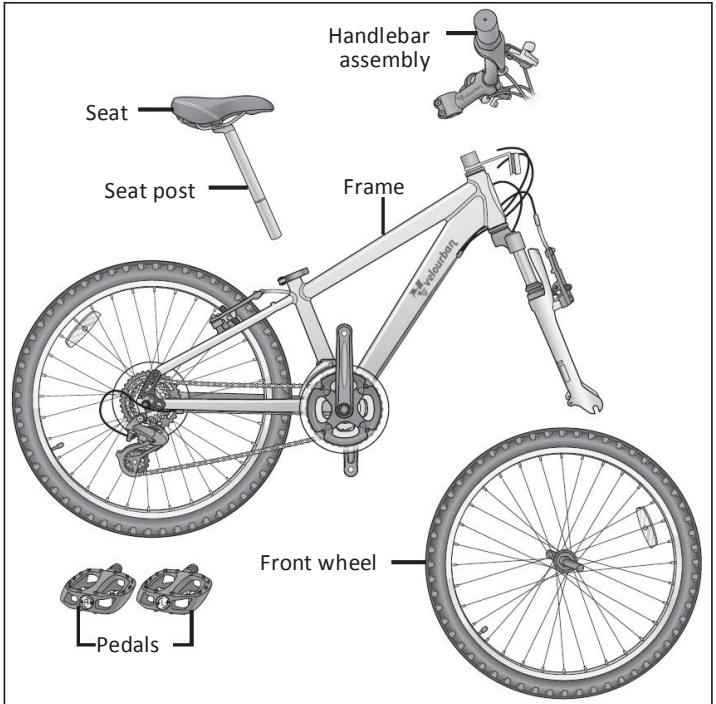

Figure 3.2

ATTACH THE FRONT WHEEL

Nutted Front Wheel

1. Position the front wheel between the front fork legs with the axle resting inside the fork drop outs. Insert the disc rotor into the slot on the caliper body as you insert the wheel axle into the fork drop out. **Important!** Be sure the wheel is as ***centered*** as possible between the fork legs. **Figure 3.11**

2. Place the axle washers on the axle and slide it up against the fork drop out.

3. Attach the two axle nuts on the axle. Tighten one nut part way, then tighten the other nut. Repeat until both sides are tightened securely. Be sure that the wheel is centered between the fork legs.

4. If the wheel is off center, loosen the axle nut on the side that has a smaller gap between tire and fork leg and use your hand to push the wheel to a centered position; hold the wheel with one hand and tighten the axle nut and check again. Repeat if needed to be sure the wheel is centered and securely tightened.

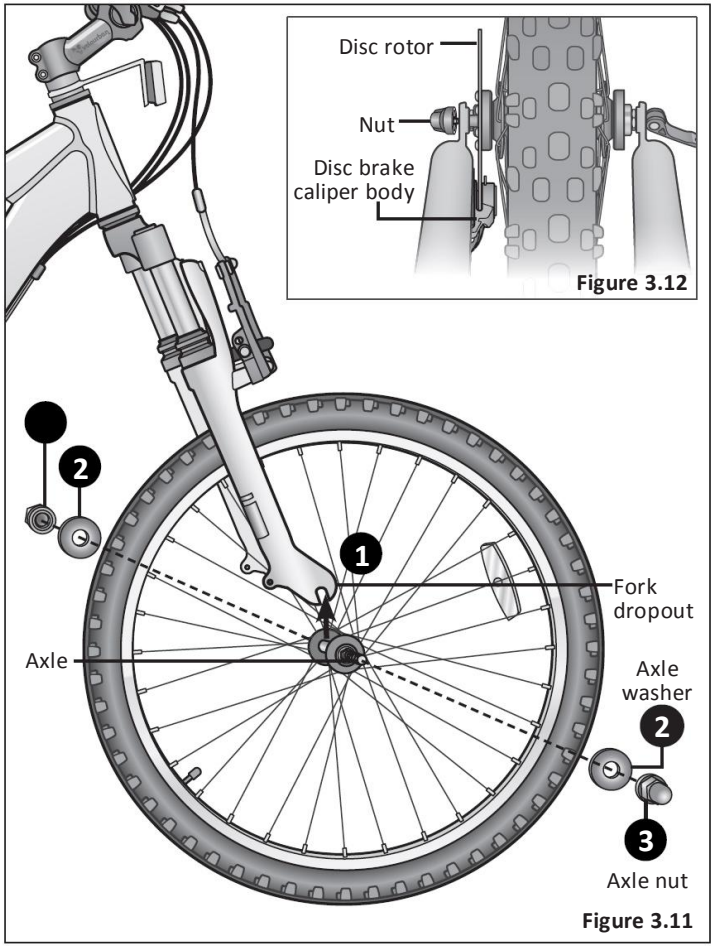

Figure 3.12

Figure 3.11

Quick-release Seat Clamp

1. Unlock the quick-release lever and insert the seat post into the seat tube. **Figure 3.17**

2. Adjust the seat height up or down until the rider feels they have control of the bicycle and is comfortable.

   Important! Be sure the ***minimum insertion marks*** do not go past the top of the seat clamp and are ***not*** visible. See ***Section 1, Fig. 1.2: Seat Height and Handlebar Reach***.

3. Close the quick-release lever and lock the seat in place. If there is not enough pressure to hold the seat in place open the quick-release lever. With one hand on the quickrelease lever and one hand on the adjustment nut, start to hand tighten the adjustment nut until you start to feel some resistance against the seat clamp post. ***Do not*** attempt to tighten by turning the quick-release lever. The quick-release lever is for closing, the adjustment nut is for adjusting the pressure. **Figure 3.18**

4. Try to close the quick-release lever. If it closes easily, open it up and tighten the adjustment nut further. If it is too difficult to close, open the quick-release lever up and loosen the adjustment nut a little and try again.

   Important! You should feel resistance when you close the quick-release lever that should leave a temporary impression on your fingers. Open and close the handle to ensure the seat is securely locked in place.

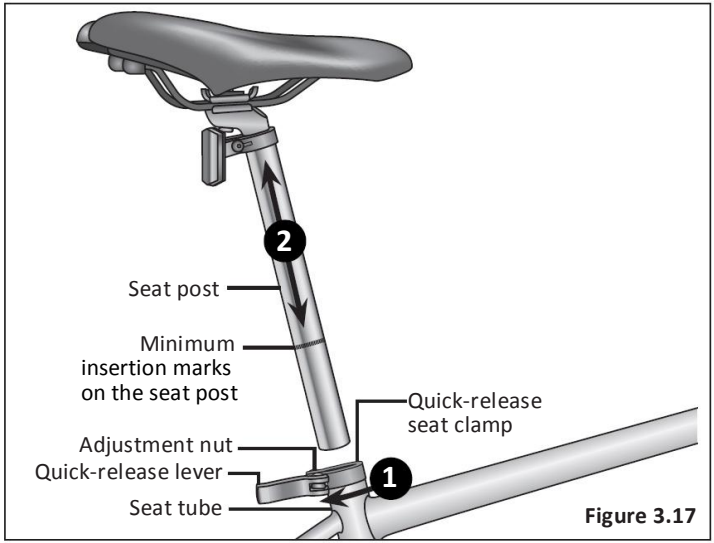

Figure 3.17

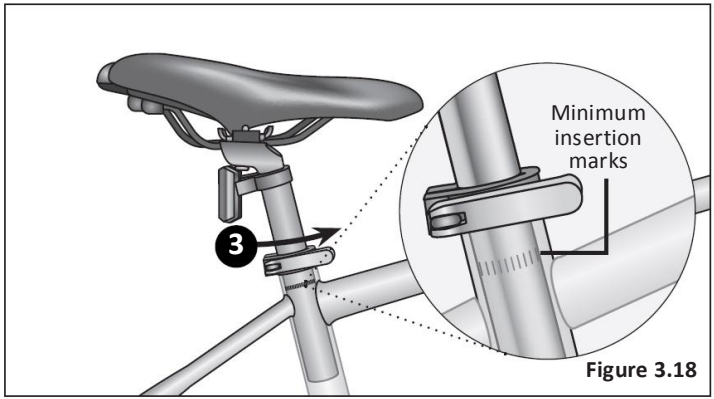

Figure 3.18

ATTACH THE PEDALS

⚠ WARNING!

- Attachment of an incorrect pedal into a crank arm can strip pedalthreads and cause irreparable damage. Visually match the R and L stickers on the pedal and crank arm before attaching the pedals. Before your first ride, please check to ensure your pedals are attached correctly.
- It is very important that you check the crank set for correct adjustment and t ghtness before riding your bicycle.

1. Match the pedal marked R with the right-hand crank arm and match the pedal marked L with the lef -hand crank arm. **Figure 3.20**
2. Place the threaded pedal into the threaded hole on the crank arm.
3. By hand, slowly turn the spindle the correct direction. Clockwise f or right side pedal, counterclockwise for left side pedal. **Important!** Stop if you feel resistance! This may be an indication the spindle is entering the hole at an angle. Remove the spindle and repeat step two.
4. If the spindle is entering the hole cleanly then use supplied wrench to tighten completely.
5. Remove the dust caps and tighten the crank axle nuts using supplied bicycle wrench.

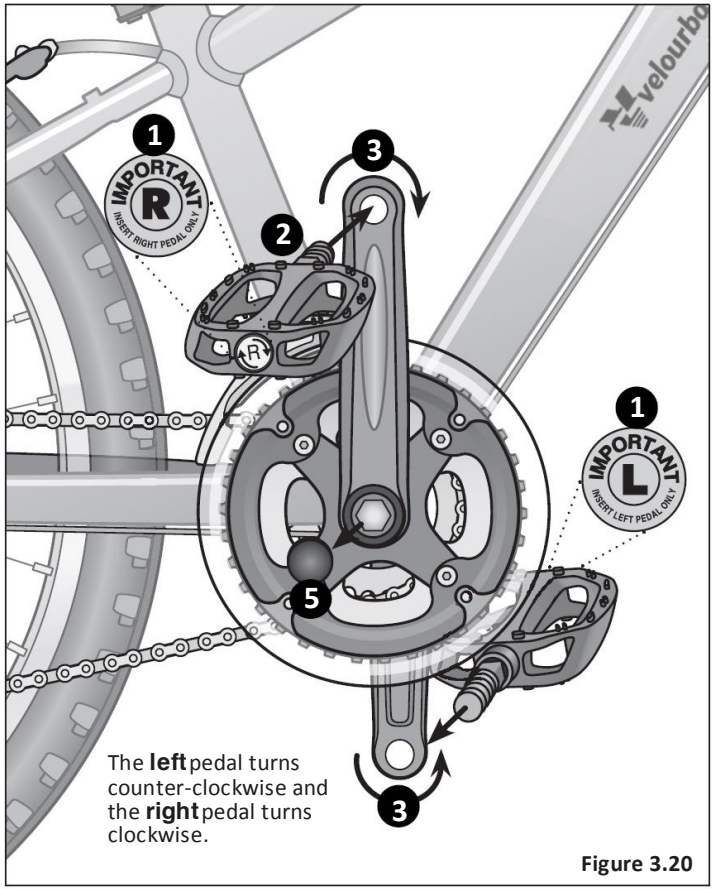

Figure 3.20

4 Adjustments

Adjusting the Disc Brake

⚠ WARNING!

- Disc brakes are sharp, keep fingers away from the brake caliper and rotor. If fingers contact the disc brake while the wheel is turning serious injury may occur.

Important! Different types of disc brakes may require specific adjustments not covered in this section. If you are unsure of what needs to be done see a ***qualified bicycle mechanic***.

Misalignment of the disc brake may be due to the following:

- The wheel is not centered.
- The caliper body is misaligned.
- The brake pads are not centered.

Center the Wheel

1. Rotate the wheel and look at the gap between the rim and fork. If the gap is uneven, loosen the axle nuts and adjust until the wheel and disc rotor are centered.**Figure 4.16**

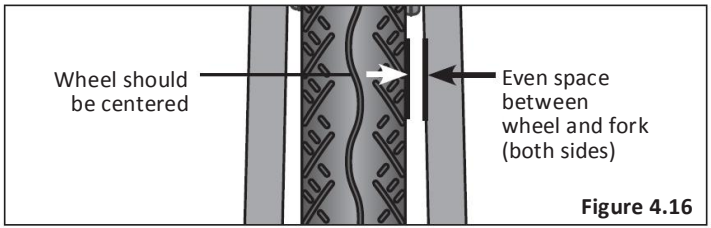

Figure 4.16

Realign the Caliper Body

1. Using a 5 mm Allen wrench, loosen the two centering adjustment screws. Adjust the caliper body unt l the gap between the disc rotor and the brake pads in the caliper body is even (1/32" per side). **Figure 4.17**

2. Tighten the centering adjustment screws.

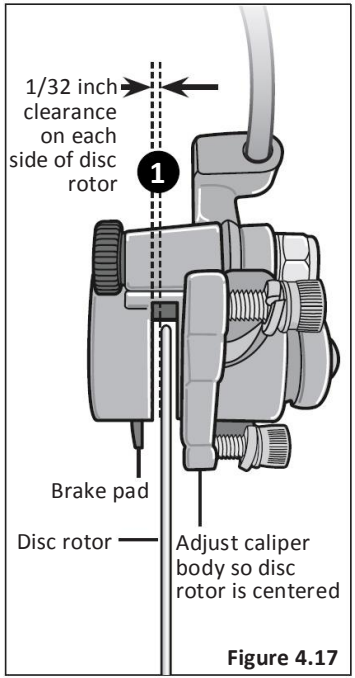

Figure 4.17

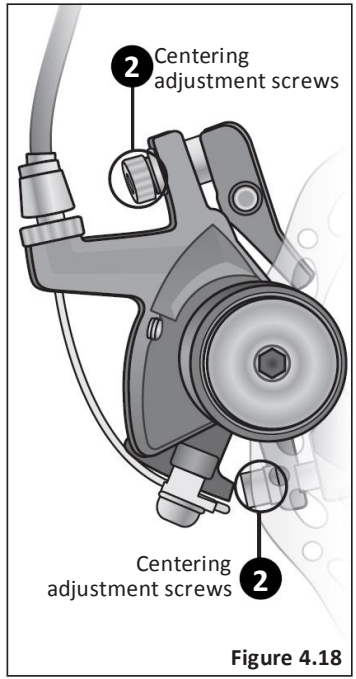

Figure 4.18

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Center the Brake Pads

1. Insert a 1/32" spacer gage between the disc rotor and brake pad. **Figure 4.19**
2. Using a 2.5 mm Allen wrench, loosen the set screw.
3. Using a 5 mm Allen wrench, turn the brake pad adjustment screw to move the brake pad. Turning the pad clockwise moves it towards the disc rotor, counterclockwise moves the pad away from the disc rotor.
4. Adjust the pad unt l the gap between the disc rotor and the brake pads are even (1/32" per side).
5. Re-tighten the set screw.

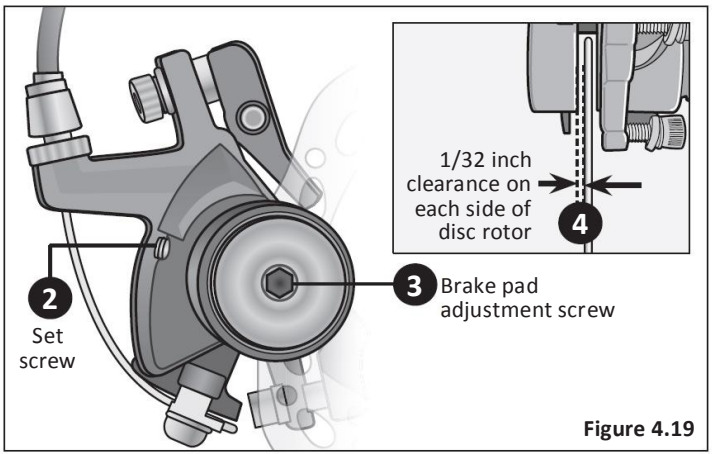

Figure 4.19

Attaching the Brake Cable to the Brake Arm

1. If the brake cable wire is not attached to the brake arm then loosenthe cable anchor bolt until you can see a gap large enough for the brake cable wire. **Figure 4.20**
2. Pull on the brake cable wire and place it under the cable anchor bolt.
3. Tighten the cable anchor bolt. **Note:** The brake cable should ***not*** be "pulling" on the brake arm.

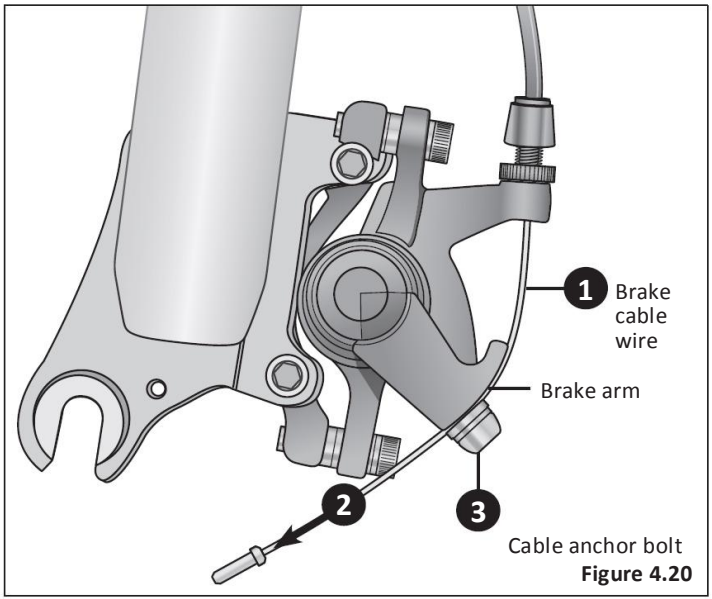

Figure 4.20

Adjusting the Cable Tension

1. Check that the brake cable tension allows the brake lever about 1/3 of the travel before the brake pads contact the disc rotor. If the cable has stretched or slipped, re-adjust the brake cable tension. **Figure 4.21**

2. At the caliper body, or brake lever, slightly loosen the jam nut that is next to the adjustment barrel. **Figure 4.22**

3. Turn the adjustment barrel to adjust the cable tension. Turning clockwise will loosen the brake cable tension, counter-clockwise will tighten the brake cable tension.

4. Re-check that the brake cable tension allows the brake lever about 1/3 of the travel before the brake pads contact the disc rotor. When you have the brake tension you want then tighten the jam nut.

Brake is correctly adjusted when:

- The brake pads do not drag on the disc rotor.
- Both brake pads move away from the disc rotor equally when the brake is released.
- When the brake is applied, the brake pads contact the disc rotor before the brake lever reaches about 1/3 of the way to the handlebar.

Af er brake adjustment, squeeze the brake lever as hard as you can several t mes and re-inspect if the wheel and brake pads are centered. If necessary, repeat brake adjustments.

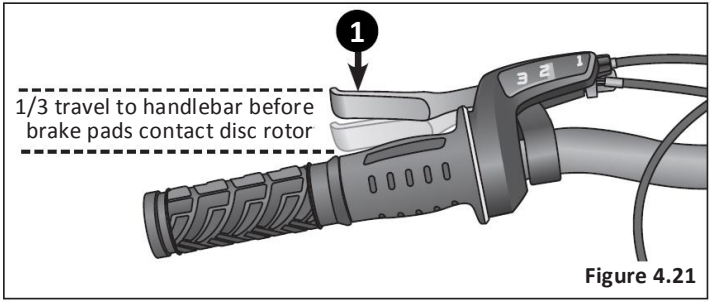

Figure 4.21

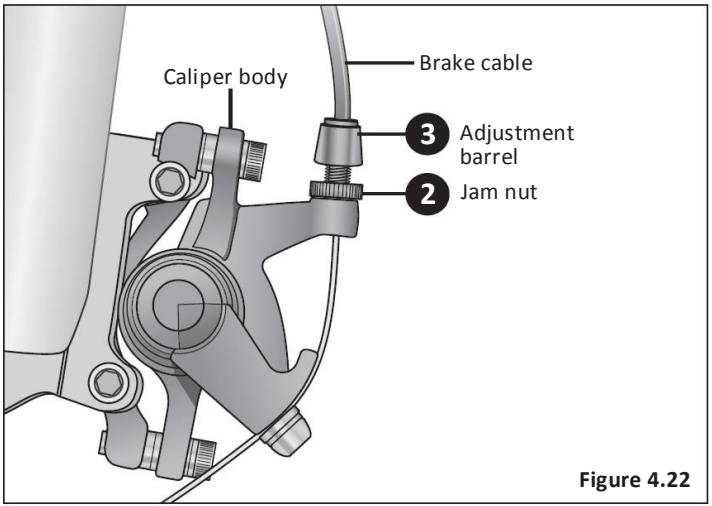

Figure 4.22

ADJUSTING THE HANDLEBAR

⚠ WARNING!

- Improper adjustment of the handlebar may result in damage to the stem post, steering tube and result in loss of control, serious injury or death. Ensure the ***minimum insertion marks*** on the stem post are ***not*** visible above the top of the headset.
- Failure to properly tighten handlebar components may result in loss of control, serious injury or death. Always check the handlebar cannot move and is secured to the frame before riding the bicycle.

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Adjusting the Handlebar Height

Instructions for adjusting the handlebar height depend on whether your bicycle has a ***quill*** or ***clamp (threadless) stem***. **Figure 4.29**

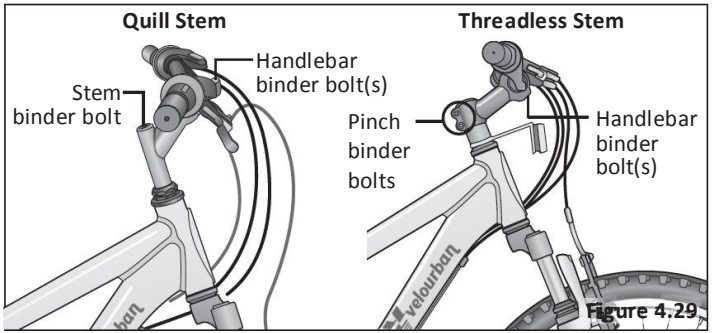

Figure 4.29

Align the Handlebar (with quill stem)

1. Stand in front of the handlebar and hold the front wheel between your legs.
2. Using an Allen wrench, loosen the stem binder bolt and move the handlebar left or right until it is aligned with the front wheel**. Figure 4.30**
3. Tighten the stem binder bolt and check the handlebar is securely attached and cannot move.

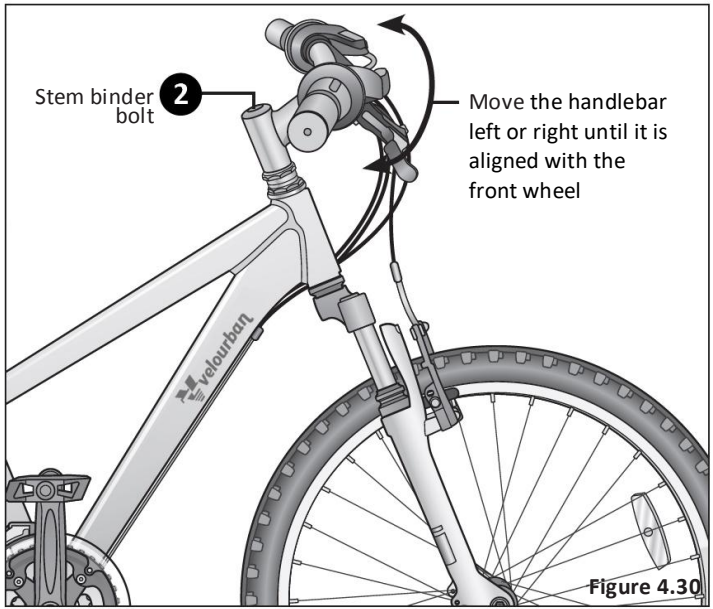

Figure 4.30

Align the Handlebar (with threadless stem)

1. Stand in front of the handlebar and hold the front wheel between your legs.
2. Using an Allen wrench, loosen the pinch binder bolts and move the handlebar left or right until it is aligned with the front wheel. **Figure 4.31**
3. Tighten the stem binder bolt and check the handlebar is securely attached and cannot move.

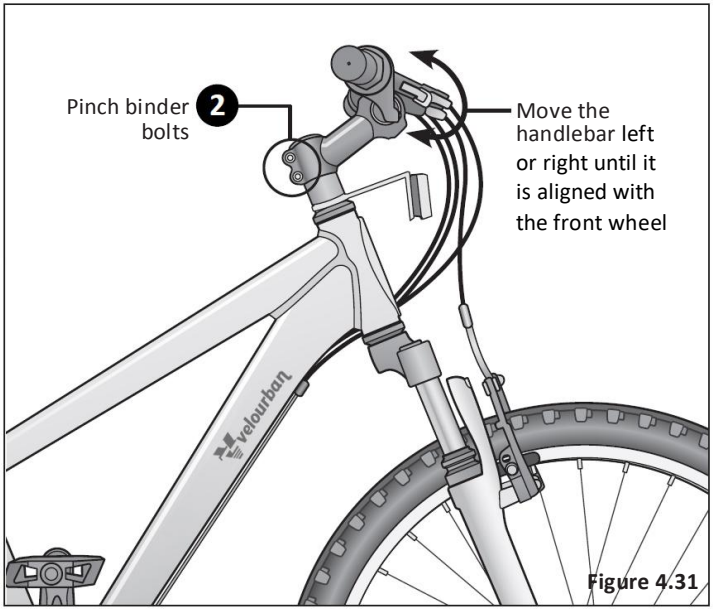

Figure 4.31

Adjust the Handlebar Angle (all stem types)

1. Using an Allen wrench loosen the handlebar binder bolt(s). **Figure 4.32**
2. Rotate the handlebar into the desired position.
3. Check that the handlebar is centered to the frame and front wheel. Sit on the seat and check your reach to grips, shifters and brakes. Refer to ***Section 1, Fig. 1.2: Seat Height and Handlebar Reach*** for guidelines.
4. Tighten the handlebar binder bolt(s) and check the handlebar is securely attached and cannot move.

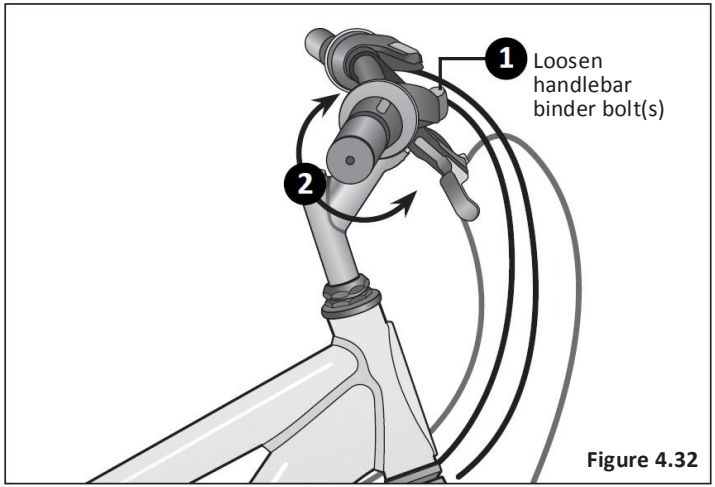

Figure 4.32

Adjusting a Threadless Headset

Threadless headsets are similar to threaded headsets, they use two sets of bearings and bearing cups. Unlike a threaded headset, a threadless headset does not have an upper threaded race or use a threaded steerer tube. Instead the steerer tube extends from the fork all the way through the head tube and above the headset and is held in place by the stem clamped on top.

Conduct the following checks to determine if there is play in the headset:

1. Shakiness: Apply the front brake and push the handlebars back and forth, front to back or if the bicycle is on a workstand and the front wheel removed, push and pull on the forks. If you feel a knocking sensation or "clunk" it means the headset is too loose. **Important!** Use care with suspension forks, because the legs may have play in sliders. Grab upper portion of fork. **Figure 4.36**

2. Stiffness: Lift the front of the frame so the front wheel is off theground. The handlebar and wheel should flop to one side or another. If there is drag or binding the headset is too tight.

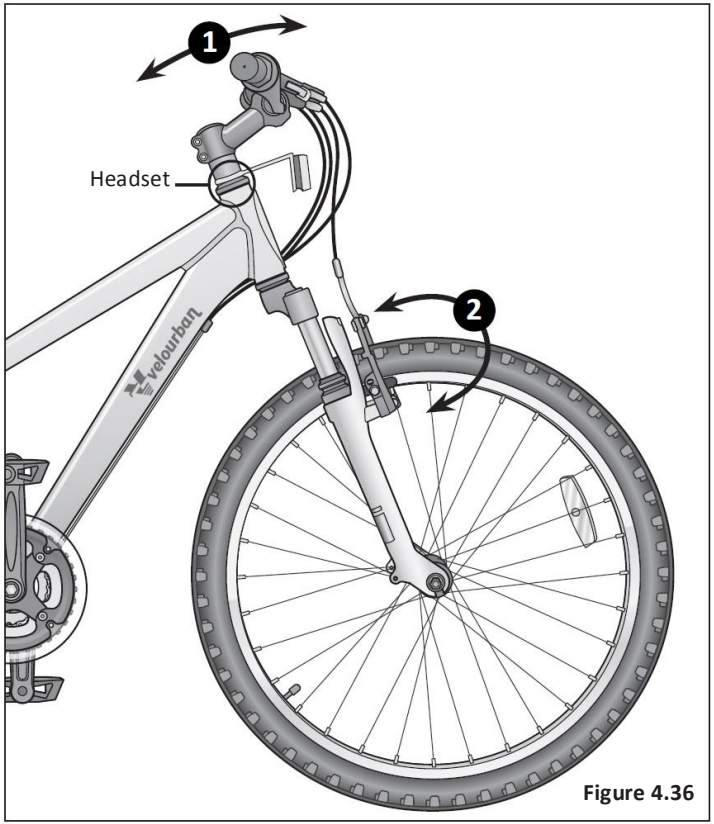

Figure 4.36

1. Loosen the top cap bolt and remove the top cap.

   Important! ***Do not*** disassemble the headset or loosen any parts. Be sure the end of the fork is on the ground or being held with your free hand, because once you loosen the top cap the fork assembly may fall out of the frame. **Figure 4.37**

2. Check that the gap between the top of the steerer tube and top of the stem is between 3 - 5 mm (1/8" - 3/16"). **Figure 4.38**

   If the gap is not correct add or remove spacers until it is. The stem needs to press down on the spacers in order to adjust the bearings. If the gap is correct then re-install the top cap and tighten the top cap bolt until it is snug. ***Do not over tighten***.

3. Slightly loosen the stem pinch bolts. The stem probably won't move but make sure the stem remains aligned with the fork and wheel.

4. Re-install and tighten the top cap down with a 1/4 to 1/2 turn of the top cap screw and test for shakiness in the headset. If there is still play in the headset then turn the top cap bolt another 1/4 to 1/2 turn. Repeat this process until the shakiness is gone.

5. Lift up the front wheel of the bicycle, if the wheel ***does not*** move freely left to right the top cap bolt is too tight. If this is the case turn the top cap bolt back some.

6. Repeatsteps 3 and 4 until there is no play in the headset. If the play in the headset cannot be rectified with these adjustments see a ***qualified bicycle mechanic for these repairs.***

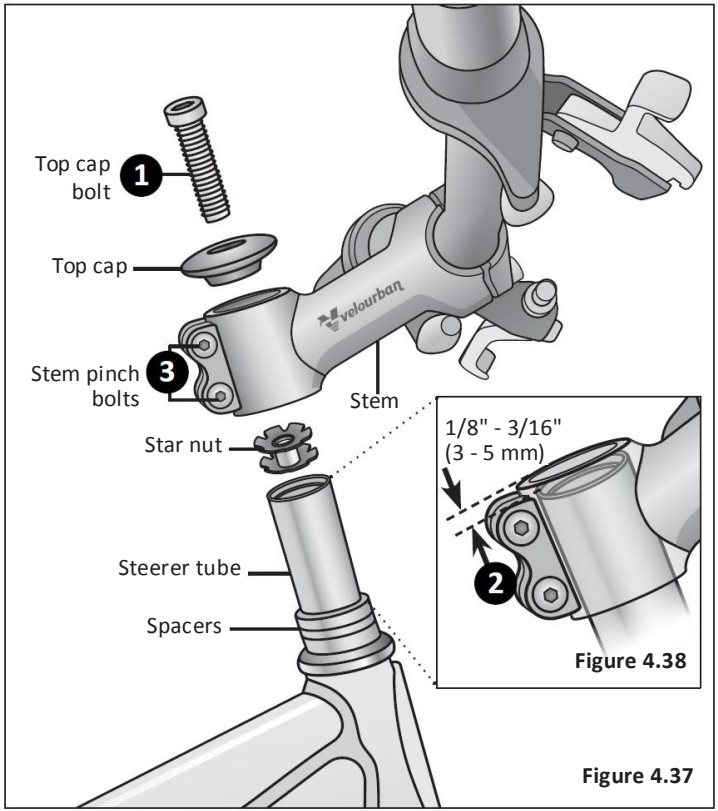

Figure 4.38

Figure 4.37

5 Use

⚠ WARNING!

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

BRAKE OPERATION

⚠ WARNING!

- If the front brake is applied too quickly or too hard, the Front wheel can stop turning resulting in a front pitch over or cause the bicycle to lose steering function leading to a crash.
- Disc brake rotor's become hot during use and can burn the skin if contacted. Do not touch or come in contact with the disc rotor when it is hot. Allow it to cool before touching.

Hand operated brakes have a separate hand lever to operate front and rear brakes. Front hand brake levers are located on the left side of the handlebar, and rear hand brake levers are located on the right side of the handlebar. **Figure 5.1**

You may operate one brake at a time, or all together, however, be careful to pay close attention to front brakes locking up. To avoid this:

- Apply both brakes simultaneously, while shifting your body weight back slightly to compensate for braking force.
- As terrain changes, the rider must practice and learn how the bicycle will respond in a new terrain or weather change. The same bicycle will react differently if it is wet, or if there is gravel on the road etc.
- Always test the brakes and be sure you feel comfortable with The reaction. If the riding conditions are too steep (off road for example) and you are unsure, dismount the bicycle and walk past the questionable terrain before riding again.
- Remember that as you apply the brakes your weight will want to shift forward, and the wheels will want to stop.

Note: See ***Section 4: Adjusting the Brakes*** for information on brake adjustment.

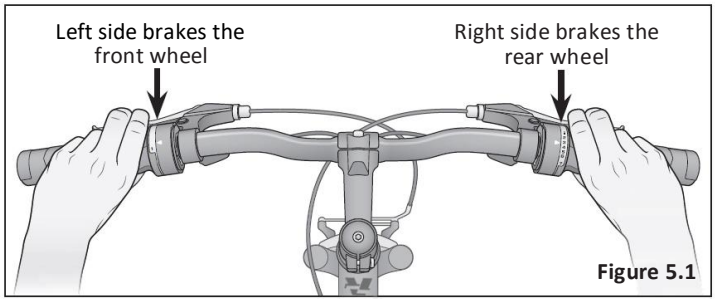

Figure 5.1

GEAR OPERATION

⚠ WARNING!

Improper shifting can result in the chain jamming, or becoming derailed resulting in loss of control, serious injury or death Always be sure the chain is fully engaged in the desired gear before pedaling hard. Avoid shifting while standing up on the pedals or under load.

Multi speed bicycles can have ***internal*** or ***derailleur*** gear systems.

Important! Best practices for proper shifting:

- Pedal the bicycle with little pressure on the pedals, and move the shifter one gear at a time, ensuring that the chain is fully engaged in that gear before applying more pressure on the pedals.
- For bicycles with 3 front chain rings; avoid “Cross Chaining”, Which is the position when the chain is in the smallest cog in the rear combined with the inner or smallest chain ring in the front, or the largest cog in the rear and the outer or largest chain ring in the front. These gear positions put the chain at the most extreme angle and can cause premature wear to the drivetrain. Bicycles with 3 front chain rings have enough gear “overlaps” that these gears are not needed. **Figure 5.2**
- It is OK to ride the whole time in only one gear if this is comfortable.
- Shift only while pedaling forward and seated. When shifting, lessen the pressure exerted on the pedals during the shift.
- Once you have successfully shifted gears, it is OK to start to pedal hard if desired.
- Pedaling hard while shifting can cause the chain to skip and not engage the appropriate gear.
- Backpedaling should be avoided on derailleur bikes because the chain can jam and cause the bike to become unstable.

  See ***Section 4: Adjusting the Derailleur*** for further information on proper gear adjustment.

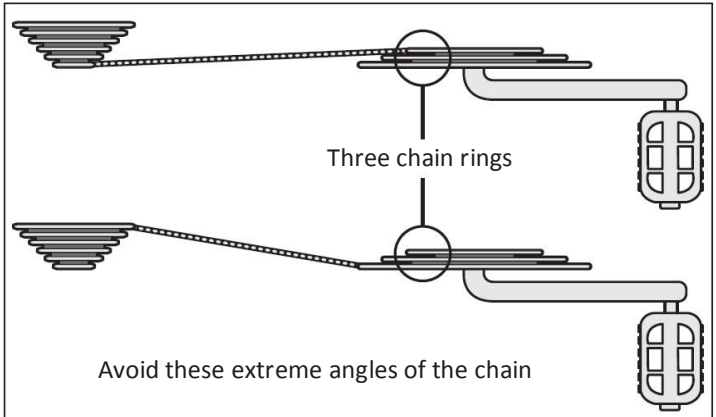

Figure 5.2

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Using the Rear Shifter

The rear shifter (right) will have an indicator that reads either ***low to high*** or a series of numbers from 1 and up. Low or "1" is the lowest gear. This is used for slower riding, hill climbing, or to allow for easier pedaling. It is recommended to start off in this gear and move through the gears as speed increases as needed, or comfortable.

Using the Front Shifter

Note: Not all models have a front shifter. The front (left) shifter will have an indicator that reads either ***low to high*** or a series of numbers from 1 and up. Low or "1" is the lowest gear. The front shifter acts much like the rear shifter, but the change between gears is greater. This means that one shift at the rear derailleur will be a subtle change in pedaling speed, but one shift at the front derailleur will be a large change in pedaling speed. Think of the front shifter as a range; ***low and high*** or ***low, medium***, and ***high***. Low is used for slower riding, hill climbing, or to allow for easier pedaling. It is recommended to start off in this gear and move through the gears as speed increases as needed, or comfortable.

To Use the Trigger-style Shifter

Rear shifter: Use your index finger to shift up to a higher gear, and your thumb to shift down to lower gear.

Left shifter: Use your index finger to shift down to a lower gear, and your thumb to shift up to higher gear. **Figure 5.3**

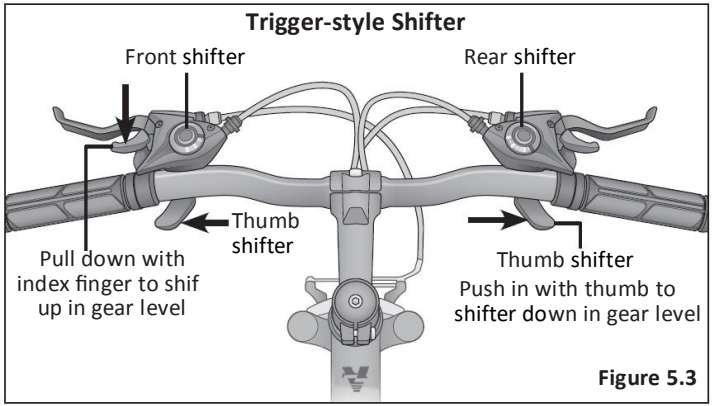
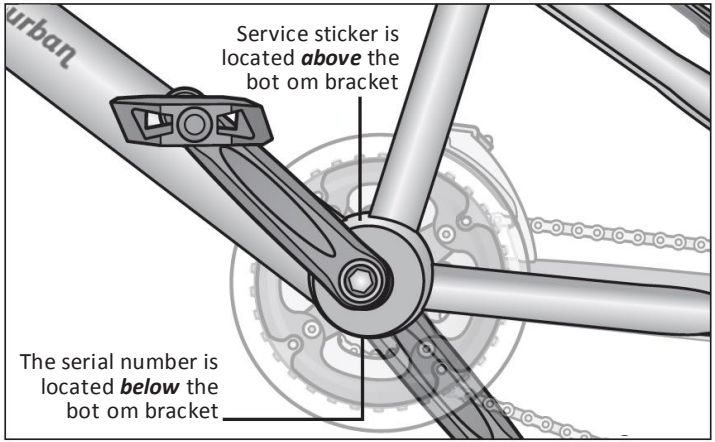


Figure 5.3

SECURITY

You just bought a new bicycle! Don't lose it. It is advisable that the following steps be taken to prepare for and help prevent possible theft :

- Maintain a record of the bicycle's serial number, generally located on the frame underneath the bot om bracket. **Figure 5.5**
- Register the bicycle with the local police and/or bicycle registry.
- Invest in a high quality bicycle lock that will resist hacksaws and bolt cutters.
- Always lock your bicycle to an immovable object if it is left unattended. Keep in mind that individual parts of a bicycle may be stolen. Most commonly, if you lock just a wheel or just the frame, other parts may be removed from the bicycle. Although it is impossible to lock all the parts, it is suggested to lock the major components if possible.**Figure 5.6**
- Use a lock that is long enough to lock the frame and both wheels if possible. Some models with quick-release front wheels allow the front wheel to be placed beside the frame so a smaller lock can be used to lock all 3 components.
- Be aware that a quick-release seat post can be stolen. It is recommended to remove the seat post and saddle and carry it with you if you believe that this is a risk.



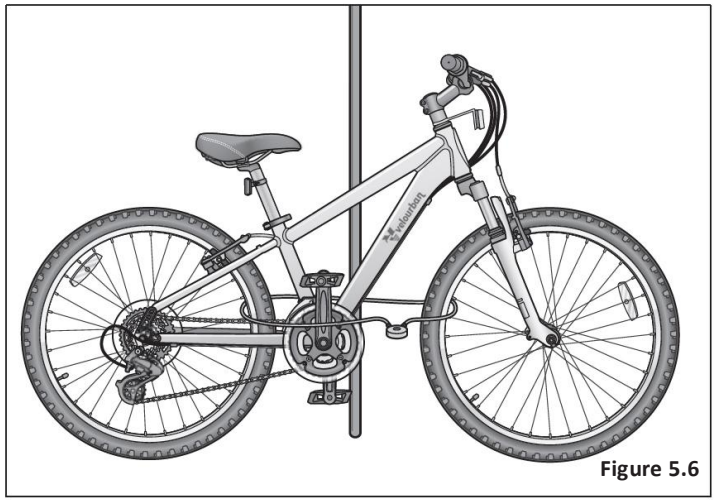


Figure 5.6