

# CONTACT 

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## Customer Service

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## COMPLIANCE

Our bicycles -and this manual- comply with the following standards:

- Adult bicycles
- Electrically Power Assisted Cycles
- Young Adult bicycles

BS EN ISO 4210

- BMX
- Children's bicycles
- Toys

BS EN 15194
BS EN ISO 4210
BS EN 16054
BS EN ISO 8098
BS EN 71

## IMPORTANT NOTICE

Read this manual before taking your first ride on your bicycle and keep it handy for future reference. It has been written to help maximise your safety, comfort and enjoyment whilst cycling. It is important that you understand your bicycle's operations, limits and features to ensure you enjoy a lifetime of safe cycling from the very first ride. This Manual contains several "Warnings" and "Cautions" concerning the consequences of failure to maintain or inspect your bicycle and of failure to follow safe cycling practices. Many of these say you may lose control and fall. As any fall can result in serious injury or even death, we do not always repeat the Warning of possible injury or death. Because it is impossible to anticipate every situation or condition which can occur while riding, this Manual makes no representation about the safe use of the bicycle under all conditions. There are risks associated with the use of any bicycle which cannot be predicted or avoided, and which are the sole responsibility of the rider. If you are unsure of any aspect of these Warnings, you should consult a qualified bicycle technician before using this cycle.

Warning: As with all mechanical components, the bicycle is subjected to wear and high stresses. Different materials and components can react to wear or stress fatigue in different ways. If the design life 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 indicate that the life of the component has been reached and it should be replaced.

We may refer you to separate suppliers' owner manuals and any other supplements for operation and maintenance of certain components. These manuals should be included with your bicycle. If by chance they are not, you can look these manuals up on the internet or, alternatively consult any local cycle specialist. If you should encounter any issues with your bicycle that aren't covered in this manual, again, please contact your nearest cycle specialist. As your number one resource, your local independent bicycle shop can answer questions, perform required maintenance and recommend the best equipment \& gear to complement your ride.

## CONDITIONS FOR USE

We take pride in offering a comprehensive range of bikes to suit all styles and pockets, without any compromises.
Not all bicycles are suitable for all types of riding. Each bicycle has therefore been developed for a well-defined use. Look to the decal on your bicycle to see which category your bicycle fall within and ensure you adhere to the usage information in the following table.

| Category of Use | Examples | Description |
| :---: | :---: | :---: |
|  | Junior (Young Child) | Bikes designed to be ridden by children. Parental supervision is required at all times. Avoid areas involving other vehicles and obstacles or hazards such as inclines, curbs, stairs, drain covers and pools. Do not carry passengers, do not attach a rack or any additional luggage. |
| 1Paved <br> Surfaces <br> only | Performance <br> Road | Bikes designed for riding on a paved surface where the tyres do not lose ground contact. <br> INTENDED To be ridden on paved roads only. <br> NOT INTENDED For off-road, cyclocross, or touring with racks or panniers. TRADE OFF Material use is optimized to deliver both light weight and specific performance. These frames are likely to be damaged or broken in a crash. They are not designed to take abuse or to be a rugged workhorse. <br> Maximum permissible load: Rider: 95kg Luggage: 5kg Total: 100 kg |
| $2 \begin{aligned} & \text { General } \\ & \text { Purpose }\end{aligned}$ | - City \& Trekking <br> - Young Adult <br> -Touring <br> BMX-Category1 <br> (Max. load: Rider: <br> 35kg Luggage: 0 kg <br> Total: 35kg) | Bikes designed for riding on a paved surface, smooth gravel roads and improved trails with moderate grades where the tyres do not lose ground contact. <br> INTENDED For paved roads, bike paths, gravel \& dirt roads in good condition. NOT INTENDED For off-road or mountain bike use, or for any kind of jumping. Some of these bikes may have suspension features but these are to add comfort, not off-road capability. Some come with relatively wide tyres that are well suited to gravel or dirt paths or relatively narrow tyres that are best suited to faster riding on paved surfaces. <br> Maximum permissible load: Rider: 100kg Luggage: 20kg Total: $\mathbf{1 2 0} \mathbf{~ k g}$ |
| 3 All Terrain | Cyclo Cross <br> Cross Country <br> (Hardtails) | Bikes also designed for riding on a paved surface, smooth gravel roads and rough trails, small obstacles, and smooth technical areas, including areas where momentary loss of tyre contact with the ground may occur. NOT DESIGNED FOR JUMPING. <br> INTENDED For cross-country riding and racing which ranges from mild to aggressive over intermediate terrain (e.g., hilly with small obstacles like roots, rocks, loose surfaces and depressions). <br> NOT INTENDED For Hardcore Freeriding, Extreme Downhill, Dirt Jumping, or very aggressive or extreme riding. No spending time in the air landing hard and hammering through obstacles. <br> Maximum permissible load: Rider: 100kg Luggage: $\mathbf{5 k g}$ Total: $\mathbf{1 0 5} \mathbf{~ k g}$ |
| 4 Off-Road | MTB / AllMountain | Bikes also designed for riding on a paved surface, smooth gravel roads and rough trails, small obstacles, and smooth technical areas, including areas where momentary loss of tyre contact with the ground may occur. NOT DESIGNED FOR JUMPING. <br> INTENDED For trail and uphill riding. <br> NOT INTENDED For use in extreme forms of jumping/riding such as hardcore mountain, Freeriding, Downhill, Dirt Jumping etc. No large drop offs, jumps or launches requiring long suspension travel or heavy duty components; and no spending time in the air landing hard and hammering through obstacles. <br> Maximum permissible load: Rider: 100kg Luggage: 5kg Total: $\mathbf{1 0 5} \mathbf{~ k g}$ |
| 5 Extreme <br> Riding | BMX-Category2 <br> Gravity <br> Free Ride <br> Downhill | Bikes designed for jumping, hucking, high speeds, or aggressive riding on rougher surfaces, or landing on flat surfaces. However, this type of riding is extremely hazardous and puts unpredictable forces on a bicycle which may overload the frame, fork, or parts. If you choose to ride in this terrain, you should take appropriate safety precautions such as more frequent bike inspections and replacement of equipment. You should also wear comprehensive safety equipment such as a full-face helmet, pads, and body armour. <br> INTENDED For riding that includes the most difficult terrain that only very skilled riders should attempt. <br> NOT INTENDED To be indestructible. There is no guarantee that extreme riding will not break your bike or your body. Appropriate equipment should be worn but cannot guarantee safety in all eventualities. The terrain and type of riding that "extreme" bikes are designed for is inherently dangerous and this kind of riding, bad judgment, bad luck, or riding beyond your capabilities can easily result in an accident, where you could suffer serious injury or fatality. <br> Maximum permissible load: Rider: 95 kg Luggage: 0 kg Total: 95 kg |

Know your bike


| (1) top tube | (8) wheel | (15) botom bracket | 22 stilter | 29 seatpost | $3{ }^{3}$ rear refectior |
| :---: | :---: | :---: | :---: | :---: | :---: |
| (2) down tube | (9) tye | (16) crank | 23 gear cable | (30 seatpost binder | (37) wheel refectior |
| 3 seat tube | (10) valve | (17) chain rings | 24 freewheel | (3) rake | (38 bell |
| (4) chain stay | (11) im | (18) chain | 25 headset | (32 brake lever |  |
| 5 seat stay | (12) spokes | (19) pedal | 22 stem | 33 brake shoe |  |
| (6) head tube | (13) hub | 32 rearderailleur | 22 handlebar | 34 brake cable |  |
| (7) fork | (14) quick release | (21) front derailleur | 23) saddle | 33 front reflectior |  |

Intended use of your bicycle
Warning: Understand your bike and its intended use. Choosing the wrong bicycle for your purpose can be hazardous. Using your bike the wrong way is dangerous.

No one type of bicycle is suited for all purposes. Your local specialist can help you pick the "right tool for the job" and help you understand its limitations. There are many types of bicycles and many variations within each type.

Nothing Lasts Forever, Including Your Bike.
When the useful life of your bike or its components is over, continued use is hazardous. Every bicycle and its component parts have a finite, limited useful life. The length of that life will vary with the construction and materials used in the frame and components; the maintenance and care the frame and components receive over their life; and the type and amount of use to which the frame and components are subjected. Use in competitive events, trick riding, ramp riding, jumping, aggressive riding, riding on severe terrain, riding in severe climates, riding with heavy loads, commercial activities and other types of non standard use can dramatically shorten the life of the frame and components. Any one or a combination of these conditions may result in an unpredictable failure.
All aspects of use being identical, lightweight bicycles and their components will usually have a shorter life than heavier bicycles and their components. In selecting a lightweight bicycle or components you are making a trade-off, favouring the higher performance that comes with lighter weight over longevity.
You should have your bicycle and its components checked periodically by your local specialist for indicators of stress and/or potential failure, including cracks, deformation, corrosion, paint peeling, dents, and any other indicators of potential problems, inappropriate use or abuse. These are important safety checks and very important to help prevent accidents, bodily injury to the rider and shortened product life.

## YOUR BIKE IS INTENDED:

For use on smooth paved roads, gravel or dirt roads that are in good condition, and bike paths only.

## YOUR BIKE IS NOT INTENDED:

For any kind of off-road, mountain bike, cyclocross, or touring with racks \& panniers nor for any kind of jumping.

We cannot teach you everything you need to know to properly inspect and service your bicycle; and that is why we repeatedly urge you to take your bicycle to your dealer for professional care and attention.


Warning: Frequent inspection of your bike is important to your safety. Follow the Mechanical Safety Check of this Manual before every ride.
Periodic, more detailed inspection of your bicycle is important. How often this more detailed inspection is needed depends upon you.

You, the rider/owner, have control and knowledge of how often you use your bike, how hard you use it and where you use it. Because your dealer cannot track your use, you must take responsibility for periodically bringing your bike to your dealer for inspection and service. Your dealer will help you decide what frequency of inspection and service is appropriate for how and where you use your bike.
ANY IMPACT CAN WEAKEN YOUR BICYCLE
If you have a major impact, inspect your bicycle thoroughly and repair any damage before you ride it again. A major impact is anything that causes you to fall from your bike. If you are not sure how to do a thorough inspection, take your bicycle to your dealer for service. A minor impact, where you hit an obstacle without falling from your bike, can still place high stresses on your bicycle. If, after a minor impact, your bicycle behaves in an unusual manner or you hear an unusual noise, immediately stop the bicycle and identify the problem. Always inspect the bicycle thoroughly and repair any problem before riding the bicycle again

Warning: Do not ride a bicycle or component with any crack, bulge or dent, even a small one. Riding a cracked frame, fork or component could lead to complete failure, with risk of serious injury or death.

## Personal Safety

For your own safety -and that of others- when riding on public highways it is your responsibility to familiarize yourself with and obey the rules and regulations relating to pedal cycles and cycling contained in the Highway Code. In addition, you should also ensure you familiarize yourself with any bye-laws that are applicable where you cycle.
Watch for -and avoid-potholes, drain grates, kerb stones and other deviations that could impact on your wheels or cause them to lose traction. When crossing railway lines or cattle grids, do so carefully at a $45^{\circ}$ angle. If you are not sure of riding surface conditions, walk your bike. Ensure you use your bell to alert others of your approach. If somebody should walk in front of you or opens the door of a parked car unexpectedly, you could be involved in a serious accident and should use your bell to alert others of your approach.
We strongly recommend that all riders wear a bicycle helmet whilst riding. Any bicycle helmet should be CE approved and tested to EN 1078. Look for these labels in the helmet. Most serious cycling injuries involve head injuries that may have been less severe had the rider worn a helmet.
Wear light, bright and reflective clothing to make yourself more visible, especially at night. It is imperative that you follow the instructions contained in this manual to perform regular checks on your brakes, tyre pressure, steering and rims. No brakes, whatever their make or design will perform as effectively in wet weather as they do in the dry. Ensure you anticipate the extra distance it will take to stop in the wet. Wet weather also reduces traction so remember to take wider, slower turns in the wet and on painted surfaces. Try to avoid riding in wet weather when visibility is reduced.
Strong winds can make a bicycle turn or steer unexpectedly. Slow down or use another form of transportation in windy conditions.
Whilst all of our adult bicycles are designed to be compatible with pannier racks and leading child seat brands, you should be mindful to cover any springs under your saddle
before carrying a child in a rear carrier. Do this to prevent the child fingers getting caught and / or damaged by your saddle.
Like any sport, cycling involves risk of injury and damage. By choosing to ride a bicycle, you assume the responsibility for that risk, so you need to know -and to practice- responsible riding and of proper use and maintenance. Proper use and maintenance of your bicycle reduces risk of injury.
A special note for parents: As a parent or guardian, you are responsible for the activities and safety of your minor child, and that includes making sure that the bicycle is properly fitted to the child; that it is in good repair and safe operating condition; that you and your child have learned and understand the safe operation of the bicycle; and that you and your child have learned, understand and obey not only the applicable local motor vehicle, bicycle and traffic laws, but also the common sense rules of safe and responsible bicycling. As a parent, you should read this manual, as well as review its Warnings and the bicycle's functions and operating procedures with your child, before letting your child ride the bicycle.


Warning: Make sure that your child always wears an approved bicycle helmet when riding; but also make sure that your child understands that a bicycle helmet is for bicycling only, and must be removed when not riding. A helmet must not be worn while playing, in play areas, on playground equipment, while climbing trees, or at any time while not riding a bicycle. Failure to follow this Warning could result in serious injury or death.

## Special Warning on road race style bikes

Depending on your foot size and the pedals or shoes you are using, this design places your foot close to the front wheel. If the front wheel (or mudguard) and your foot can touch, this is called "toe overlap". If changing your cranks or tyres, ensure any increase in size does not reduce the clearance between the toe of your shoe and your front tyre.
At usual speeds the handlebar does not turn sufficiently for the wheel to contact your foot. During slow speed turns, when the handlebar is turned your foot or toe-clips could overlap or touch the front wheel or mudguard.


Warning: If your foot or toe-clip touches the front wheel or fender, toe-clip overlap could decrease your control and cause you to fall. Do not pedal when you turn at slow speed.

## Special Warning on luggage racks

- If purchasing and fitting a supplementary rack, check that the fittings do not interfere with any brake caliper, chain, or cog set before completely tightening them.
- Never exceed the maximum stated loading capacity of any rack.
- Do not attempt to use the rack as a passenger seat or a child carrier.
- Never attach a trailer to any rack.
- Before each ride, ensure the rack is properly attached to your frame and there are no loose straps on your load that may interfere with the rear wheel.
- A loaded rack can affect the stability and alter the riding characteristics of your bicycle, particularly the steering and braking.
- Always ensure any load does not obscure the rear reflector and any lights that may be fitted.
- Do not make any modifications to your rack. Structural alterations could jeopardize you or other highway users and participants.
- We particularly recommend you make the following checks before each ride:
a) Ensure neither the total load capacity of your bicycle nor the capacity of your rack has been exceeded.
b) Ensure all fasteners on your bike (screws, nuts, quick-release-skewers) are tightened to the correct torque value and locked.
c) Ensure any luggage is attached and securely fitted in accordance with the manufacturer's instructions.
d) Make sure that the weight of any load is evenly distributed.


## Before a First Ride

This information should be read by anyone before their first ride of this bicycle.
Correct fit is an essential element of bicycling safety, performance and comfort. Making adjustments to your bicycle that ensure correct fit for your body and riding conditions requires experience, skill and special tools. Always have your dealer make the adjustments on your bicycle; or, if you have the experience, skill and tools, have your dealer check your work before riding.

Warning: If your bicycle does not fit properly, you may lose control and fall. If your new bike doesn't fit, ask your dealer to exchange it before you ride it.

If making any adjustment to your bicycle, avoid sharp points, moving parts, hot spots and pinch points. Some parts of your bicycle can injure you if mishandled. Sharp points include the teeth of the chainrings and some pedals. Brakes and their parts get hot. Moving parts can cut skin and even break bones. Clamps and pivoting parts such as brake levers can pinch, as can the chain where it runs on to sprocket teeth.

## A. Standover height

To check if the frame size is safe, the rider should straddle the bicycle while wearing the kind of shoes which will be used for riding and stand straight with feet at on the ground. The minimum distance between the rider's crotch and top tube should be 2.5 cm (approx. 1 inch) when standing over a road bike.
This should increase to $50-70 \mathrm{~mm}\left(2-3^{\prime \prime}\right)$ for city bicycles. The seat and handlebar can be adjusted to offer the best performance and most comfortable riding position.
However, this method of measuring the correct frame size does not apply to bicycles with step-through frames, or so called "ladies" frames. In case of these frames, correct frame size should be determined first on a traditional diamond frame (so called "men's" frame).

## B. Saddle position

Correct saddle adjustment is an important factor in getting the most performance and comfort from your bicycle. If the saddle position is not comfortable for you, see your dealer.
The saddle can be adjusted in three directions:

1. Up and down adjustment.

To check for correct saddle height:

- sit on the saddle;
- place one heel on a pedal;
- rotate the crank until the pedal with your heel on it is in the down position and the crank arm is parallel to the seat tube.

If your leg is not completely straight, your saddle height needs to be adjusted.
If your hips must rock for the heel to reach the pedal, the saddle is too high. If your leg is bent at the knee with your heel on the pedal, the saddle is too low.
Ask your dealer to set the saddle for your optimal riding position and to show you how to make this adjustment.
If you choose to make your own saddle height adjustment:

- loosen the seat post clamp
- raise or lower the seat post in the seat tube
- make sure the saddle is straight fore and aft
- re-tighten the seat post clamp to the recommended torque

Once the saddle is at the correct height, make sure that the seat post does not project from the frame beyond its "Minimum Insertion" mark.


Warning: If your seat post is not inserted in the seat tube as described above, the seat post may break, which could cause you to lose control and fall.
2. Front and back adjustment.

The saddle can be adjusted forward or back to help you get the optimal position on the bike. Ask your dealer to set the saddle for your optimal riding position and to show you how to make this adjustment. If you choose to make your own front and back adjustment, make sure that the clamp mechanism is clamping on the straight part of the saddle rails and is not touching the curved part of the rails, and that you are using the recommended torque on the clamping fastener(s).
3. Saddle angle adjustment.

Most people prefer a horizontal saddle; but some riders like the saddle nose angled up or down just a little. Your dealer can adjust saddle angle or teach you how to do it. If you choose to make your own saddle angle adjustment and you have a single bolt saddle clamp on your seat post, it is critical that you loosen the clamp bolt sufficiently to allow any serrations on the mechanism to disengage before changing the saddle's angle, and then that the serrations fully re-engage before you tighten the clamp bolt to the recommended torque.


Warning: When making saddle angle adjustments with a single bolt saddle clamp, always check to make sure that the serrations on the mating surfaces of the clamp are not worn. Worn serrations on the clamp can allow the saddle to move, causing you to lose control and fall.
Always tighten fasteners to the correct torque. Bolts that are too tight can stretch and deform. Bolts that are too loose can move and fatigue. Either mistake can lead to a sudden failure of the bolt, causing you to lose control and fall.

Small changes in saddle position can have a substantial effect on performance and comfort. To find your best saddle position, make only one adjustment at a time.

## C. Handlebar adjustment

You hold the handlebar to steer the bicycle and the stem connects the handlebar to the fork. The position of the handlebar is important for control and comfort. Each month check all the bolts of the stem.


Warning: Over-tightening of stem bolts can cause damage to the steerer of the fork, possibly causing it to break. If the steerer breaks, you could fall.
To adjust the angle of the handlebar

1. Loosen the handlebar-clamp bolt(s) on the stem
2. Move the handlebar. Make sure it is in the centre of the stem.
3. Make sure the gaps between any face plate and stem are even on both sides.
4. Tighten the handlebar-clamp bolt(s) on your type of stem:
 Warning: An incorrect headset and stem assembly can cause damage to the steerer of the fork, possibly causing it to break. If the steerer breaks, you could fall.

To adjust the height of an adjustable-rise stem, first change the stem angle (see the next section), which gives access to the expander bolt. The expander bolt holds the stem wedge, which secures the stem in the fork.

1. Loosen the expander bolt two to three turns.
2. Tap the top of the expander bolt with a mallet that has a wood or plastic face to loosen the wedge.
3. Adjust the handlebar to the necessary height, but the minimum-insertion mark must be in the frame.
4. Tighten the expander bolt.

Warning: A quill stem that is too high can cause damage to your bicycle, decrease your control, and cause you to fall. Make sure the minimum-insertion mark is in the frame.

To change the angle of an adjustable-rise stem

1. Loosen the angle adjustment bolt until the stem angle can be changed.
2. Move the stem to the necessary angle.
3. Tighten the angle-adjustment bolt

## D. Know How Your Bicycle Operates

The properties of your bicycle, if not used correctly, can decrease your control of the bicycle. Before you ride, learn the operation and performance of all the mechanisms of your bicycle, especially brakes and steering components.
The braking action of a bicycle is a function of the friction between the braking surfaces.
To make sure that you have maximum friction available, keep your wheel rims and brake pads clean and free of dirt, lubricants, waxes or polishes.
Brakes are designed to control your speed, not just to stop the bike. Maximum braking force for each wheel occurs at the point just before the wheel "locks up" (stops rotating)
and starts to skid. Once the tyre skids, you actually lose most of your stopping force and all directional control. You need to practice slowing and stopping smoothly without locking up a wheel.
When you apply one or both brakes, the bike begins to slow, but your body wants to continue at the speed at which it was going. This causes a transfer of weight to the front wheel (or, under heavy braking, around the front wheel hub, which could send you flying over the handlebars).
A wheel with more weight on it will accept greater brake pressure before lockup; a wheel with less weight will lock up with less brake pressure. So, as you apply brakes the bike, to transfer weight back on to the rear wheel; and at the same time, you need to both decrease rear braking and increase front braking force.
Two keys to effective speed control and safe stopping are controlling wheel lockup and weight transfer. Practice braking and weight transfer techniques where there is no traffic or any other hazard or distractions.
Everything changes when you ride on loose surfaces or in wet weather. It will take longer to stop on loose surfaces or in wet weather. Tyre adhesion is reduced, so the wheels have less cornering and braking traction and can lock up with less brake force.
Moisture or dirt on the brake pads reduces their ability to grip. The way to maintain control on loose or wet surfaces is to go more slowly.
Practice the use of your bicycle at slower speeds in a flat, empty area. Practice again after any change to your bicycle.
If your bicycle does not operate as necessary, or if different parts are necessary for the safe operation of your bicycle, consult your dealer.
Learn the Power of Your Brakes
The power of bicycle brakes changes with the Use Condition of the bicycle. If it is necessary for your bicycle to have more-or less-power to stop, consult your dealer about brake adjustments or other brake options for your bicycle.
Modern brakes are very powerful; they are made to stop a bicycle in wet or muddy conditions. If your brakes are too powerful, take your bicycle to your dealer for adjustment or replacement of the brake system.

Use your brakes carefully. Always ride with a safe distance between you and other vehicles or objects; use your brakes. Adjust distances and brake forces for the conditions in which you ride.
Bicycles are made so that the left brake-lever controls the rear-wheel brake and the right brake lever controls the front-wheel brake.
If your bicycle has two hand brakes, apply both brakes at the same time.
Warning: Brake force applied to the front-wheel suddenly or too fully could lift the rear wheel off the ground or cause the front wheel to slide out from below you. This could decrease your control and cause you to fall.
Apply both brakes at the same time and move rearward on your bicycle.

Change Gears Correctly

You can change to the gear combination that is most comfortable for the conditions, a gear that lets you to pedal at a constant rate. Gear change systems are of two types: derailleur (external) and hub (internal).

To change gears with a derailleur
The left shift-lever controls the front derailleur and the right shift-lever controls the rear derailleur. Use only one shift-lever at a time. Change gears only when the pedals and chain move forward. Do not change gears when you ride over bumps; the chain could jam, miss a gear, or fall off. If the chain jams or falls off, it could cause you to lose control and fall.
When you change gears, decrease the force on the pedals. Lower tension helps the chain change gears quickly and smoothly. This can decrease chain and gear wear, and prevent bent chains, derailleurs, or chainrings.
Do not ride with the chain in the "crossover" position. If you shift the chain so that it crosses from the biggest sprocket to the biggest sprocket (or the smallest sprocket to the smallest sprocket), the chain is placed at an extreme angle. This angle causes the chain and gears to run roughly, and will also cause the components to wear at a faster rate.
With modern gear-change systems, a movement of the shift-lever from one position to the other position (or movement of the shift-lever to the "shift" position) will promptly move the chain to a different gear.
Bicycles that have Shimano STI road shiftlevers and three chainrings can change front gears better if you "hold" the lever for a moment before you release the left shift-lever. This is most important when you change gears from the smallest chainring to the middle chainring.

To change gears with internal gears
To change gears, coast (do not pedal). If you must pedal while you change gears, decrease your pressure on the pedals. Too much tension on the chain prevents the correct operation of the gear change mechanism and could damage the mechanism.

## Children, Child Bikes, Child Carriers, and Child Trailers

If you choose to allow your child to ride on a bicycle or in a carrier or vehicle attached to a bicycle, you must exert extra vigilance to ensure the child's safety. If you are attaching anything to YOUR bicycle make sure your bicycle is suitable for the attachment of accessories.
Children are not trained to recognize hazards and may not respond correctly in an emergency situation. Never allow a child to ride without supervision. Never leave a child unattended in a child carrier or trailer. Always make sure the child wears protective gear, especially an approved helmet.

## Maintenance

This maintenance schedule is based on normal use. If you ride your bicycle more than average; or in rain, snow; do maintenance on your bicycle more frequently than the schedule recommends. If a part malfunctions, check and service it immediately, or consult your dealer. If a part has wear or damage, replace it before you ride your bicycle again.
After initial use, new bicycles should be checked. As an example, cables stretch through use, and this can affect the operation of the shifting or brakes. Approximately two months after you purchase your new bicycle, have your dealer fully check your bicycle.
Even if you did not ride your bicycle much, have your dealer fully service your bicycle each year.

## Suggested Tools List

Not all these tools are necessary for all bicycles.

- Torque wrench with Nm gradations
- 2, 4, 5, 6, 8 mm hexagonal wrenches
- 9, 10, 15 mm open-end wrenches
- 14, 15, and 19 mm socket
- T25 Torx wrench
- No. 1 cross-head screwdriver
- Bicycle inner tube patch-kit, tyre-pump with gauge, and tyre levers

Whilst undertaking any maintenance on your bicycle, it is important to avoid sharp points, moving parts, hot spots and pinch points. Some parts of your bicycle can injure you if mishandled. Sharp points include the teeth of the chainrings and some pedals. Brakes and their parts get hot. Moving parts can cut skin and even break bones. Clamps and pivoting parts such as brake levers can pinch, as can the chain where it runs on to sprocket teeth.
The checklist that follows shows critical areas for you to check. If a part of your bicycle does not function correctly, use the instructions in this manual to repair your bicycle, or take your bicycle to your dealer for service. Do not ride a bicycle with a part that is damaged; replace the part.

## Before Each Ride:

Every time you ride your bicycle, its condition changes. The more you ride, the more frequently maintenance will be required. We recommend you spend a little time on regular maintenance tasks. The following schedules are a useful guide. If you require assistance, we recommend you see a bicycle specialist.


Warning: A bicycle that does not operate correctly can decrease your control and cause you to fall. Fully check your bicycle before each ride, and do not ride your bicycle until you correct any problem.

1 Nuts, bolts screws \& other fasteners: Because manufacturers use a wide variety of fastener sizes and shapes made in a variety of materials, often differing by model and component, the correct tightening force or torque cannot be generalized. To make sure that the many fasteners on your bicycle are correctly tightened, refer to the Fastener Torque Specifications of this manual or to the torque specifications in the instructions
provided by the manufacturer of the component in question. Correctly tightening a fastener requires a calibrated torque wrench. A professional bicycle mechanic with a torque wrench should torque the fasteners on you bicycle.


WARNING: Correct tightening force on fasteners -nuts, bolts, screws- on your bicycle is important. Too little force and the fastener may not hold securely. Too much force and the fastener can strip threads, stretch, deform or break. Either way, incorrect tightening force can result in component failure, which can cause you to lose control and fall.
2 Check the Handlebar and Stem Make sure the stem is in alignment with the front wheel and correctly attached to the fork and handlebar. To check the attachment, try to turn the handlebar from side to side while you hold the front wheel between your knees. To check the connection of the handlebar, try to twist it in the stem. The handlebar should not move or be loose. Make sure that no cables are pulled or caught when you turn the handlebar. Make sure grips are secure and that the handlebar ends are covered or that plugs are correctly put into the ends of the handlebar.


Warning: A handlebar end that is not plugged or covered can cut in a crash. Regularly inspect a child's bike. Replace damaged or missing grips.

3 Check the Wheels Check the tyre inflation. Inflate the tyres to the air pressure recommended on the sidewall of the tyre, but no higher than any recommendation that may be on the rim. Make sure tyres are correctly inflated. Check by putting one hand on the saddle, one on the intersection of the handlebars and stem, then bouncing your weight on the bike while looking at tyre deflection. Compare what you see with how it looks when you know the tyres are correctly inflated; and adjust if necessary.
Spin each wheel slowly and look for cuts in the tread and sidewall. Replace damaged tyres before riding the bike.
Make sure the front and rear wheels are correctly secured.
Spin each wheel and check for brake clearance and side-to-side wobble.
If a wheel wobbles side to side even slightly, or rubs against or hits the brake pads, take the bike to a qualified bike shop to have the wheel trued.
CAUTION: Wheels must be true for rim brakes to work effectively. Wheel trueing is a skill which requires special tools and experience. Do not attempt to true a wheel unless you have the knowledge, experience and tools needed to do the job correctly.
Make sure the rims are clean and undamaged at the tyre bead and, if you have rim brakes, along the braking surface. Check to make sure that any rim wear indicator marking is not visible at any point on the wheel rim.


Warning: Bicycle wheel rims are subject to wear. Ask your dealer about wheel rim wear. Some wheel rims have a rim wear indicator which becomes visible as the rim's braking surface wears. A visible rim wear indicator on the side of the wheel rim is an indication that the wheel rim has reached its maximum usable life. Riding a wheel that is at the end of its usable life can result in wheel failure, which can cause you to lose control and fall.

Warning: Excess air pressure can cause the tyre to explode off the rim, causing permanent hearing loss or, if riding, a loss of control. Use a hand pump with a
reliable pressure gauge. Never use a service station airline and do not over-inflate. Make sure the wheels are straight. Turn the wheel and check the rim when it goes through the brake-pads or the frame. The rim should not wobble up and down or from side to side. Make sure the wheels are attached correctly. Lift your bicycle and hit the top of the tyre with a solid blow. The wheel should not come off, be loose, or move from side to side.

## 4 Check the Brakes



Warning: A brake system that has damage or is not adjusted correctly could decrease your control and cause you to fall. Make a full inspection of the brakes before each ride. If your brakes do not operate correctly, do not ride your bicycle. Adjust the brakes or take your bicycle to your dealer for service.
Pull the lever to make sure the brake moves freely and stops your bicycle. If the lever can be pulled to the handlebar, the brake is too loose.
The brake-pads should be in alignment with the rim surface.
When the brake is not applied, both brake-pads should be 1 to 2 mm from the rim. If the brake-pads are too near the rim, the brake is too tight.

5 Check the Saddle (seat) and Seatpost Make sure the saddle is correctly attached. Try to turn the saddle and seatpost in the frame, and try to move the front of the saddle up and down. The saddle should not move or be loose.

6 Check the Lights and Reflectors Make sure all reflectors are clean and in their correct position. Also make sure the reflectors are not covered or obstructed by anything on your bike.
Make sure the lights operate correctly and that batteries are charged. If the lights use a dynamo, make sure the dynamo is mounted correctly and cannot move.

7 Check the Frame and Fork Closely examine your frame and fork, especially near junctions of the tubing and clamping or attachment areas, for signs of fatigue stress:

- Dents
- Cracks
- Scratches
- Deformation
- Discoloration
- Unusual noises


## 8 Chain

The chain connects the chainring (and crankarms) to the rear wheel. On a bicycle that does not have a rear derailleur, correct chain tension is required to prevent the chain from falling off. To adjust the chain tension

1. Slightly loosen the rear wheel axle nut on one side of the wheel, then on the other side of the wheel. If you fully loosen the axle nut on one side before you loosen the other axle nut, you can cause the bearings to come out of adjustment.
2. Slide the wheel rearward to tighten the chain.
3. Complete the wheel installation

## Weekly:

Clean your bike and service it as above then apply frame polish.

More advanced maintenance requires specialist knowledge. We recommend that you check your bicycle in with your local dealer to perform the following checks:

## Monthly:

As weekly with the addition of
Check stem bolts
Check seatpost bolts
Check headset bearing adjustment
Check pedals
Check derailleurs
Check the operation of shift-levers
Check cables for wear
Check chain wear
Apply lubricant to chain

Check the internal shift system
Check brakes
Check for loose spokes
Check wheel bearing adjustment
Check rims for wear
Check accessory bolts
Check suspension fork bolts
Check reflectors
Apply lubricant to derailleurs

## Quarterly:

As monthly with the addition of
Check the crankarms
Check the bottom bracket
Apply lubricant to brake-levers
Apply lubricant to brake arm fixing bolts

## Annually:

As quarterly with the addition of
Apply lubricant to handlebar stem
Apply lubricant to seatpost
Replace grease on the pedals
Replace grease in the wheel bearings
Replace grease in the headset bearings
Apply lubricant to wheel quick-releases
Replace grease in the bottom bracket bearings

## Lubrication check list

| Frequency | Component | Lubricant | How to Lubricate |
| :---: | :---: | :---: | :---: |
| Weekly | chain brake calipers brake levers | chain lube or light oil oil oil | brush on or squirt 3 drops from oil can 2 drops from oil can |
| Every Six Months | freewheel brake cables | oil lithium based grease | 2 squirts from oil can disassemble |
| Yearly | bottom bracket pedals wheel bearings headset seat post | lithium based grease lithium based grease lithium based grease lithium based grease lithium based grease | disassemble disassemble disassemble disassemble disassemble |

Note: The frequency of maintenance should increase with use in wet or dusty conditions. Do not over-lubricate - remove excess lubricant to prevent dirt build up. Never use a degreaser to lubricate your chain.

## Fastener Torque Specifications

Correct tightening torque of threaded fasteners is very important to your safety. Always tighten fasteners to the correct torque. In case of a conflict between the instructions in this manual and information provided by a component manufacturer, consult with your dealer for clarification. Bolts that are too tight can stretch and deform. Bolts that are too loose can move and fatigue.
Either mistake can lead to a sudden of the bolt.
Always use a correctly calibrated torque wrench to tighten critical fasteners on your bike. Carefully follow the torque wrench manufacturer's instructions on the correct way to set and use the torque wrench for accurate results.

## RECOMMENDED TORQUE VALUES

| Water bottle cage bolts | 2 to 3 Nm |
| :--- | :--- |
| Stem (to handlebar) | 8 to 12 Nm |
| Brake/shift levers | 5 to 8 Nm |
| Brake calipers | 8 to 10 Nm |
| Stem (to fork) | 4 to 5 Nm is recommended |
| Stem Top cap | Apply only enough torque to remove all headset play <br> while ensuring it still rotates freely. 1 to 2 Nm is <br> recommended. |
| Saddle (seatpost head bolt) | 16.2 Nm |
| Seat tube collar | 6 Nm |
| Pedals | $30-35 \mathrm{Nm}$ |
| Wheels <br> recommended industry practice is to close the release so that resistance occurs at the <br> midpoint of the lever's travel from fully open to fully closed. |  |

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