



Bicycle Owner's Manual

This manual contains important safety, performance and maintenance information. Read the manual before taking your first ride on your new bicycle, and keep the manual handy for future reference.

Imported by Raleigh Canada, Toronto, Canada M4S 2B8

Welcome Word

Congratulations on buying a new bicycle! Whether it is the first time you've purchased a bike or not, we are confident that you will appreciate riding it.

A bicycle is a great way to get or stay fit, reduce stress, commute to work, or simply enjoy the outdoors with friends and family. It is also a way to help preserve the environment as it does not pollute and can be used for many years if properly maintained.

Modern bikes are very reliable and safe. Manufacturers have spent a great amount of time ensuring that the products they sell reach the highest standard of quality, performance and safety.

Most accidents are caused by human factors such as bad judgment or riding mistakes. Many serious injuries could also be prevented by using a helmet, adequate protective gear and by better understanding the proper use of a bicycle and its maintenance.

It is a rider's responsibility to fully understand the usage of the vehicle they are operating and to respect the local public road laws.

In the case of a child riding the bike, it is the responsible adult's duty to educate on local public road laws, supervise safe riding activity according to the type of bike, and ensure the proper fit, adjustment and good mechanical condition of the bike.

This manual has been created to provide you with the basic knowledge needed to safely operate a bicycle, understand its function, and perform maintenance and basic adjustments.

It is important that you carefully read and understand this manual before you ride your new bike. It should also be kept handy for future reference.

This document is not a complete service manual. There are a lot of well-written websites or other literature available for further instruction.

We recommend that you seek advice from a qualified technician if anything is unclear or if you wish to perform mechanical work or upgrades on your bike.

Note: some manufacturers may not honour their warranty when the assembly or maintenance has been done by someone other than a qualified technician.

The following signs will be used throughout the manual. They represent Warnings and Cautions about important or hazardous situations that should be carefully observed because failure to do so might result in damage to your bicycle, serious injury or even death.

Please take extra caution!



Indicates a warning and includes important safety information.



Indicates a caution about proper use of a component.

Contents

Welcome Word.....	1	Attach the pedals.....	17
Section 1 — Safety Recommendations.....	4	Attach the reflectors.....	17
Recommended protective equipment.....	6	Attach the accessories.....	18
Safety checklist before you ride.....	7	Final adjustments and safety check.....	18
Section 2 — Types of Bikes.....	8	Section 4 — Sizing Charts.....	19
Road bikes.....	8	Section 5 — Ergonomic Adjustments.....	20
Mountain bikes.....	9	Saddle height adjustment.....	20
Hybrid bikes.....	10	Saddle position adjustment.....	21
Comfort bikes.....	10	Saddle angle adjustment.....	21
Kid's bikes.....	11	Stem height adjustment.....	22
Specialty bikes.....	11	Handlebar angle adjustment.....	23
Section 3 — Assembly.....	12	Brake levers adjustment.....	23
Required tools.....	12	Section 6 — Mechanical Adjustments.....	24
Unpack from box.....	13	Using a quick-release binder.....	24
Attach the stem and handlebars.....	13	Brake system adjustment.....	25
Attach the front wheel.....	14	Rear derailleur adjustment.....	28
Attach and adjust brake.....	16	Front derailleur adjustment.....	29
Attach the seat post.....	17	Adjusting the headset.....	30

Adjusting the rear suspension.....	32	Annual maintenance.....	43
Wheel truing.....	33	Lifespan and normal wear components.....	43
Adjusting chain tension.....	34	Repairing a flat tire.....	45
Adjusting the bottom bracket.....	34	Cleaning your bike.....	45
Section 7 — Riding Basics.....	35	Storing your bike.....	46
Braking.....	35	Replacing a component.....	46
Shifting gears.....	36	Appendix.....	47
Riding uphill.....	38	Training wheels.....	47
Riding downhill.....	38	BMX specific components.....	48
Riding off road.....	38	Troubleshooting guide.....	50
Riding in wet weather	38	Maintenance log.....	53
Riding at night.....	38	Torque recommendation table.....	54
Riding on public roads.....	39	General adult bike parts terminology.....	56
Riding with a child carrier or trailer.....	39	Kid's bike specific parts terminology.....	57
Riding with feet securing devices.....	39	Rear suspension parts terminology	58
Section 8 — Maintenance.....	40	Customer service	59
Required tools.....	40		
Basic maintenance.....	41		

Section 1 — Safety Recommendations

Riding a bike involves risks. People who decide to engage in this activity must be aware of that and fully assume those risks.

The risks in case of an accident can range from simple or severe mechanical damage to your bike to minor or serious personal injuries or even death.

Although it is impossible to avoid all hazardous situations that may occur, there are several advices that can be observed and practiced that will help reduce the risk of crash and accident.

This manual cannot pretend to cover all safety aspects related to bicycle riding but instead will focus on the most important safety recommendations related to potentially hazardous situations.

When it comes to safety, even the best advices cannot replace one simple rule: always use good sense, ride intelligently and be careful for your own safety and that of others.

Make sure you read and fully understand these safety recommendations. Failure to understand or follow these advices may result in loss of control, fall, injury or even death.



Check that all the components connections, bolts and accessories are mechanically sound, properly attached and sufficiently tightened per manufacturer's recommended torque value before every ride. If you find or suspect there might be a problem, do not ride your bike before having fixed the issue. Have your bike checked by a qualified technician if necessary.



Always wear an approved helmet—it could save your life. Make sure it is properly attached and positioned on your head.



Your clothing choice should be something closely fitted to your body. If you have a loose pant leg on your right side, secure it tightly to prevent it from being caught on the chain. Never ride with untied shoelaces.



When riding on public roads, always ensure you are visible to other road users. Although your bike should have been delivered to you with a set of reflectors, it is recommended to add a set of

front and rear lights (if not already mandatory by local laws). Wear bright-coloured clothing if possible.



Know and respect the local laws regarding bicycle use and required safety equipment on public roads.



Do not ride under the influence of alcohol or illicit substances. This could seriously impair your judgment, reflexes or balance and may lead to prosecutions, serious injuries or even death.



Never carry a second passenger on your bike unless it is with a properly designed accessory such as child seat or trailer.



Do not carry anything on the handlebar unless it is in an appropriately attached bag or basket as this will seriously impact your balance or get caught in the front wheel and may cause serious injury or death.



Stay within your riding abilities limits. Do not attempt risky tricks or dangerous trails if you don't feel you have the skills for it.



Avoid riding when there are strong winds if possible. Strong winds can push you and your bike around and make you lose control and fall.



There is a risk of entrapment during the normal use of a bicycle. Avoid wearing loose clothes, secure long hair and do not touch rotating drivetrain components or rotating wheels.



Respect your bicycle's intended uses and limits. Do not use your bike for a type of riding or terrain it is not designed for.



Avoid riding at night if possible. Your vision is seriously reduced in the dark and you may not see obstacles coming at you in time to avoid them. Other road vehicles might also not be able to see you and this can cause very dangerous situations potentially leading to serious injuries or even death.



Do not ride, wash or store your bike in salt water or a high-calcium environment to prevent rust from damaging the components.



Always check and make sure your bicycle is in good mechanical condition before going for a ride.



Avoid riding in the sand to prevent damage to the components.



Make sure your bike is properly fitted for you and that you are fully able to control it.



Avoid crossing train tracks or manhole covers on your bike. Stop and walk your bike over the obstacle or reduce your speed and cross at a perpendicular angle.



Always lock your bike to an immovable object with a high quality bicycle lock when left unattended. Lock both the front and rear wheels when possible.



Adapt your riding style and behaviour to each type of terrain, situation and weather conditions.



When riding with children, always keep a close eye on them and try to stay away from potential hazardous situations such as stairs, steep descents, curbs, traffic, etc. Show a good example by following all safety recommendations.



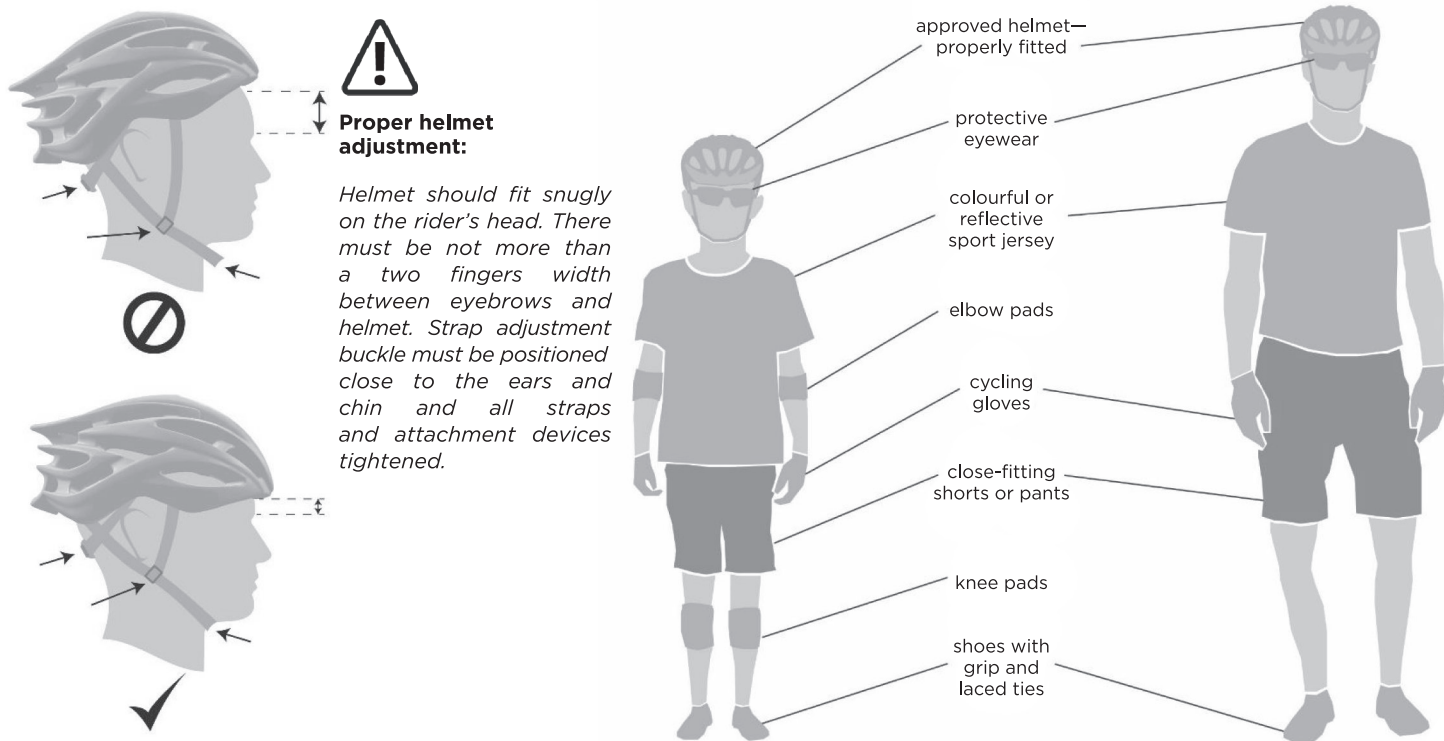
This product may contain chemicals known to cause cancer and birth defects or other reproductive harm, including paint, lubricants, and various metals. Wash hands thoroughly after handling this product.



Avoid riding on wet or icy ground if possible. Wet and icy ground seriously reduces traction between tires and road surface. If you have to, take extra caution as the risk of slipping and falling is much higher especially when turning and braking.

Recommended Protective Equipment

Riding a bike without protective equipment can result in serious injury or even death. The following minimum equipment is strongly recommended. You should make sure the clothes and gear you are wearing allow you to freely operate your bike and that it does not interfere with the steering, braking and pedalling movements. Do not wear loose clothes that could get caught in the wheels, pedals or chainwheel.



Safety Checklist — Before You Ride

Before each ride, use this quick safety check list in order to make sure your bike is safe to ride.



When stored for short or long periods, or after transport in a car, bikes can suffer from impacts with other objects that may damage some parts or affect some component's adjustments. Tubes inside tires are not entirely air tight and pressure may have dropped without you noticing. Storage in a cold place can also affect tire air pressure.

- Check for cracks or any damage on frame and fork. If you think you found damage, do not ride your bike. It is recommended to have a qualified technician to check it.
- Check tire pressure with a pressure gauge. Recommended pressure specific to each tire is written on its side. Riding your bike with low pressure greatly increases the risk of puncture.
- Check brake function and brake pad wear. Squeeze both brake levers and push the bike back and forth to see if brakes are functioning. If needed, proceed to brake adjustment.
- Check wheel attachment and alignment. Raise the front end of the bike and let it fall to the ground to make sure it is securely attached. Take a look at eye level to make sure both wheels are centred in the frame and fork. Spin both wheels to make sure they are straight.
- Check fork, stem and handlebar attachment and alignment. Stand in front of your bike while holding the front wheel between your legs and firmly try to rotate the handlebars. Nothing should be moving. If needed, align stem with the wheel and tighten again.
- Check chain for smooth operation and proper lubrication. Apply oil if needed.
- Check chain tension on single speed models.
- Check both pedals and crank arm attachment. Pedals should be properly tightened to the crank arm. If needed, tighten them again. Rock both crank arms from side to side to find any play. There should be none. If needed, tighten crank arm again or have the bottom bracket adjusted by a qualified technician.
- Check all quick-release levers that may be in open position. Make sure they all are properly tightened and in their closed position.
- Check saddle attachment and seat post insertion limit. Saddle should be firmly tightened and seat post minimal insertion mark respected.
- Check grip attachment and grip end presence. Firmly try to rotate grips on handlebar. They should not be moving. Check for presence of grip end cap (not necessary for closed-end type grips).
- Check for correct attachment of all accessories, if any. Make sure that there is no loose component or part that could interfere with wheels, direction or chain wheel when riding.
- Check for presence of reflectors and their proper orientation. No accessories should obstruct the reflectors.
- Check for cracks or damage on your helmet. A cracked helmet should not be used. Attachment straps should also be properly adjusted to your head.

Section 2 — Types of Bikes

There are many types of bikes and it is important to understand the intended use for each one. Choosing the right product for you should be based on where you wish to ride (on road, off road, both?), how often you plan to ride and your experience level. We have categorized the most common types of bikes in the following pages based on their usage and recognizable characteristics for simple understanding. Hopefully this helps you understand what your bike can and can't do.

Types of bikes description:

Road Bikes



Road bikes typically have thin, slick tires and dropped handlebars. They are designed to be ridden only on paved surface such as cycle paths or roads. Their design allows for the best efficiency on these types of ground because they have less rolling resistance. Rider is seated into an aggressive position for aerodynamics and muscular efficiency; therefore, they may feel less comfortable for some riders. A high and close range of gears allows rider to reach high speed while maintaining a stable and efficient pedalling cadence. These bikes are designed to be light and very resistant to pedalling force but their frame and components are not strong enough to sustain impacts encountered in off-road use.

Mountain Bikes



Mountain bikes have wide knobby tires and are often equipped with suspension devices, either only on the front end (hardtail) or both on the front and rear end (full suspension). They are made sturdy and designed to be ridden off road. Disc brake is the preferred braking system for its increased power and efficiency in wet and muddy conditions compared to rim brakes. The mountain bike's lower range of gears won't allow as high a speed as road bikes will, but it will help on accelerations and steep or technical terrain. Mountain bikes can also be used on paved roads, but they will be noticeably less efficient and their tires will wear out faster. Because of their intended off-road use, these bikes have the most stringent testing standards of the industry and therefore are most often inevitably heavier.



Mountain bikes appear with many wheel and tire sizes options, and there are a lot of opinions around about which is the best. The truth is that each wheel and tire size has its own advantages and trade-offs for different types of terrain and for each rider's own style. You should seek advice from a qualified mechanic in order to find the bike most suited for your needs in this category.



Not every mountain bike is suited for serious off-road trails. Even if your bike is equipped with components such as front suspension, disc brakes or even rear suspension, it doesn't mean the bike can actually sustain the heavy impacts that are encountered when riding trails designed for mountain biking. We recommend that you ask a qualified technician who knows if your bike is suited to the trail you intend to ride before you go.

Hybrid Bikes



Hybrids are a mix between a road bike and a mountain bike: good efficiency and low rolling resistance but with the increased comfort of a mountain bike-like body position. They are at ease on paved surfaces, but some are also equipped for light off-road use with semi-knobby tires and light suspension. Everyday riders and commuters appreciate their versatility and compatibility with many useful accessories such as fenders and luggage carriers. These bikes often sport a package of components aiming towards the rider's comfort such as adjustable angle stem, ergonomically shaped grips, suspension seat post and cushy saddle.

Comfort Bikes



Comfort bikes are in a category that shares elements of mountain bikes with those of hybrids, but they are really designed for a more relaxed, casual type of riding. Almost always ridden on paved roads or some light gravel roads, their specificity is in their geometry and component selection. It allows for the most lowered and upright rider position of all categories, removing almost all body weight from the wrists while the high-volume tires and comfort-oriented components provide the softest ride.

Kid's Bikes



Kid's bikes are made for smaller and lighter riders usually ranging from age 2 to 12. Their size varies greatly from one to another (like children) and many different wheel sizes are available. The most common wheel sizes are 12", 16", 20" and 24". Most of these bikes will have only one (easy) gear, a chain guard, removable training wheels, and they will likely have two types of braking devices (one hand actuated and one by foot). Kid's bikes should always be ridden under adult supervision. They should not be ridden near dangerous roads, slopes, curbs, stairs, or any hazardous environment.

Specialty Bikes



The specialty bikes category regroups all niche and specific-purpose-oriented bike designs. They may just be what you need without you knowing it! We strongly recommend that you ask a qualified technician for more information as there are a lot of different products available. Whether it is a touring bike designed with all aspects of travelling on a bike in mind, a cargo bike to carry groceries and kids, a fat bike for winter time, an E-bike to get there without a sweat, a folding bike to carry on the train, a cyclocross, a tandem, a stylish fixed-gear bike, a cool beach cruiser or even a BMX, you may just find your perfect bike in that category.



A qualified technician can help you find the best bike and accessories package to fit your needs.



Never use a bike in conditions it is not designed for (i.e., riding off road with a road bike). You may damage the bike, suffer from serious injuries or even death. Ask a qualified technician if you are not sure whether your bike is suited for the situation.

Section 3 — Assembly

This section will explain how to proceed for the final assembly of your bike.

Initial assembly of a bike is very important if you wish to enjoy riding it for many years. For this reason, we strongly recommend that you get your bike fully assembled and adjusted by a qualified technician.



Do not use a bike that has not been properly assembled. If you decide to assemble your new bike by yourself, you should at least have it checked by a qualified technician to check for its safe operation.



Your bike and components may differ from the ones shown in this manual. Assembly steps might be slightly different, and additional operations may be needed. Refer to additional instructions provided if applicable.



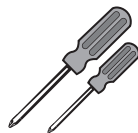
Some manufacturers may void their warranty if the bike has not been assembled by a qualified technician.

Required Tools

Modern bikes often require some very specific tools, and writing a list of all the tools available would not be helpful and may instead create confusion. Therefore, the following list represents the most common tools that you will likely need to assemble and make basic adjustments on your bike. For more information about bicycle tools, ask a qualified bike technician or consult the web.



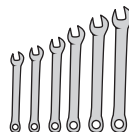
Bicycles use metric-size, standard tools. Do not attempt to perform mechanical work with other sizes of tools or hardware as you may damage bolts and components.



cross-head screwdriver
(size small and medium)



hex key set
(sizes 2 mm to 8 mm)



wrench set
(sizes 2 mm to 15 mm)



cable-cutting pliers



grease



torque wrench
(low torque range)



air pump
(with pressure gauge)

Unpack from box



- Open the box from the top, and take the bike, parts and accessories box out.
- Carefully remove all protective carton pieces, foam pads, tie wraps, and plastic fittings. Recycle all material that can be recycled, and dispose of the rest.

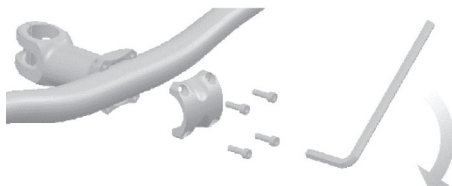


Check all packaging material before you dispose of it to make sure you do not accidentally discard required parts for bike assembly!

Attach the stem and handlebars



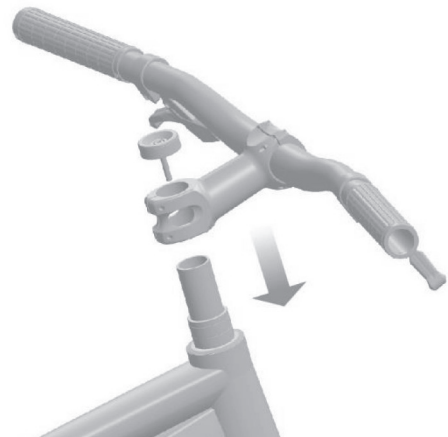
Many bikes are shipped with the handlebar and stem disconnected. In this case make sure to attach the handlebar to the stem as described below before proceeding to next steps.



- Remove bolts and front cap of stem.
- Slide handlebar into place.
- Replace bolts and front cap of stem and tighten.

Attach the stem and handlebars

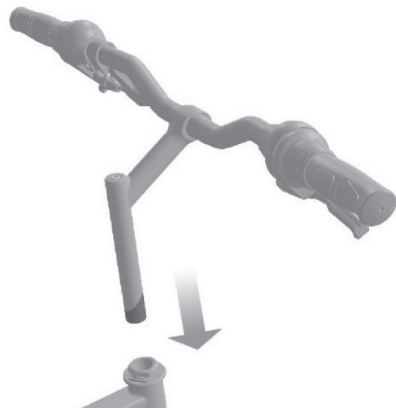
- Carefully orient the pre-assembled handlebar and stem over the bicycle making sure that all cable housings go to each side of the bike without being kinked, twisted nor bent.



Threadless stem

- Slide the stem onto the steer tube.
- Adjust the headset bearing, align handlebars, and tighten the side bolts.

See **Section 6 – Mechanical adjustments** for directions on how to properly install a threaded or threadless stem.



Threaded stem

- Apply grease inside steer tube.
- Insert the stem into the steer tube, align with centre axis of the bike and tighten the top cap bolt. Make sure the minimum insertion mark is hidden inside the steer tube.



Failure to properly install or insufficiently tighten the stem and handlebars can lead to serious injuries or even death. If you are unsure how to complete this step, seek advice from a qualified bike technician before proceeding to next steps. Do not ride a bike with improperly attached, aligned or insufficiently tightened handlebars.

Attach the front wheel



- Insert the front wheel into the fork (check for proper orientation of the tire's thread if applicable).
- Make sure that the wheel is well seated and centred in the fork.
- Tighten the wheel into the fork following the retention-device-specific instructions referred to in the following figures.
- Test wheel attachment by lifting the front end of the bike and firmly hit downward on the front wheel with your palm. There should be no play in the connection.



Failure to properly install or insufficiently tighten the front wheel into the fork can lead to serious injuries or even death. If you are unsure how to complete this step, seek advice from a qualified technician before proceeding to next steps. Do not ride a bike with an improperly attached or insufficiently tightened front wheel.

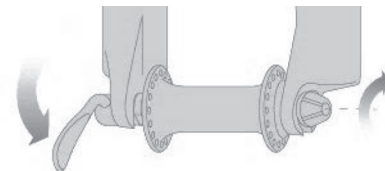
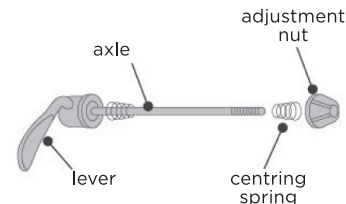


Fig. 1 Quick-release binder

- Lightly tighten adjusting nut.
- Firmly push lever to its "closed" position.

See Section 6 – Mechanical adjustments for directions on how to properly use and adjust the quick-release binder device.



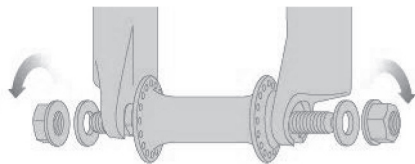


Fig. 2 Axle and nuts on recessed fork ends

- Position nuts and spacers outside of fork ends.
- Tighten to 22 – 30 Nm (195 – 265 in-lb).

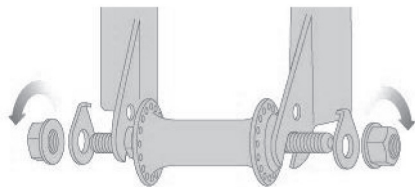


Fig. 3 Axle and nuts with retaining spacers

- Position nuts and retaining spacers outside of fork ends.
- Align the retaining spacers tabs with corresponding fork end's holes.
- Tighten to 22 – 30 Nm (195 – 265 in-lb).



If your bike has a different system of wheel attachment, such as thru-axle, please refer to the instructions provided.

Attach and adjust front brake

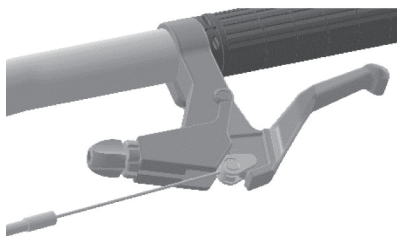
Follow these instructions to attach and adjust the front brake on your bike.



Failure to properly install the front brake can lead to serious injuries or even death. If you are unsure how to complete this step, seek advice from a qualified technician before proceeding to next steps. Do not ride a bike with an improperly attached front brake.

Connect brake cable to the brake lever:

- Attach the brake cable's rounded end to the inside of the brake lever enclosure.
- Insert the cable through the brake lever body and adjustment barrel using the slot provided.



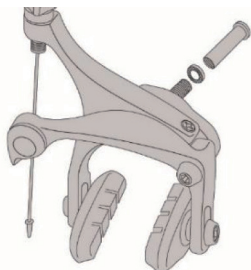
Connect the brake cable to a V-brake:

- Hook the brake cable tube into the brake arm enclosure.
- Check and adjust brake cable tension using the brake lever adjustment barrel if needed.



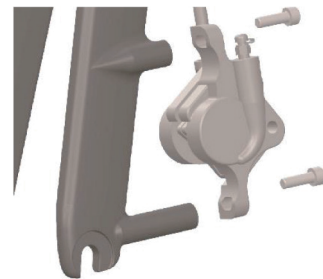
Attach a caliper rim brake to the fork:

- Insert and centre caliper into front facing fork hole mount with the knurled spacer in between.
- Tighten the shoulder nut from behind while keeping caliper centred.



Attach a disc brake caliper to the fork:

- Align brake caliper onto fork mounts.
- Insert the two bolts, but do not fully tighten before proceeding to adjustment.



See Section 6 - Mechanical adjustments

for directions on how to properly adjust the type of brake your bike is equipped with.

Attach the seat post

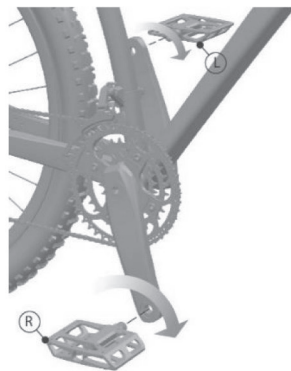


- Apply grease inside the frame's seat tube.
- Insert the seat post into the frame's seat tube.
- Align saddle nose with the frame top tube and tighten the clamp.



The minimum insertion mark must remain hidden inside the frame's seat tube at all time. Failure to respect the minimum insertion mark can result in serious injury!

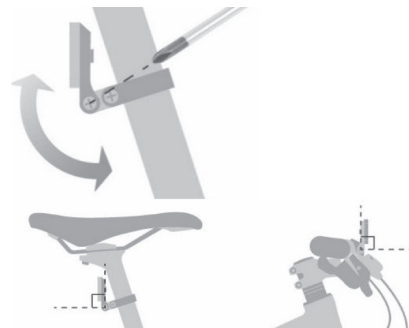
Attach the pedals



- Apply grease on each pedal's axle threads.
- Identify left and right pedals. There should be "R" for right and "L" for left markings either on a label or engraved on the axle.
- Carefully start to engage pedal's threads by hand into the corresponding side crank arm. Turn counter-clockwise for left pedal, clockwise for right pedal. Watch for good thread engagement, and do not force threads if you feel resistance.
- Finish tightening with a wrench.

Attach the reflectors

The front and rear reflectors must be attached and adjusted so that they are facing up vertically and in line with the bike's central axis.



Please note that the reflectors provided on your bike may not meet the minimum requirements and local regulations for your area. The provided reflectors will not improve your vision at night but only help other road users to see you if they point light directly at you. If you intend to ride your bike on public roads, make sure to know and comply to the local regulations. Also, be sure to use common sense about what is safe for the area you will be riding. If you are planning to ride in a high traffic and/or poorly lit area at night, lights would be highly recommended.

Attach the accessories

Many bikes provide attachment points for accessories. The following chapter provides guideline for some of them.

Bottle holders

Almost every bike frame has bottle holder-mounting eyelets either on the downtube, seat tube or both. They can also be used to attach other accessories such as a pump or a tool kit.

Avoid direct hits on the bottle holder as this can damage the eyelets.

Fenders

Standard full length fenders can only be attached to a bike that provides sufficient clearance between the frame, fork, tires, and brakes as well as proper attachment points for bolts.

No parts of the fenders should touch any moving parts of the bike.

If your bike does not allow the attachment of full length fenders as per the requirements mentioned above, ask a qualified technician for alternative options.

Luggage Carrier

Luggage can only be safely carried on a bike with a properly attached and compatible luggage carrier. Not all bikes are compatible with and therefore safe to use with luggage carriers.

Make sure to respect the load limit recommendation for the luggage carrier model you are using, and also make sure not to exceed the total weight load allowed for your bike. **See Section 2 — Types of bikes**

A carrier must be properly attached to the frame with bolts, and it is recommended to use thread lock.

Cargo weight added to a bike must be evenly distributed on both sides of the bike, as well as on front and rear ends, to ensure safe handling.

No parts of the luggage carrier or luggage should interfere with any moving part of the bike such as the wheels, the handlebars, or the brakes.

Be aware that the increased weight on your bike will affect the braking, and you should therefore limit your speed and expect longer braking distances.



All accessory attachments should be regularly checked and tightened if necessary. Loose accessories can damage your bike or lead to loss of control, serious injury or even death.

Final adjustments and safety check

Even though your new bike has been pre-assembled with the highest quality standards at the factory, some final adjustments may be needed once you have completed assembly.

See Section 6 — Mechanical adjustments

and go through all the chapters to make sure all components are properly adjusted prior to riding. Once all final adjustments are checked and done, proceed to the safety check.

See Section 1 — Safety recommendations

for the safety checklist.



If you assemble your bike by yourself, we strongly recommend that you have it checked by a qualified technician afterwards to make sure the assembly and adjustments of your bike have been done properly and that your bike is safe to ride before going for your first ride.

Section 4 — Sizing Charts

The following charts can be used as a reference to determine the right size of bike for a rider, but it should be noted that each manufacturer has their own sizing system and that bike design varies greatly, too. Therefore, and depending on your preferred practice and riding style, a different bike size than the one suggested here may be more suited for you. It is recommended you ask a qualified bike technician to help you determine the right bike size for you.

Choosing the right size

The easiest and most common way to find the right bike size for a rider is to check how much space there is under them while they are standing up over the top tube, in front of the saddle. This measure is called the stand-over clearance. The recommended clearance depends on the type of riding and rider's preference.



Stand-over clearance

Road and Hybrid bikes:

Allow a minimal stand-over clearance of about 2" (5 cm).

Mountain bikes:

Allow a greater stand-over clearance, ideally around 4" (10 cm). This will allow easier manoeuvring while riding off road and safer emergency dismount in the case of a fall.



Ensure you have an appropriate stand-over clearance before riding as insufficient stand-over clearance may cause the rider to lose control and crash.

Children's bikes:

Allow a minimal stand-over clearance of about 2" (5 cm) because the rider must be able to mount and dismount the bicycle by themselves if needed.



Children's bikes are measured by their wheel diameter.

Children's bikes

Age range	Wheel size
3 – 5	12"
5 – 7	16"
7 – 9	20"
9 – 12	24"

Section 5 — Ergonomic Adjustments

A good fit and ergonomic adjustment is equally as important as a good set of brakes for safety. Improper fit on a bike can cause the rider to lose control and crash. This section will show you the adjustments available to make sure your new bicycle is properly fitted to you. Not everyone has the same flexibility and comfort preferences. Therefore, the following ergonomic adjustment recommendations might not suit everyone. These are only best-practice recommendations. Feel free to adjust your bike to your own comfort requirements or ask a qualified technician for advice.



Riding poorly adjusted bike in an improper position can cause long term problems such as back pain, wrist pain, neck or knee pain among other things.

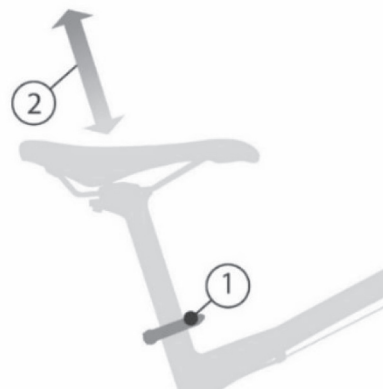


*Modifying your bike with ergonomic adjustments may require tightening some component connections. Ensure the recommended torque values are taken into account. **See Appendix - Torque recommendation table** for more details.*

Saddle height adjustment

Adult rider: Should have a slightly bent knee while the pedal is at the lowest point. A saddle set too high will make the hips move side-to-side when pedalling and cause discomfort or even loss of control. A saddle set too low will put more stress on joints and might result in injury in the long term.

Child rider: Must be able to rest both their feet flat on the ground at all times to help prevent a crash in case they lose their balance.



To adjust saddle height:

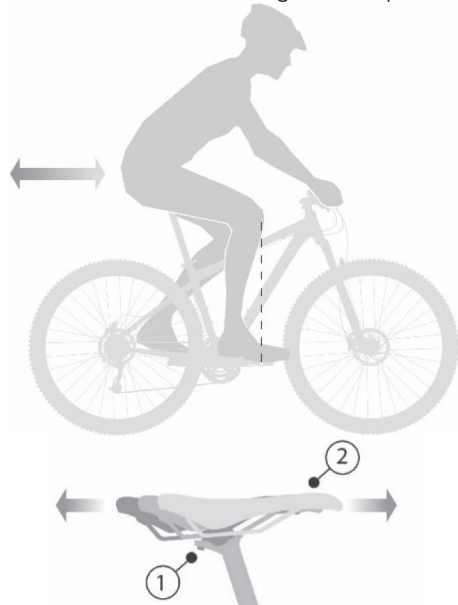
- Loosen the clamp bolt or open the quick-release lever.
- Move the saddle up or down to reach the proper height.
- Align saddle nose with bike centre axis and lock into position.



Do not raise the saddle higher than the seat post can allow! The minimal insertion line engraved on the seat post must remain hidden inside the seat tube at all time.

Saddle position adjustment

A proper saddle position is when a vertical line can be drawn between the rider's knee-cap and the ball of the foot over the axle while the crank arm is at 90-degree front position.



To adjust saddle position

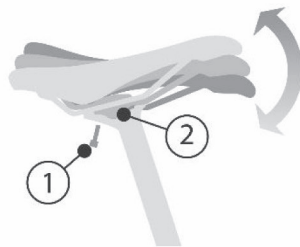
- Loosen seat post bolt.
- Slide the saddle back or forth to reach the proper position.

Saddle angle adjustment

Saddle angle should be adjusted to a flat angle to reduce upper body movement and discomfort when pedalling.

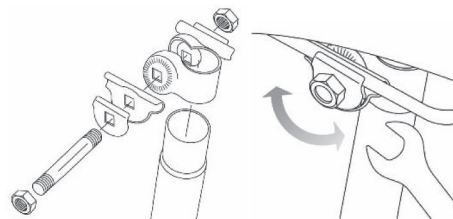


Note that a slightly different angle adjustment than recommended might be more comfortable to some people depending on preferences or riding styles. Feel free to experiment with these settings to find the position with which you feel the most comfortable.



To adjust saddle angle

- Loosen seat post's saddle carrying clamp.
- Tilt the saddle up or down to reach the desired angle.
- Tighten saddle carrying clamp to the recommended torque value.



Seat post with separate saddle carrying clamp



Never ride your bike with an improperly attached or insufficiently tightened saddle. Do not attempt to adjust it by yourself if you don't fully understand its function or if you are not confident in your mechanical skills. We strongly recommend you ask a qualified technician.



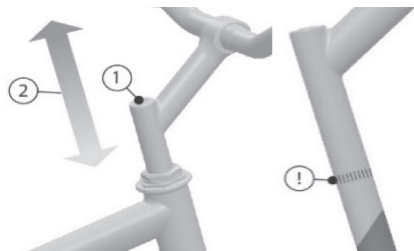
Micro-adjust seat post with integrated clamp

Stem height adjustment

There are two major types of stems that both allow adjustment.

Threaded stem type

Also known as “Quill stem”, it is inserted inside the fork steer tube and locks into position with one large bolt on top. It offers easy height adjustment with only one bolt and does not require adjustment of the headset bearings afterwards.



To adjust a threaded stem height:

- Loosen the top bolt (1).
- Lift or drop (2) the stem as desired. Do not exceed minimal insertion mark (!).
- Align stem with the front wheel.
- Tighten top bolt (2) to lock into desired position.



Always ensure the minimal insertion marking remains hidden inside headset. Failure to respect the minimal insertion mark could result in serious injury or even death.

Thread-less stem type

Also known as “Ahead stem”, it clamps onto the fork steer tube and locks into position with bolts on the sides of the clamp (the top bolt is part of the headset adjustment, it does not have any clamping function).



To adjust a thread-less stem height

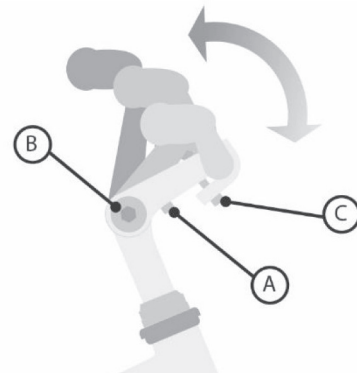
- Loosen the side clamping bolts with a hex key.
- Remove the top cap.
- Re-order the spacers stack above or under the stem.
- Replace the top cap and adjust the headset bearing.
- Align stem with the front wheel.
- Tighten side clamping bolts to lock into position.



Adjusting a thread-less stem height will require an adjustment on headset bearing afterwards. It is recommended that a qualified technician performs this.

Stem angle adjustment

Some stems allow an angle adjustment to further modify rider's position.



To modify stem angle:

- Loosen angle adjustment bolt (A) or (B) depending on stem design.
- Lift or drop stem to the desired angle, and retighten angle adjustment bolt.
- Loosen handlebar clamping bolt (C) and realign handle to flat angle.
- Tighten the handlebar clamping bolt.

Handlebar angle adjustment

Proper handlebar angle is important for your comfort and safety. Although the only adjustment you can make is to modify the up angle to your desired position, there are several handlebars styles available on the market, all with different ergonomics.

The recommended adjustment is to reach a flat angle when levelling by eye.



Flat handlebar:

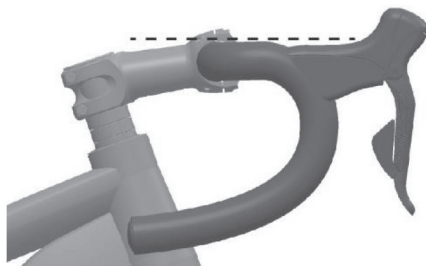
- Loosen stem cap bolt(s).
- Tilt handlebar until you reach a flat angle when levelling by eye.



Note that a slightly different adjustment recommended might be more comfortable to some people depending on preferences or riding styles. Feel free to experiment with these settings in order to find the position with which you feel the most comfortable.



There must be nothing obstructing or interfering with the partial or complete movement of the brake levers at any time.



Road bike handlebar

- Loosen stem cap bolt(s).
- Tilt handlebar until you reach a flat angle with the shifter when viewed from the side.

Brake levers adjustment

Proper control-lever positioning and angle is necessary for the rider to be able to safely operate the bicycle. The brake levers and gear shifters should be adjusted and positioned to the rider's ergonomic specifications.

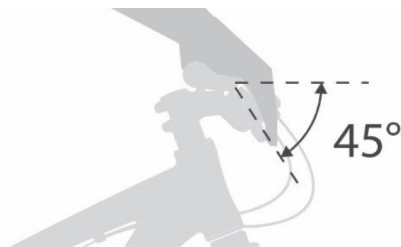
Brake levers and gear shifters can be moved sideways along the handlebar, depending on your preference. If you change their position, make sure they are not interfering with each other's functions.

Most of brake levers have a reach adjustment, and if needed, they can be adjusted according to rider's finger length. Turn the reach adjustment bolt clockwise to get the lever closer to the handlebar. Check that the brakes function properly after doing this adjustment.



Do not ride a bike if you can't easily reach the brake levers. This could result in serious injuries or even death.

Brake lever angle can be modified according to rider's preference. However, it is recommended that they are set to a 45-degree angle on handlebars.



To adjust brake lever angle:

- Loosen the clamp bolt.
- Tilt the lever until desired angle is reached.
- Tighten the clamp bolt to set the lever into new position.

Section 6 — Mechanical Adjustments



Your bicycle should be regularly checked for good mechanical condition. Neglecting maintenance can result in permanent damage to the components and eventually lead to serious injuries or even death.

The following part of this section will deal with the main adjustments required on a bicycle.

Note that this part of the manual only briefly covers basic adjustments for the most common type of components. For more specific instructions, you should refer to each component manufacturer's instructions.

Refer to **Section 8 - Maintenance and Appendix - Torque recommendation table** for more details.



We recommend that any mechanical adjustment be performed by a qualified technician to make sure it is properly done. Note that some bike brands might void their warranty if mechanical work has been performed by unqualified people.



Using a quick-release binder

Quick-release binders are very safe and reliable mechanisms but they need to be properly set and used to ensure safety. Make sure you understand their functions before using them.



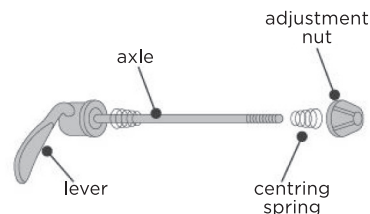
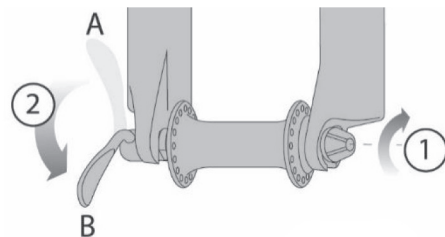
This type of binder is most commonly used to attach wheels to frame and fork as well as to tighten the seat post into the frame. They allow for quicker and simpler use than nuts and bolts but require knowledge on how to properly use them.

To tighten a quick-release binder

- Put the lever in the open position (A).
- Tighten the adjustment nut (1) by small increments until you need considerable force to push the lever (2) to its closed position (B) with your fingers or palm.



As reference, the knurled ends of the binder in contact with the frame or fork should leave a visible mark in the material when sufficient force is applied.



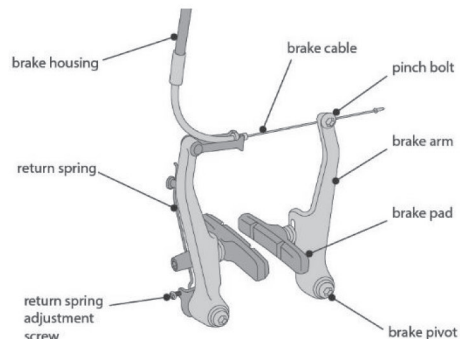
Brake system adjustment

There are several types of brake systems available on the market. The two major categories are: **rim brakes** (rubber brake pad rubbing on the wheel rim to brake) and **disc brakes** (which operate with a pair of metallic brake pads pinching a metallic disc). They can be operated either by a cable or by a hydraulic circuit.

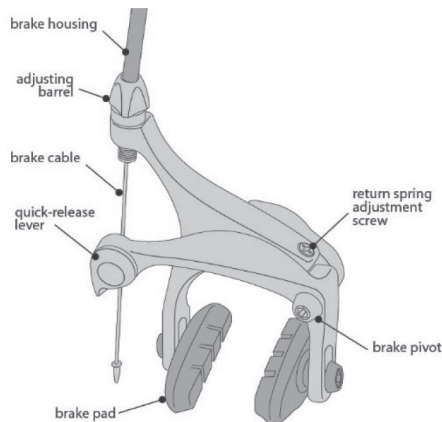


The brake system is obviously a very critical component for your safety. Do not attempt to adjust it by yourself if you don't fully understand this section or if you are not confident in your mechanical skills. We strongly recommend you ask a qualified technician.

Rim brakes (V-brake-style)



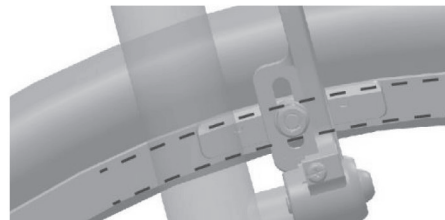
Rim brakes (caliper style)



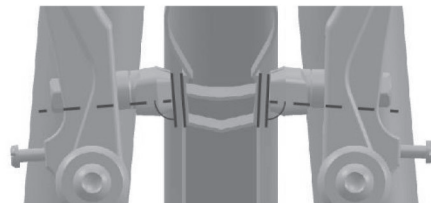
With cable-actuated rim brakes, adjust the cable and the return spring tension so that the brake pads are symmetrical and close to the rim (around 1 mm) without touching it. Adjust the gap between the brake pad and the rim by adjusting the brake cable length. Turn the adjusting barrel counter-clockwise to shorten the cable length and move the pads closer, or clockwise to release cable tension and move the pads outwards.

Brake pad alignment on rim

(V-brake shown, same principle for caliper brake)

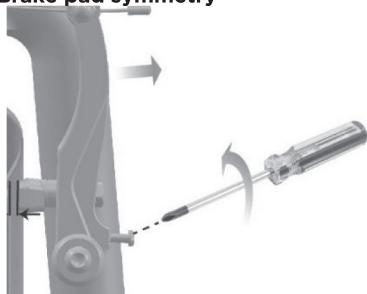


Brake pad should align with the rim and not touch the tire. Ensure the brake stays on the rim when engaged.



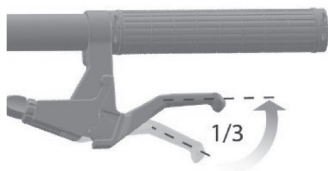
When actuated, the brake pads must touch the rim at a perpendicular angle and be equally spaced.

Brake pad symmetry



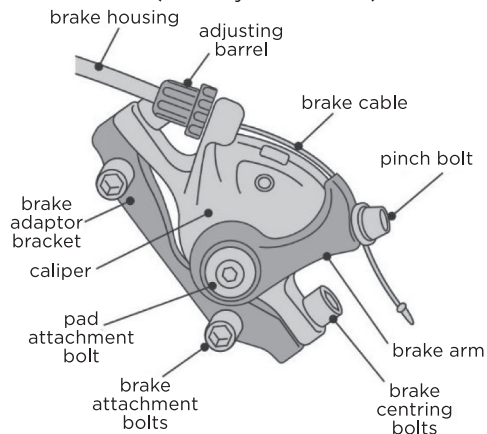
Adjust brake symmetry by slightly turning the return spring adjustment screw clockwise to increase spring tension and move the brake pad out of the rim and counter-clockwise to move it closer.

Brake cable tension



Adjust brake cable tension so that the brake pads begin touching the rim at least at a third (1/3) of the brake lever stroke.

Disc brakes (cable system shown)

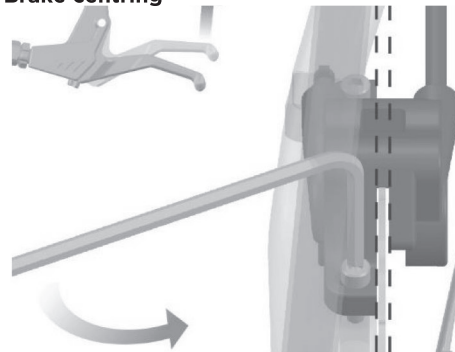


Mechanical disc brakes (cable actuated) require adjustments similar to those on rim brakes. The caliper must be perfectly aligned with the disc and the cable tension precisely adjusted. It is possible to adjust the inner and outer brake pads spacing independently of one another.



Never touch a disc rotor that is moving or immediately after its use. The disc is quite sharp, can get very hot and you could get seriously cut or burned.

Brake centring



Align the brake caliper with the disc by loosening both brake centring bolts and pulling the brake lever so that the brake pads squeeze the disc in the centre of the caliper. The brake caliper is now centred with the disc. Tighten the brake centring bolts while pulling the brake lever so that the caliper is locked in centred position.

Release the brake lever and the brake pads should move away from the disc by themselves.



Disc brakes have a burn-in period until they reach their maximal power. Make sure you understand this phenomenon and expect a change in braking power from the moment of purchase or replacement of brake pads and later use.

Brake pad spacing

Adjust the brake pads spacing increasing or decreasing cable length using the adjusting barrel on the brake caliper or on the brake lever. Turn counter-clockwise to pull cable and move the pads closer to the disc or turn clockwise to release cable tension and move the pads out.

On models where there's an adjustment for independent spacing of the outer brake pad (right side) on the caliper, turn the screw (a) clockwise to get the pad closer to the disc or counter-clockwise to move it out.



! Hydraulic disc brakes are very powerful and riders should be especially careful when using them. A small force on the brake lever results in powerful braking so make sure you only apply moderate, progressive force to the brake levers. If someone should use your bike, it is recommended that you also advise them about this characteristic.

Brake cable tension



Adjust brake cable tension so that the brake pads begin touching the rim at least at a third ($1/3$) of the brake lever stroke.

Hydraulic disc brakes

The main adjustment that this type of brake require is to centre the caliper with the disc. Brake pad spacing should be equalized automatically by the hydraulic circuit. Follow the same brake centring procedure as with cable-actuated disc brakes.

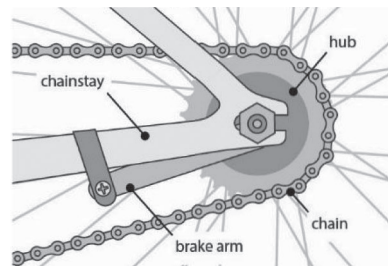
i When hydraulic disc brakes are used continuously (i.e., going down a long descent), the fluid inside the circuit will heat up and expand causing "vapour lock". Heat buildup significantly reduces braking force until the brake is released and allowed to cool down. Prolonged overheating can damage the brake.

If you plan to go down long descents often, it is recommended that you use a larger diameter disc to help to dissipate heat quicker or a heavy-duty disc brake model.



Servicing a hydraulic disc brake system requires some specific tools and special knowledge. Fluid can irritate skin and eyes and can be very messy. It is strongly recommended that this task be performed only by a qualified technician.

Coaster brake/hub brake



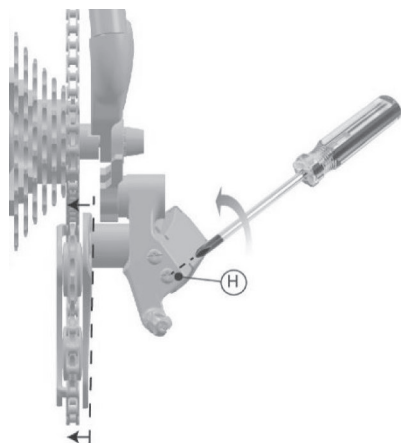
Coaster brakes and hub brake, have their mechanism enclosed inside of the rear hub. Some models are activated by a hand lever and others only by pushing onto the pedals backwards. Their adjustment and servicing requires special tools and knowledge and should therefore only be attempted by a qualified technician.



Keep your finger off the area where the chain engages the chain wheel or the sprockets while testing to avoid injury by finger entrapment.

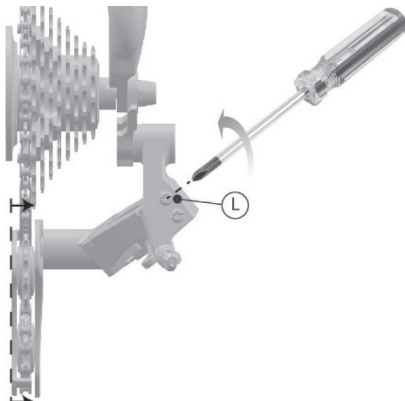
Rear derailleur adjustment

The two major parameters to adjust are the derailleur range limits and its synchronism with each sprocket. Setting the limits properly prevents the derailleur from going too far in its movement and prevents the chain from dropping away from the gears. A precise synchronism ensures a smooth transmission between each gear.



To adjust high gear limit:

- Shift to high rear gear (smallest sprocket).
- Precisely align derailleur pulley with the gear using the high limit screw (H)—turn clockwise to move the derailleur towards the left or counter-clockwise to move it towards the right.



To adjust low gear limit:

- Shift to low gear (largest sprocket).
- Precisely align derailleur pulley with the gear using the low limit screw (L)—turn clockwise to move the derailleur towards the right or counter-clockwise to move towards the left.

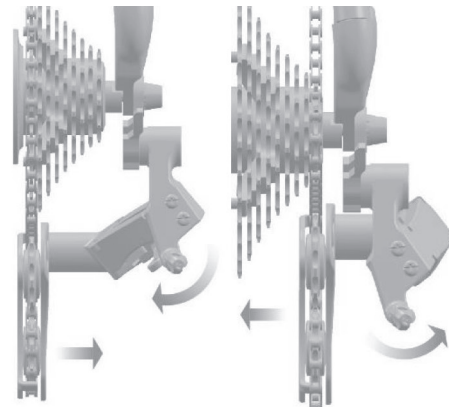


For the whole system to work properly, both front and rear derailleurs must be precisely positioned and aligned with gears.

Chain must be in good condition and lubricated. Cables and housings should be clean, lubricated and free of damage or kinks.



Do not touch moving drivetrain parts to avoid finger entrapment when adjusting rear derailleur.



To adjust synchronism:

Increase or decrease cable tension using the barrel adjuster on the derailleur or shifter.

- Turning clockwise decreases cable tension and moves the derailleur towards the right.
- Turning counter-clockwise increases cable tension and moves the derailleur towards the left.
- Shift throughout all gears to test and fine tune as needed.

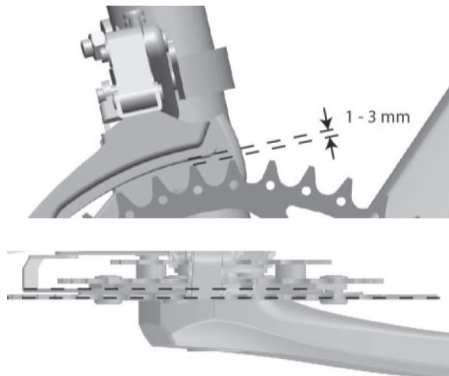
Once the derailleur is properly aligned with the first gear, make sure the shifter lever keeps the derailleur aligned with all the other gears for each “click” of the mechanism. Adjust derailleur cable tension with the barrel adjuster if necessary.

Front derailleur adjustment

To function properly, the front derailleur needs to be perfectly positioned, its range limits correctly set and cable tension must be precisely adjusted.

To adjust derailleur position:

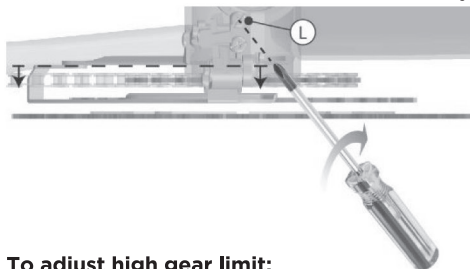
- Slightly loosen clamp bolt.
- Slide the derailleur up or down until there's a gap of 1 – 3 mm between the cage and the largest chain ring.
- Rotate cage until it's parallel with the chain rings.
- Tighten clamp bolt to lock into position.



There is a serious risk of finger entrapment when manipulating a front derailleur. Be especially careful and do not touch moving drivetrain parts to prevent injuries.

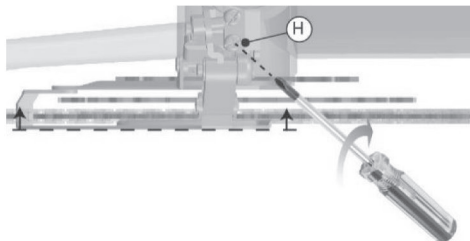
To adjust low gear limit:

- Shift to lowest gear combination (largest rear sprocket and smallest front chain ring).
- Adjust low limit screw (L) until there's a gap of 0 – 0.5 mm between the cage and the chain. Turn clockwise to move the derailleur closer or counter-clockwise to move it away.



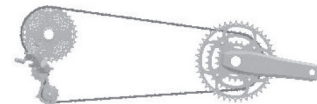
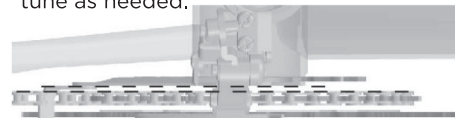
To adjust high gear limit:

- Shift to highest gear combination (smallest rear sprocket and largest front chain ring).
- Adjust high limit screw (H) until there's a gap of 0 – 0.5 mm between the cage and the chain. Turn clockwise to move the derailleur away or counter-clockwise to move it closer.



To adjust cable tension:

- Shift to largest rear sprocket and middle front chain ring.
- Adjust cable tension using the adjusting barrel on the shifter or on the frame until there's a gap of 0 – 0.5 mm between the cage and the chain, turn clockwise to move the derailleur away or counter-clockwise to move it closer.
- Shift throughout all gears to test and fine tune as needed.



This section shows the adjustment steps for a transmission of the triple type (three front chain rings).

If your bike is equipped with a different type of transmission (i.e., double chain rings), refer to the manufacturer's instructions provided or available online.



If you are having trouble adjusting the front derailleur, we recommend consulting a qualified technician to do the job as this can be a tricky adjustment to perform.

Adjusting the headset

There are two major types of headset. Although they both operate using the same bearing principle, they have their own specific adjustment methods and require different tools.

For both types, the goal is to tighten the bearings just the right amount. Too tight will cause poor handling and may damage the headset. Too loose and you will feel an unpleasant rattling when braking caused by a play in the bearing assembly which will also damage the headset and/or frame.



To adjust a threaded headset, you will need a special flat wrench and a large wrench. Do not use a wrench that is incompatible to avoid damaging the headset. An adjustable wrench is not suitable for this operation.



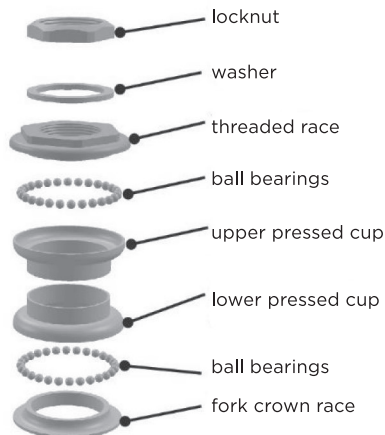
This adjustment might seem simple to perform by yourself. However, adjusting the headset bearings right can be tricky, and we recommend that this operation be done by a qualified technician.



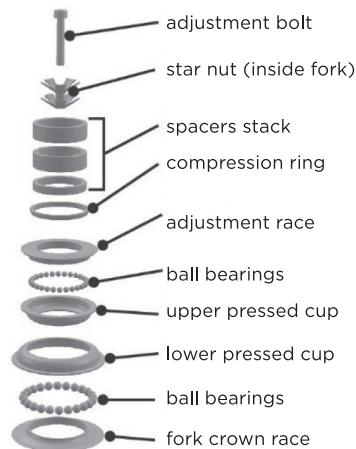
Make sure you understand the mechanism's function before attempting to adjust it. Failure to properly adjust this component can result in poor handling, damage your bike and cause serious injury or even death.



Threaded type headset



Thread-less type headset



The assembly sequence is for reference only.

To adjust a threaded headset



- Loosen the locknut with the large wrench.
- Adjust the bearing by tightening or loosening the threaded race with the flat wrench. Proper adjustment is achieved once the bearing turns smoothly and there is no play.
- Lock the adjustment by holding the threaded race in its adjusted position with the flat wrench while tightening the locknut.
- Check the adjustment once the locknut is tightened. Readjust if needed.

Refer to **Appendix – BMX bike specifics** for details about adjusting a BMX headset.

To adjust a threaded-less headset



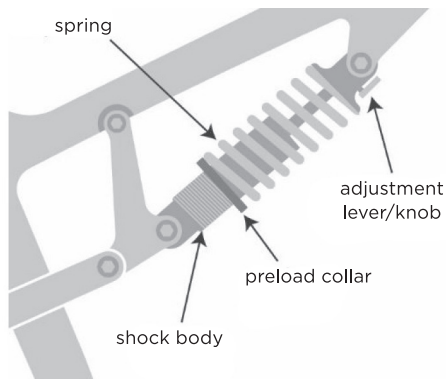
- Loosen the stem's side bolts with a hex key.
- Adjust bearing by tightening or loosening the adjustment bolt with a hex key. Proper adjustment is achieved once the bearing turns smoothly and there is no play.
- Lock the adjustment by tightening the stem's side bolts.
- Double check your adjustment once the stem's side bolts are tightened. Readjust if needed.



Always use a torque wrench when tightening a thread-less stem to avoid damaging the bolts or stem.

Adjusting the rear suspension

A performance rear suspension, when properly adjusted, improves traction over obstacles, control on technical trails and reduces fatigue over long rides.



The most common adjustments that are found on rear suspensions are:

Spring preload must be adjusted according to the rider's weight. In order to be efficient, the spring preload should be set so that only around 20% of suspension travel is compressed with the rider's weight on the bike (this setting is known as SAG).

- Increase preload by tightening the preload collar to make the suspension firmer.
- Decrease preload by loosening the preload collar to make the suspension softer.



Note: If a proper SAG adjustment cannot be reached this way, the spring can be replaced with a firmer- or softer-rated one.



Note: All rear suspension systems are not equal in performance. Most will ease the impact on your bike and your body over obstacles; however, only high-end suspension types are designed to slow down the rebound after an impact and are more suitable for expert mountain bike trails.

Wheel truing



Wheel truing is a complex operation that requires skills and specialized tools. We recommend that it is performed by a qualified technician.

Wheel truing is necessary when one spoke or more has been broken or when the rim has been bent after an impact. The principle for truing a wheel is quite simple, but the execution requires very special attention because it is very sensitive and there is a risk of permanent damage to the wheel if not done properly.

Preparation:

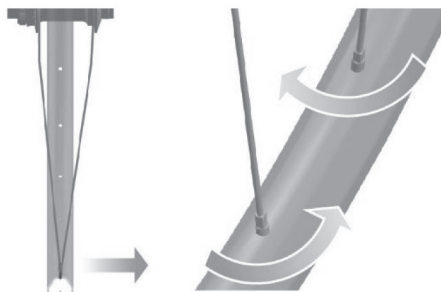
- Remove wheel from bike.
- Dismount the tire and inner tube.
- Replace the broken spoke(s), if any.
- Put the wheel into an alignment stand.
- Locate the bend on the rim and decide which spokes to adjust or replace.



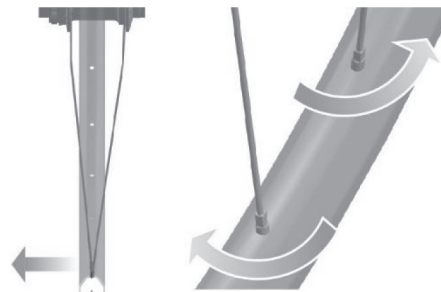
Always replace a broken spoke by a new one of the exact same length. Install the new spoke in the exact same orientation as the previous one. Spoke tension should be kept constant throughout the wheel. Measure spoke tension with a calibrated spoke tension gauge.

Lateral truing

To move the rim to the right: Tighten right side spoke(s) or loosen left side spoke(s) (or both, depending on bend amplitude).

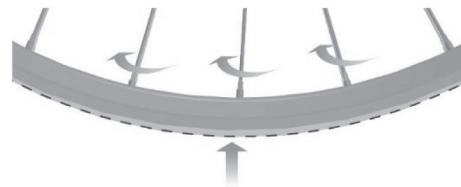


To move the rim to the left: Tighten left side spoke(s) or loosen right side spoke(s) (or both, depending on bend amplitude).

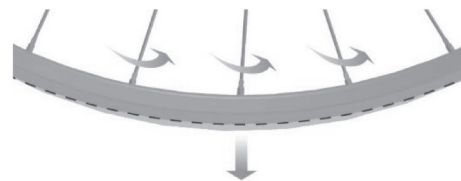


Radial truing

To pull a bump in: Remove the radial bump by tightening spokes in sets of three (or five, depending on the bump amplitude).



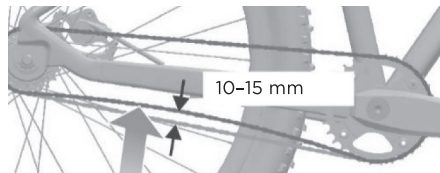
To push a flat out: Remove the radial flat by loosening spokes in sets of three (or five, depending on the flat amplitude).



You may need to proceed to lateral truing after adjusting radial.

Adjusting chain tension

Chain tension for single speed bikes should be set so there is a slack of 10-15 mm when pushing on the chain and it should not drop when pushed on its side.



To adjust chain tension:

- Loosen the wheel and pull it backwards with the available mechanism until you reach the desired tension. Keep the wheel aligned in the frame at the same time.
- Tighten the wheel in the frame.
- Check chain slack measurement using a flat ruler as a reference.
- Test the chain to verify it does not drop when you push it sideways with your finger while pedalling.

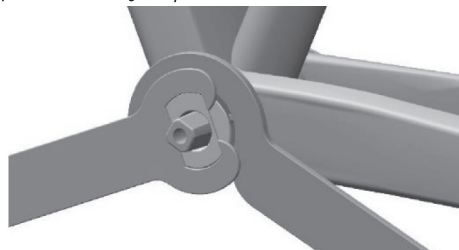


Keep your finger off the area where the chain engages the chain wheel or the sprockets while testing to avoid injury by finger entrapment.

Adjusting the bottom bracket



Make sure you understand the mechanism's function before attempting to adjust it. Failure to properly adjust this component can result in poor performance, damage your bike, and cause serious injury or even death. It is recommended that this adjustment be performed by a qualified technician.



- Remove the left side crank arm with an extracting tool.
- Loosen the lock ring with the ergo key.
- Adjust bearing by tightening or loosening the adjustment race with the proper tool. Proper adjustment is reached once the bearing turns smoothly and there is no play.
- Double check your adjustment once the lock ring is tightened. Readjust if needed.



Adjusting and servicing a bottom bracket requires special tools. To avoid damaging the parts, don't attempt to perform the operation with incorrect tools.

Section 7 — Riding Basics

This section covers some basic principles for riding a bike efficiently and safely. We recommend that you start to experiment with your new bike controls and specific handling characteristics in a safe area with a slow speed before engaging into faster, more challenging riding such as off road or on public roads.



There are several types of component designs on the market. It is possible that those fitted on your bike work differently from what is described in this section. You should refer to the component manufacturer's instructions to make sure you understand the proper use of your bike.

Braking

Learning how to brake efficiently will improve your riding and make you safer. Modern bike brake systems can be very powerful and surprise you with their power. It is important for the rider to learn how to operate them safely to avoid loss of control and injury.

Before your first ride, get to know how your brakes work, how powerful they are, and which side is front and which side is rear.

Rim brakes and disc brakes are activated by pulling on brake levers located on the handlebar.



- **Left** brake lever (A) activates **front** brake.
- **Right** brake lever (B) activates **rear** brake.



In some countries, the brake levers are reversed. Please check which system your bike uses before use!



Always use both brakes at the same time. Carefully modulate the braking force you apply between front and rear brake. Don't apply too much force, especially on the front brake, to avoid locking the wheel and getting propelled forward or sliding and falling. Locking the front or rear wheel can result in serious injuries or even death.



Always check your brake system function and condition before a ride. Adjust if necessary.

Coaster brakes are activated by reversing the chain rotation direction. In order to activate a coaster brake efficiently, the rider must first get one crank arm (pedal) to the horizontal position then firmly push downward on the rear pedal. The brake should activate at about one eighth (1/8) of the complete rotation of the crank. The more force applied to the pedal, the more braking force it will generate.



If your bike is fitted with only one coaster brake, be especially careful when riding. You should avoid going too fast or down steep descents as this type of braking system is not as powerful as other front and rear brake systems. You should consider that reaction and brake activation time can be longer.

Shifting gears

Knowing how and when to shift gears will make your riding experience better. Shifting gears frequently to adapt your pedalling cadence to your speed can help prevent muscular fatigue, joint injuries and extend the drivetrain life.

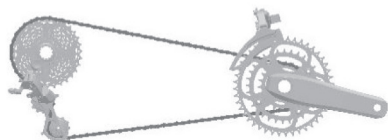
Highest gear ratio:

- **Largest** chain ring in the **front**.
- **Smallest** sprocket at the **rear**.



Lowest gear ratio:

- **Smallest** chain ring in the **front**.
- **Largest** sprocket at the **rear**.



Gear ratio to avoid:

- **Smallest** chain ring in the **front**.
- **Smallest** sprocket at the **rear**.



Gear ratio to avoid:

- **Largest** chain ring in the **front**.
- **Largest** sprocket at the **rear**.



These gears combinations bend and put the chain under stress. They will reduce its life and provide poor shifting performance.

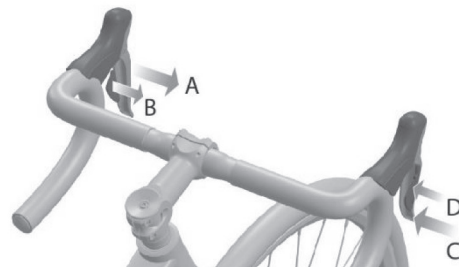


Learn how to operate your shifters without looking! You should always keep looking in front of you and around while riding your bike.



Avoid shifting gears when pedalling under heavy force or on a steep incline as this can make the chain drop, damage the components, make you lose control, fall and cause injury.

Road bike shifters



- Push left brake lever (A) towards inside to shift front derailleur to a higher gear.
- Push left small lever (B) towards inside to shift front derailleur to a lower gear.
- Push right brake lever (C) towards inside to shift rear derailleur to a lower gear.
- Push right small lever (D) towards inside to shift rear derailleur to a higher gear.



If the shifters fitted on your bike differ from the ones shown here, please refer to the component manufacturer's instructions.

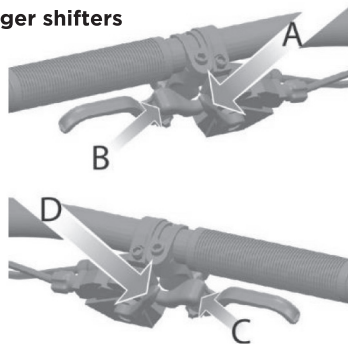


Do not shift gears when you are not pedalling, or pedalling backwards, as this could damage the derailleurs.



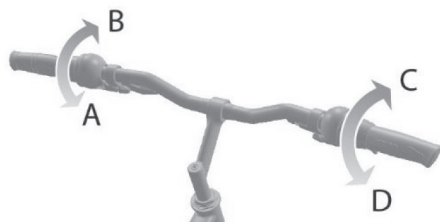
If the chain suddenly drops, stop pedalling immediately. Trying to get it back on the gear by pedalling could damage your frame and components.

Trigger shifters



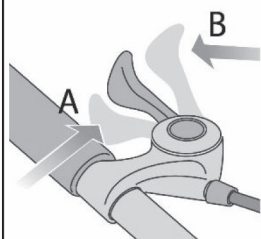
- Push left shifter thumb lever (A) to shift front derailleur to a higher gear.
- Pull left shifter index lever (B) to shift front derailleur to a lower gear.
- Pull right shifter index lever (C) to shift the rear derailleur to a higher gear.
- Push right shifter thumb lever (D) to shift the rear derailleur to a lower gear.

Twist shifters

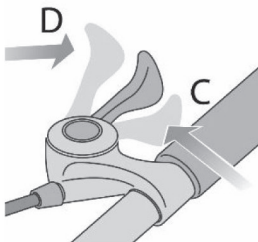


- Twist left shifter towards the back (A) to shift front derailleur to a higher gear.
- Twist left shifter towards front (B) to shift front derailleur to a lower gear.
- Twist right shifter towards front (C) to shift the rear derailleur to a higher gear.
- Twist right shifter towards the back (D) to shift the rear derailleur to a lower gear.

Thumb shifters



- Push left shifter thumb lever (A) to shift front derailleur to a higher gear.
- Pull left shifter index lever (B) to shift front derailleur to a lower gear.
- Pull right shifter index lever (C) to shift the rear derailleur to a higher gear.
- Push right shifter thumb lever (D) to shift the rear derailleur to a lower gear.



Riding uphill

Shift to a lower gear before going uphill. Avoid shifting while climbing a hill to prevent damage to the components and loss of control.

On steep inclines, shift your body weight to the front of the bike to reposition your centre of gravity. This will prevent the front end of the bike from lifting up. Shifting your body weight can be achieved by lowering your upper body and flexing your arms.

You may stand up on your pedals to use your own body weight to help propel you, and if the hill is particularly steep, you can also use your arms to pull on the handlebar while pedalling to increase your power.

Riding downhill

Keep your hands on the brakes at all time when going downhill. Modulate your braking to avoid locking the wheels and losing control.

Shift your body weight to the rear of the bike to reposition your centre of gravity. This will prevent the rear end from lifting up while braking. You may move your body backwards over the saddle while extending your arms as the hill gets steeper.

Riding off road

This can be one of the most pleasing riding experiences for some people. However, it can be very hazardous and dangerous and it requires a different set of skills.

Know and respect your own limits and experience level. Learn to understand the characteristics of each type of terrain. Avoid braking on roots, mud and slick rocks. Always look far in front of you to be better prepared for the trail ahead. Slow down when approaching a blind turn or bump. Be careful when going through a water hole as it may be deeper than you think.

Only ride off road with a specifically designed bike. Be equipped with protective equipment. Brief loss of control can happen when riding off road. You must be aware of those risks and fully assume the responsibility. Learn how to dismount the bike before falling.

Respect private property and the other users on the trail, and slow down when you meet them. Bring sufficient water, small snacks and basic tools. Be prepared for emergency repairs to your bike. Do not dispose of garbage on the trails.

Riding in wet weather

Try to avoid riding in wet weather as this seriously increases the risk of losing control and falling.

Tire contact and braking efficiency is greatly reduced in wet conditions. Slow down, start braking early and more gently, and use extra caution when turning.

Water in your eyes can reduce your vision. Wear proper eyewear.

Riding at night

Avoid riding at night as this adds several risks.

Make sure you are visible to the others and that you can also see them well. Please note that the reflectors provided on your bike may not meet the minimum requirements and local regulations for your area. We recommend that you attach a full set of lights to your bike.

Wear bright-coloured clothes and equipment and always check to confirm that people see you before attempting a manoeuvre. Always ride defensively and always assume that people don't see you.

Riding on public roads

If possible, avoid riding in heavy traffic areas. However, if you wish or need to, it is your own responsibility to learn the local laws regarding bike usage on the public roads and always respect them.

Make sure you are easy to see to other road users. Wear reflective or bright-coloured clothing, sufficient protective gear, and a properly fitted and approved helmet. Never assume a pedestrian, car driver or another bike rider sees you. Ride defensively and always expect unannounced moves from other road users.

It is recommended to install and use a headlight and a tail light on your bike at all times. A bell fitted on your handlebar to announce your presence to other road users is also recommended.



It is the rider's responsibility to know and respect local laws regarding bicycle use and required safety equipment on public roads.

Riding with a child carrier or trailer

There are several safety recommendations to understand and respect with regards to riding with a child carrier seat or trailer devices.

- Only use a safe, certified child carrier or hauling device.
- Make sure the bike you are using permits the use of this kind of accessory.
- Fully read and understand the safety instructions and content of the product's user manual before use.
- Adapt your speed and riding style at all times.
- Avoid heavy traffic areas.
- Respect the maximum carriage load allowed.
- Children should always wear an approved and properly fitted helmet.
- Make sure there is no entrapment risk for the child with any hazardous or rotating components of your bike.



If you are riding with a child on a back seat and your bike has a coil spring saddle, make sure it is properly covered as there is a serious risk of injury by entrapment.



A coil spring saddle

Riding with feet-securing devices

Be careful while riding with feet-securing devices such as toe-clips or clipless pedals. Although they may help increase your performance, there is a learning period necessary before being able to safely use these devices. Start progressively and adjust the strap tightness or spring accordingly.



Be aware of possible toe-clip interference with front wheel when turning sharply with some small sized bikes.

Section 8 — Maintenance

The following section will describe the requirements for basic bike maintenance. Some of these operations can easily be executed at home with only a few tools and materials. However, some inspection elements and tricky adjustments would be better diagnosed by a qualified technician.

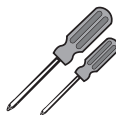
Once again, we strongly suggest that you seek advice from a qualified technician to check if your bike needs a tune-up. This is especially true for the first inspection that should be done after a few rides. Brake and shifter cables can stretch, spokes and bolts on some components can also lose some tension from initial assembly after a couple of rides.

Required tools

The following list shows a very basic set of tools needed to perform the simplest maintenance tasks. Modern bikes require a large array of specialized tools to execute a complete maintenance job and it would be impossible to list them all here.



Bicycles use metric size standard hardware. Do not attempt mechanical work with other size of tools; you may damage bolts and components.



cross head screwdriver
(size small and medium)



hex key set
(sizes 2 mm to 8 mm)



wrench set
(sizes 2 mm to 15 mm)



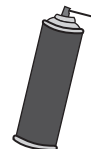
cable cutting pliers



grease



torque wrench
(low torque range)



lubricant
(silicone based)



air pump
(with pressure gauge)

Basic maintenance



There is a risk of entrapment during the normal maintenance of a bicycle. Do not wear loose clothes, secure long hair and be careful when working around rotating drivetrain components or a rotating wheel.

Lubricate chain after it has rained over the bike, after cleaning, after a muddy off-road ride or after about 250 km (155 miles) in normal conditions.

Chain should be lubricated with a specific bike chain oil, chain wax or silicone based lubricant; do not use grease.

A qualified technician can recommend the best type of lubricant for your chain based on your location or your type of riding.

Apply a small amount of lubricant over the full length of the chain by gently pouring oil over the chain while rotating the pedal counter-clockwise.

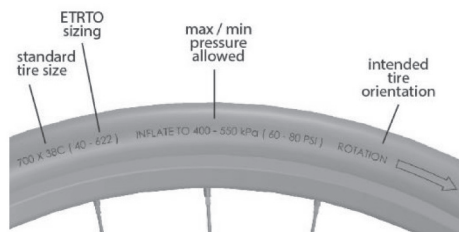
Let the lubricant penetrate the chain links for a few minutes and remove excess lubricant on the outside of the chain with a cloth. This will prevent dust or sand from sticking to the chain and keep it running smoothly.



Be careful not to put lubricant on other sensitive bike components like disc brake rotors or rims as this could greatly affect braking performance. If you accidentally do, clean the component with rubbing alcohol on a cloth (do not use brake cleaner or degreaser).

Check tire pressures regularly, and specifically when taking the bike out of storage or when going for a long ride or off-road ride.

Locate the recommended pressure of your tires. All tires have their manufacturer's recommended low and high pressures embossed on their side as shown below:



Generally, road bike and hybrid bike tires have a higher pressure recommendation than those on mountain bikes or kid's bikes.

Adjust pressure to your comfort and performance preferences.

Here are some general rules regarding tire pressure and how it can affect performance, comfort and safety.

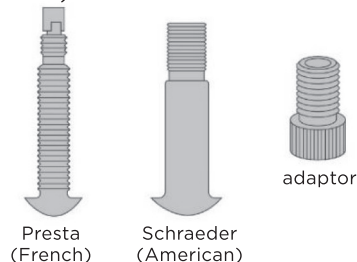
Higher tire pressure:

- Less rolling resistance = less energy needed to propel the bike.
- Reduced comfort, impacts and vibrations felt harder.
- Reduced tire contact with the ground; more likely to slide.

Lower tire pressure:

- More rolling resistance = more energy needed to propel the bike.
- Increased comfort, impacts and vibrations reduced.
- Increased tire contact with the ground; less likely to slide.

Identify the type of valve your bike is equipped with. There are two major types of valves: Schraeder (American), and Presta (French) as shown below:



Measure the tire's pressure with a pressure gauge or a pump with a gauge. If needed, adjust pressure to the desired value, but always inside the range allowed by the manufacturer. Check for the proper tire position as you gradually increase pressure.



Never exceed the tire manufacturer's maximum pressure value.

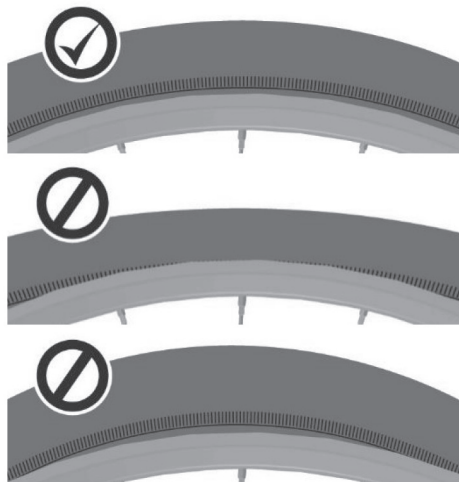


Do not inflate bicycle tires with an air compressor as these devices push a lot of air very quickly and this could cause your tires to blow up.



Always check for the correct position of the tire on the rim while adding pressure. There should be a radial mark on the tire to check for proper tire position.

Proper seating of the tire in the rim:



Check bolted connections before every ride and especially prior to a long ride or an off-road ride.

Refer to **Appendix – Torque recommendation table** for the complete list of bolted connections and recommended torque values. Replace any rusted or damaged bolts.

Adjust brake's cable tension whenever the brake pads have been worn out and when the brake is no longer engaged at one third (1/3) of the brake lever stroke.

Annual maintenance

After the first season riding your bike, and depending on the usage you do, it is strongly recommended to check or have your bike checked by a qualified technician at least once a year, preferably at the beginning of the season.



A regularly maintained bike can keep its performance much longer and enjoys an extended useful life.



A complete tune-up is most often much less expensive than to adjust each component separately when problems occur.

Here's what is usually checked (and repaired, if needed) at the annual maintenance:

- **Brakes adjustment**

(check cables, housings and pads; check/change brake fluid)

- **Derailleurs adjustment**

(check cable, housings and alignment of derailleur hanger)

- **Wheel hubs check**

(lubrication and bearing adjustments)

- **Headset check**

(lubrication and bearing adjustments)

- **Bolted connections check**

(inspect, tighten, and replace rusted/damaged bolts)

- **Tire wear check**

(check wear and pressure)

- **Chain wear check**

(check elongation; cleaning and lubricating)

- **Wheel alignment check**

(truing; replacement of broken spokes)

- **General cleaning of the bike**

Lifespan and normal wear of components

Some components on a bike suffer normal wear due to their intended function. This includes, amongst others: brake pads, chain and sprockets, tires and rims. Those parts should be replaced before they are completely worn out to preserve safety and performance as well as to prevent damage to other components of the bike.

Parts subject to normal wear usually have some kind of integrated wear indicator or at least a dedicated tool available to check wear.



As with all machines, a bicycle is subject to mechanical wear and fatigue. Different materials and components can react to wear in different ways. If the lifespan or wear limit of a component has been exceeded, it can suddenly fail, possibly causing injuries to the rider. Any form of crack, scratches or change of colouring in highly stressed areas could indicate that the life of the component has been reached and it should be replaced.



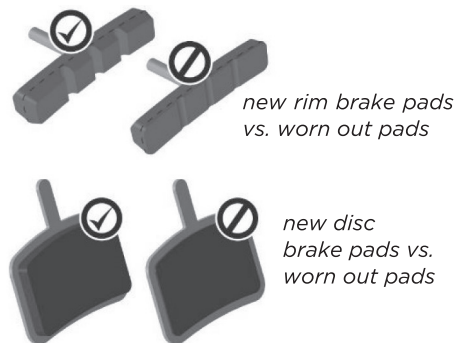
Intensive, abusive use and non-intended usage will decrease the lifespan of your bicycle and its components.



Periodic inspection of the frame, fork, suspension bushings and carbon composite parts by a qualified technician according to the manufacturer's instructions is recommended.

Brake pad wear

As brakes function by creating friction between the pad and the rim or rotor, it is expected that the brake pad will slowly degrade and disappear. You can help to increase the brake pad's life by braking equally with front and rear brake at all times and learning how to modulate the braking force.

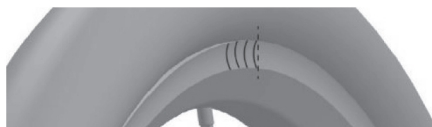


- Replace rim brake pads when the wear line has been reached or when grooves are not visible anymore.
- Replace disc brake pads when material thickness reached 0.5 mm or less.

Rim wear

Rims can wear from various factors. For those designed for rim brakes, repeated friction with the brake pad will slowly degrade rim braking track material and will eventually require replacement. For rim designed for disc brake systems, this situation does not happen. Impacts can also damage the rim in many ways. Regularly inspect the rims, and check for cracks near spoke holes, an opened rim joint or a radial crack along the rim. If any of these defects are found, stop using the wheel and replace the rim. Help increase rim life by modulating your braking, avoiding impacts on the rims as much as possible, and always riding with sufficient tire pressure.

Rims can be checked by inspecting the look and shape of the braking track surface. In general, when the braking track has become concave, it is time to replace the rim.



Concave braking track: replacement indicator

Tire wear

Tire rubber will slowly wear and degrade from the friction with the road that it experiences. Rear tires tend to wear faster, so switching the front and rear tires (if the tire design allows it) can increase the life span of a set of tires. To increase tire life, always ride with sufficient tire pressure and avoid heavy braking that can lock the wheel and cause the bike to skid.

Chain wear

The chain will stretch over time due to the tension created by pedalling. Regularly check the chain elongation with a chain stretch gauge. Replace the chain before it is too stretched in order to prevent damage to the other drivetrain components such as rear sprockets and front chain rings. Increase your chain life by avoiding crossing gears, shifting through speeds smoothly and adapting your pedalling cadence to avoid putting too much tension on the chain. Clean and lubricate the chain frequently and avoid dust, sand and mud.

Rear sprockets and front chain rings wear

Since they are in constant connection with the chain, the rear sprockets and front chain rings will wear out due to the elongation of the chain. As a general rule, the smallest gears (with fewer teeth) will wear out faster since there are fewer points of contact to distribute the tension force from the chain.

Prevent damage and premature wear of these components by replacing the chain before it stretches past its elongation limit, and shift gears frequently while adapting your pedalling cadence to avoid putting too much stress on a small number of gears. Clean and lubricate the chain frequently, and avoid dust, sand and mud. If you experience chain skipping on some gears after replacing the chain, it means either the rear sprocket or front chain ring material has worn out and the defective component should be replaced. We recommend that you consult a qualified technician to help you decide the best course of action.

Repairing a flat tire

It is quite normal to experience a flat tire from time to time. It can be caused either by a puncture from a sharp object finding its way through the tire to the inner tube or by pinching the inner tube with the rim during a strong impact between the wheel and an obstacle. To avoid this situation, always ride with sufficient tire pressure, and avoid rolling over sharp objects or obstacles, when possible. It is advised to carry a spare tube with you or at least a puncture repair kit and pump.

- Remove the wheel from the frame or fork.
- Unhook one side of the tire from the rim.
- Remove inner tube and locate the puncture.
- Find the corresponding location of the puncture inside the tire.
- Check for any sharp objects remaining stuck in the tire (if any, remove it and replace tire if it's too damaged).
- Pre-inflate the new or repaired inner tube to a low pressure just enough so it takes a round shape.
- Insert the tube inside the tire starting with the valve and make sure it is straight.
- Hook the tire back on the rim, ensuring that it is evenly positioned by looking at the radial markings before proceeding to next step.

- Inflate tire to recommended pressure while checking for the even position of the tire on the rim.
- Replace the wheel inside the frame or fork and re-attach the brake, if needed.

Cleaning your bike

Keeping your bike clean is an easy and simple way to help extend its performance and look.

- Find a proper area where there is no dust.
- Fill a bucket with warm water and mix in a biodegradable dishwashing liquid or other soft soap.
- Clean transmission components such as chain, sprockets and chain rings first with degreaser using specially designed brushes or a dedicated cloth.
- Thoroughly wash the whole bike from top to bottom with soapy water using a soft brush.
- Rinse with water at low pressure (do not use a pressure washer as it can get water into sealed components).
- Dry the chain with a clean cloth and relubricate it before allowing the bike to air dry.



Never apply degreaser or lubricant on disc rotor or brake pads. If degreaser or lubricant gets on a brake pad, it might need to be replaced.



Disc rotors, if needed, should only be cleaned with rubbing alcohol on a clean cloth. Do not use car brake cleaner fluid.

Storing your bike

Store your bike in a dry place, preferably indoors or inside a locked, outdoor shed. Make sure the chain and other corrosion-sensitive components have been lubricated before storing your bike for a prolonged period as rust can accumulate quickly under humid conditions. Be careful to store your bike away from other objects that may come in contact with impact-sensitive components such as wheels and derailleurs. Check that there is sufficient pressure in the tires so the rubber doesn't degrade over a long storage period. It is wise to suspend the bike by the front wheel or both wheels. If you are storing your bike outside, we recommend that you lock it and cover it with a tarp to protect it from water but still allow air circulation.

Replacing a component

When components are worn out, or if you wish to improve your comfort or your bike's performance, it is possible to replace and upgrade almost all components. You may want to upgrade your derailleurs to improve the shifting performance, change your wheelset for a lighter and stiffer one, fit a new suspension to increase your off-road handling, replace your brakes to improve braking power, and so on.

It is important to understand and comply with the compatibility of your bike with new components as there are often several standards available on the market for each part. There are also some important safety recommendations to observe when changing a component on a bike. It is recommended that you ask a qualified technician for the best way to upgrade your bike according to your needs.



Always use genuine OEM parts that comply with industry safety standards.



When replacing a chain wheel, a longer crank arm may create interference with the front wheel and lead to a hazardous situation that may cause a loss of control and injuries.



Replacing parts that change the bike's geometry will alter its handling, and it may become unstable and dangerous to ride. Such changes may also void the manufacturer's warranty.

Appendix

Training wheels

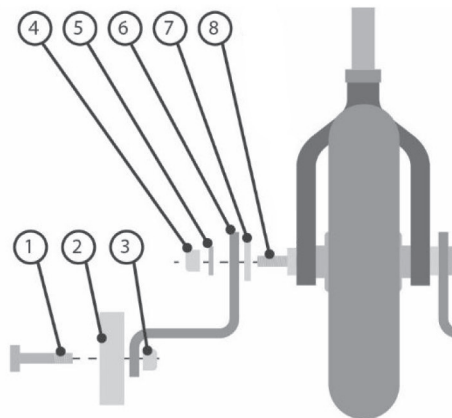
Kids bikes may be equipped with training wheels. They can be used to help them learn how to handle and enjoy their bike before they have honed the necessary balance skills.

Although training wheels can help reduce the chances of falling and crashing, their use still requires the following safety recommendations to be observed at all times.

- The child must be able to stop the bike at all times.
- Until the child can fully control the bike handling and stopping, they should always be supervised.
- The training wheels must be properly attached and adjusted at all times.

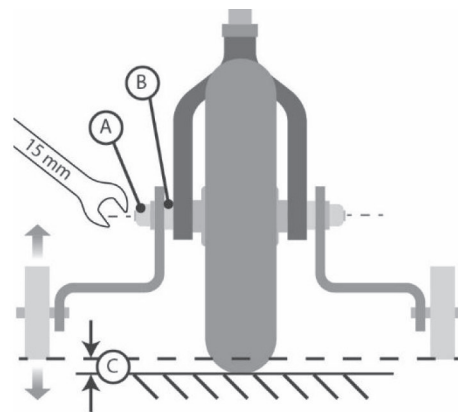


Training wheels will not allow the bike to lean to the side when turning. This characteristic increases the risk of losing balance when turning sharply. Always make sure the child does not go too fast or turn sharply when riding with training wheels.



To assemble and attach training wheels:

- Insert training wheel axle bolt (1) through wheel (2), and bracket (6) and secure with nut (3).
- Place onto the wheel axle (8), in order: the non-rotating bracket (7), training wheel bracket (6), and washer (5) then secure with the attachment nut (4).
- Repeat above steps for the second training wheel.
- Proceed to adjust the training wheels using as the following instructions.



To adjust training wheels:

- Make sure tires are inflated and that the bike stands straight on flat ground.
- Loosen training wheels attachment nuts (A); do not loosen wheel attachment nuts (B)!
- Set the training wheel's height so there's a gap (C) of approximately 6 mm with the ground. Make sure the gap is the same for both training wheels.
- Tighten the training wheels' attachment bolts.



You may increase the gap between the training wheels and the ground as the child gets more confident until you remove them completely.

BMX specific components

Some BMX bikes may be equipped with components that require special adjustment procedure such as a detangler headset and/or pegs. Follow the instructions below for these components installation and adjustment.



A detangler headset is part of a BMX braking system, and therefore becomes a very critical component for your safety. Do not attempt to adjust it by yourself if you don't fully understand its function or if you are not confident in your mechanical skills. We strongly recommend you ask a qualified technician.



Periodically check for correct attachment of your pegs. Make sure all pegs are properly tightened before each ride. Riding with loose pegs can result in serious injuries or even death.

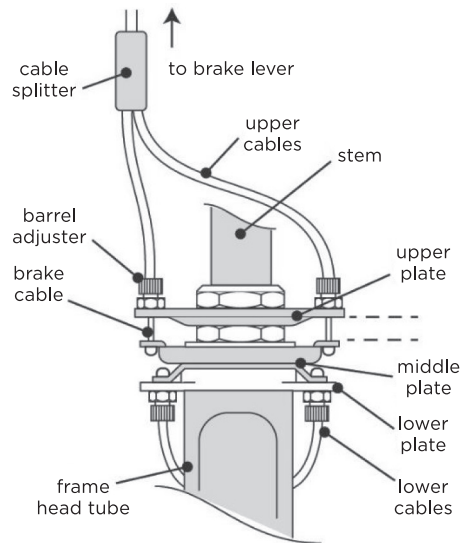


The components equipped on your bike may differ from the ones shown in this manual. Please refer to the component manufacturer's instructions provided or available on their website.

Detangler headset

This type of headset is designed to allow the rider to operate the rear brake while rotating the handlebar 360 degrees without tangling the brake cable around the frame or stem.

To work efficiently and safely, it needs to be properly adjusted with sufficient and balanced tension on all the parts of the system.



To adjust a rotor headset:

- Set all four barrel adjusters evenly so that the edge of the threaded shafts are flush with the plate on which they are inserted.
- Adjust the rear brake cable tension at the caliper with barrel adjusters in this position.
- Check that all plates of the system are, and remain, parallel when the brake is pulled. If they are not, there is slack in some of the cables in the system and the slack needs to be removed through the barrel adjusters.
- Verify the adjustment by rotating the handlebar. If the middle plate moves up and down as it rotates, repeat the adjustment procedure.

Pegs

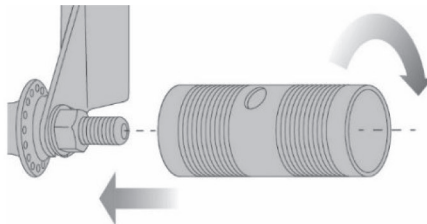
These devices are traditionally designed for performing BMX-specific tricks such as “grinding” or executing “flatland” manoeuvres.



Pegs are not designed for carrying passenger(s) and should never be used as such.

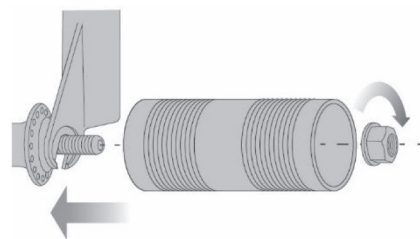


Performing tricks on a bike is considered abusive riding and may permanently damage the bike, void warranty and expose the rider to risks of serious injuries or even death. It is strongly recommended that tricks be not attempted.



To attach pegs (thread-on type):

- Ensure wheel axle nut is properly tightened to fork.
- Attach peg to wheel axle by turning clockwise with the help of a screwdriver or similar tool inserted into peg's hole.



To attach pegs (deep socket type):

- Insert peg along the wheel axle (use provided anti-rotation washer if applicable).
- Use a ratchet with a deep socket to tighten the axle nut against the fork through the peg.

Troubleshooting Guide

The following table describes common mechanical issues encountered with bicycles. Most of the time the issue can be solved by identifying the cause and applying the suggested solutions.

One piece of advice when trying to find the cause of a mechanical problem on a bike is to open your eyes and look carefully. The causes of many problems can be found by looking at the components involved. As a basic rule, everything should be aligned and clean. If you can't find the cause of the problem or not sure how to fix it, you should ask a qualified technician for advice or service.

Problem	Possible causes	Solution
Rear gears not shifting correctly	▪ Derailleur is not synchronized with shifter ▪ Derailleur hanger is bent ▪ Friction in the cable housings ▪ Dirt or corrosion in the shifter ▪ Chain is damaged	▪ Adjust cable tension ▪ Align derailleur hanger ▪ Lubricate or replace cable housings ▪ Lubricate or replace shifter ▪ Fix or replace chain
Front gears not shifting correctly	▪ Derailleur is not synchronized with shifter ▪ Derailleur position is wrong ▪ Friction in the cable housings ▪ Dirt or corrosion in the shifter ▪ Chain is damaged	▪ Adjust cable tension ▪ Adjust derailleur alignment and height ▪ Lubricate or replace cable housings ▪ Lubricate or replace shifter ▪ Replace chain
Chain drops... ▪ from smallest rear sprocket ▪ from largest rear sprocket ▪ from smallest front chainring ▪ from largest front chainring	▪ Rear derailleur high (H) limit is too loose ▪ Rear derailleur low (L) limit is too loose ▪ Front derailleur high (H) limit is too loose ▪ Front derailleur low (L) limit is too loose	▪ Turn high (H) limit bolt clockwise ▪ Turn high (L) limit bolt clockwise ▪ Turn high (H) limit bolt clockwise ▪ Turn high (L) limit bolt clockwise
Chain won't reach... ▪ the smallest rear sprocket ▪ the largest rear sprocket ▪ the smallest front chainring ▪ the largest front chainring	▪ Rear derailleur high (H) limit is too tight ▪ Rear derailleur low (L) limit is too tight ▪ Front derailleur high (H) limit is too tight ▪ Front derailleur low (L) limit is too tight	▪ Turn high (H) limit bolt counter-clockwise ▪ Turn high (L) limit bolt counter-clockwise ▪ Turn high (H) limit bolt counter-clockwise ▪ Turn high (L) limit bolt counter-clockwise

Problem	Possible cause	Solution
Chain skips	▪ Chain is worn out ▪ One or many sprockets worn out ▪ One or many chainrings worn out ▪ Sprocket or chainring has a broken tooth	▪ Replace chain ▪ Replace sprockets ▪ Replace chainrings ▪ Replace sprocket or chainring
Weak braking	▪ Brakes are not properly adjusted ▪ Brake pads are worn out ▪ Rim or disc is dirty <i>Hydraulic disc brakes</i> ▪ Brake fluid is missing ▪ Air bubble in the hydraulic line	▪ Adjust brakes ▪ Replace brake pads ▪ Clean rim or disc ▪ Add brake fluid ▪ Bleed the hydraulic line
Squeaking sound when braking	▪ Brake pads are wet or dirty ▪ Brake pads are not properly adjusted ▪ Brake pads are worn out ▪ Rim is wet or dirty <i>Disc brakes</i> ▪ Disc rotor is wet or dirty ▪ Brake pads are glazed or oil contaminated ▪ Brake pads are worn out ▪ Disc rotor is wobbling ▪ Disc rotor attachment is loose ▪ Brake caliper is loose	▪ Clean or replace brake pads ▪ Adjust brake pads/Add an angle (toe-in) ▪ Replace brake pads ▪ Clean the rim ▪ Clean disc rotor ▪ Sand or replace brake pads ▪ Replace brake pads ▪ Align or replace disc rotor ▪ Tighten disc rotor attachment ▪ Tighten brake caliper bolts
Vibrations while braking	▪ Loose headset bearings ▪ Brake are not properly adjusted ▪ Brake pivots are loose ▪ Rim or disc rotor wobbling ▪ Front wheel not properly attached	▪ Adjust headset bearings ▪ Adjust brakes/Add an angle (toe-in) ▪ Tighten brake pivots ▪ Align or replace rim or disc rotor ▪ Align and tighten front wheel into fork
Rubbing sound when riding	▪ Brake pads are rubbing against rim or disc ▪ Rim or disc rotor is rubbing against brake pads ▪ Chain in crossed gear combination ▪ Object interfering with wheels or crank arms	▪ Adjust brake pads spacing ▪ Align rim or disc rotor ▪ Shift gear to another combination ▪ Remove interfering object

Problem	Possible cause	Solution
Creaking sound when pedalling	▪ Loose or dirty bottom bracket ▪ Loose crank arms ▪ Damaged pedals bearings ▪ Chain is dirty or rusted ▪ Stiff chain link ▪ Chain tension too high (for single speed bike)	▪ Tighten and clean bottom bracket ▪ Tighten crank arms ▪ Fix or replace pedals ▪ Clean and lubricate chain ▪ Fix or replace chain ▪ Adjust chain tension
Poor handling	▪ Headset bearings are too tight ▪ Wheels not centred in frame and fork ▪ Stem/handlebar is misaligned with fork ▪ Fork is bent ▪ Frame is bent	▪ Adjust headset bearings ▪ Centre wheels in frame and fork ▪ Align stem/handlebar with fork ▪ Fix or replace fork ▪ Fix or replace frame
Frequent flats	▪ Riding with a too low pressure (pinch flat) ▪ Sharp object stuck inside tire ▪ Damaged inner tube ▪ Damaged tire ▪ Rim tape misplaced	▪ Increase tire pressure ▪ Remove and fix or replace inner tube ▪ Fix or replace inner tube ▪ Fix or replace tire ▪ Reposition rim tape

Maintenance log

Use this table to list all mechanical work that has been performed on your bike since its purchase so you know when next maintenance is due. It can also help prove the recommended maintenance has been respected if you ever need to discuss warranty with the manufacturer or wish to sell your bike to someone.

Date	Work done	Remarks

Torque Recommendation Table

The following table shows recommended torque (amount of force to apply, measured in inch-pound or newton-meter) for each bolted connection of your bike. Failure to respect these values could cause damage to the components and compromise your safety. Each part is unique in design and shape, so yours could require specific torque value that may differ from the one recommended in the chart below. First check on the component to identify its specific torque value if marked, or refer to manufacturer's instructions or website. Always use an adapted and calibrated torque wrench. We recommended the use of a click-type torque wrench with the proper range.

Connection	Torque (in-lb)	Torque (Nm)
stem – handlebar (1-bolt)	156 - 191	18 - 22
stem – handlebar (2-bolt)	122 - 156	14 - 18
stem – handlebar (4-bolt)	69 - 104	8 - 12
threaded stem – fork (1-bolt)	156 - 191	18 - 22
threadless stem – fork (2-bolt)	87 - 122	10 - 14
saddle – seat post (1-bolt)	156 - 174	18 - 20
saddle – seat post (2-bolt)	174 - 208	8 - 10
seat post – frame (steel)	156 - 208	18 - 20
seat post – frame (alloy)	71 - 89	8 - 10
seat post – frame (carbon)	44 - 62	5 - 7
front wheel – fork (nuttet)	216 - 260	24.5 - 29
rear wheel – frame (nuttet)	260 - 304	30 - 34
crank arm – bottom bracket	304 - 390	34 - 44
pedal – crank arm	304 - 347	34 - 39
front derailleur clamp	35 - 52	4 - 6
rear derailleur attachment (with bracket)	35 - 52	4 - 6
rear derailleur attachment (direct)	86 - 139	10 - 16

Connection	Torque (in-lb)	Torque (Nm)
cable pinch bolt (derailleur/brake)	22 – 43	2.5 – 5
shifter – handlebar	52 – 69	6 – 8
brake lever – handlebar	52 – 69	6 – 8
brake pivot – frame (V-brake)	52 – 69	6 – 8
caliper style brake – frame/fork	69 – 87	8 – 10
brake caliper – frame (disc brake)	52 – 69	6 – 8
brake pad – brake	35 – 52	4 – 6
brake cable pinch bolt	22 – 43	2.5 – 5
disc rotor – hub (bolts)	22 – 35	2.5 – 4
disc rotor – hub (lockring)	22 – 35	2.5 – 4
bottom bracket – frame	347 – 391	39 – 44
rear sprockets – cassette body	347 – 391	39 – 44

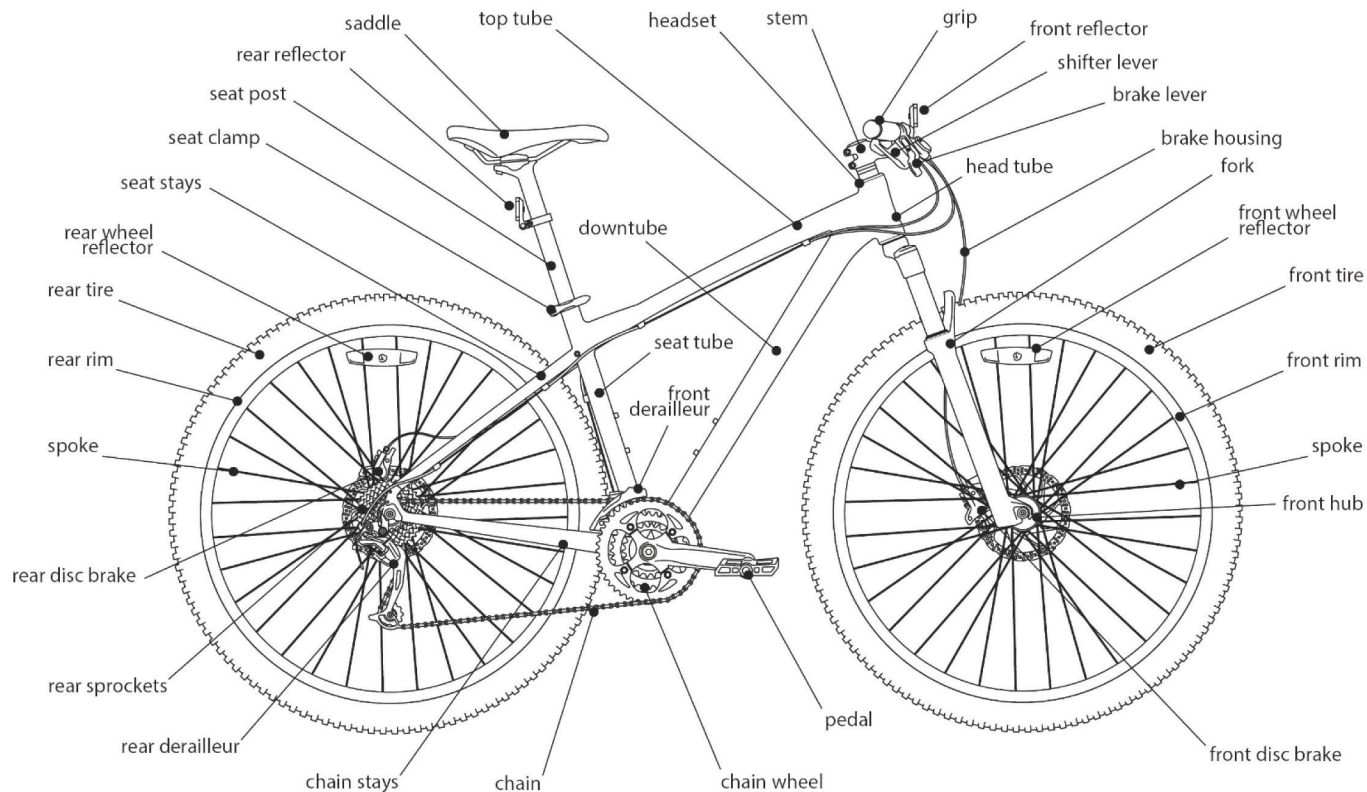
General torque values for bolted connections by bolt size

The following values can be used as reference for bolted connections according to the bolt size. To identify a bolt size, measure its diameter outside of the threads (i.e., 5 mm = M5). These values should be used at your own risk; they are only for reference. Please follow manufacturer's instructions.

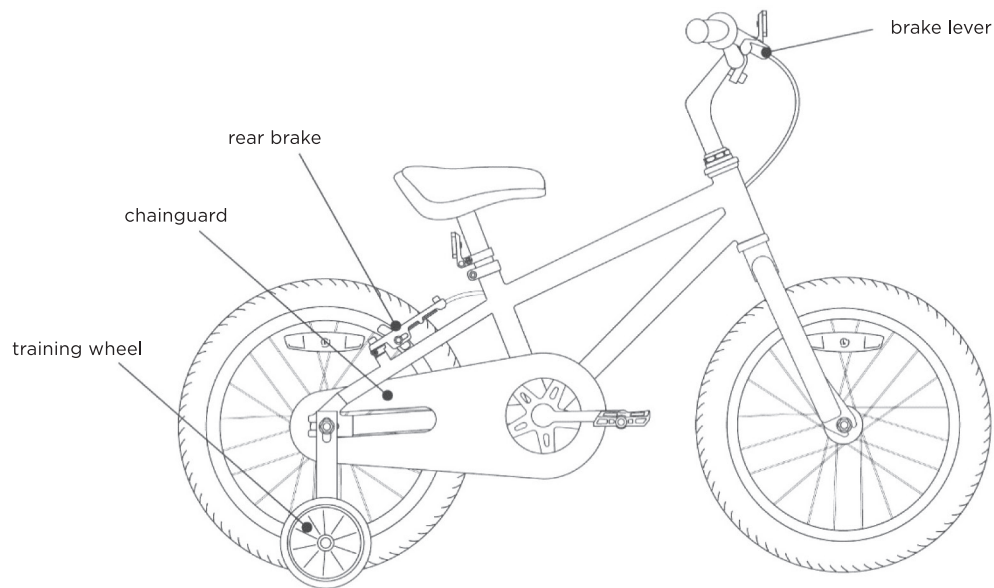
Bolt dimension	Torque (in-lb)	Torque (Nm)
M4	8.7 – 22	1 – 2.5
M5	22 – 35	2.5 – 4
M6	43 – 69	5 – 8
M8	104 – 174	12 – 20
M10	217 – 304	25 – 34

General Adult Bike Parts Terminology

Also see Appendix-rear suspension terminology



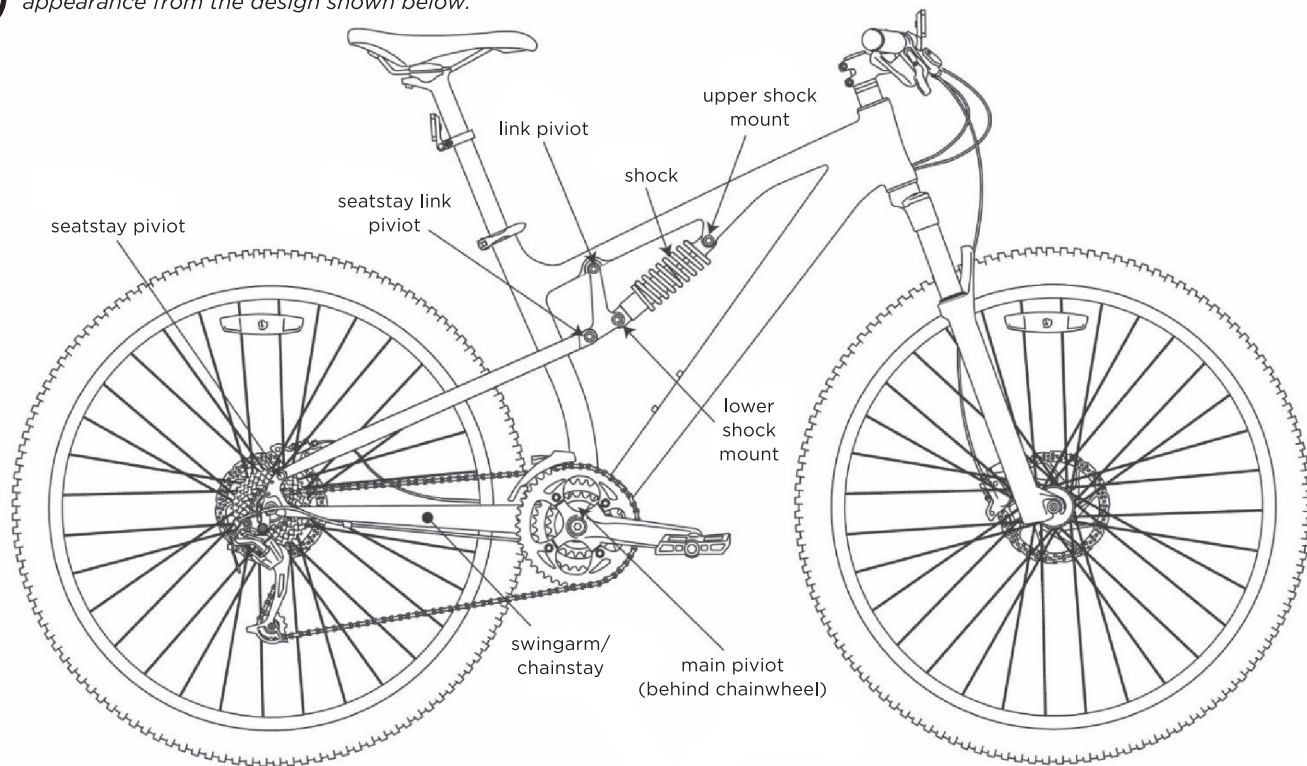
Kid's Bike Specific Parts Terminology



Please note that these illustrations are intended to inform about general bike components terminology and should only be used as a reference while reading this manual. However, every bike design is unique; it is quite possible that a component of your bike is slightly different than the ones shown here as examples. If you require more information about the name of a component or its use, please ask a qualified technician for help.

Rear Suspension Parts Terminology

i There are a great variety of rear suspension designs available on the market, and it is possible that your bike may differ in appearance from the design shown below.



Customer Service



Before returning to store, please contact Futurux customer service.

We are glad to assist you with any parts or assembly problems you might have.

For Fast Customer Service:

TEL: 1-800-872-2453

Mail: parts@futurux.com

Pre-assembled bicycles cannot be returned/exchanged. Free tune-up and repair within 30 days of purchase.

WARRANTY

Defective Bike Frames (cracked or broken)

- *Steel: Lifetime*
- *Aluminum: 5 years*

Defective Forks (cracked or broken)

- *Rigid Steel: Lifetime*
- *Rigid Aluminum: 5 years*
- *Suspension: 1 year*

All other defective bike components: 1 year

The warranty is void if product is used for stunt riding, jumping, acrobatics, or similar activity, used for competitive sport, installed with a motor or modified in any way, ridden by more than one person, exceeds weight limit or is rented.

Items or services not covered by warranty: Rims, tires, tubes, brake adjustment, derailleur adjustment, bearing adjustment, abuse/misuse, normal wear and tear (brake pads and cables), wheel truing.

Returns, exchanges or refunds of bicycles are not permitted.

59 *For further information regarding the warranty, please contact the store where the bike was purchased.*