

PIERER

E-Bikes GmbH


Husqvarna
BICYCLES


RAYMOND


GASGAS

OPERATING INSTRUCTIONS

EN ISO 4210-2

CITY/TREKKING

Read pages 4 to 9 before your first ride! Perform the functional check on pages 10 and 11 before every ride!

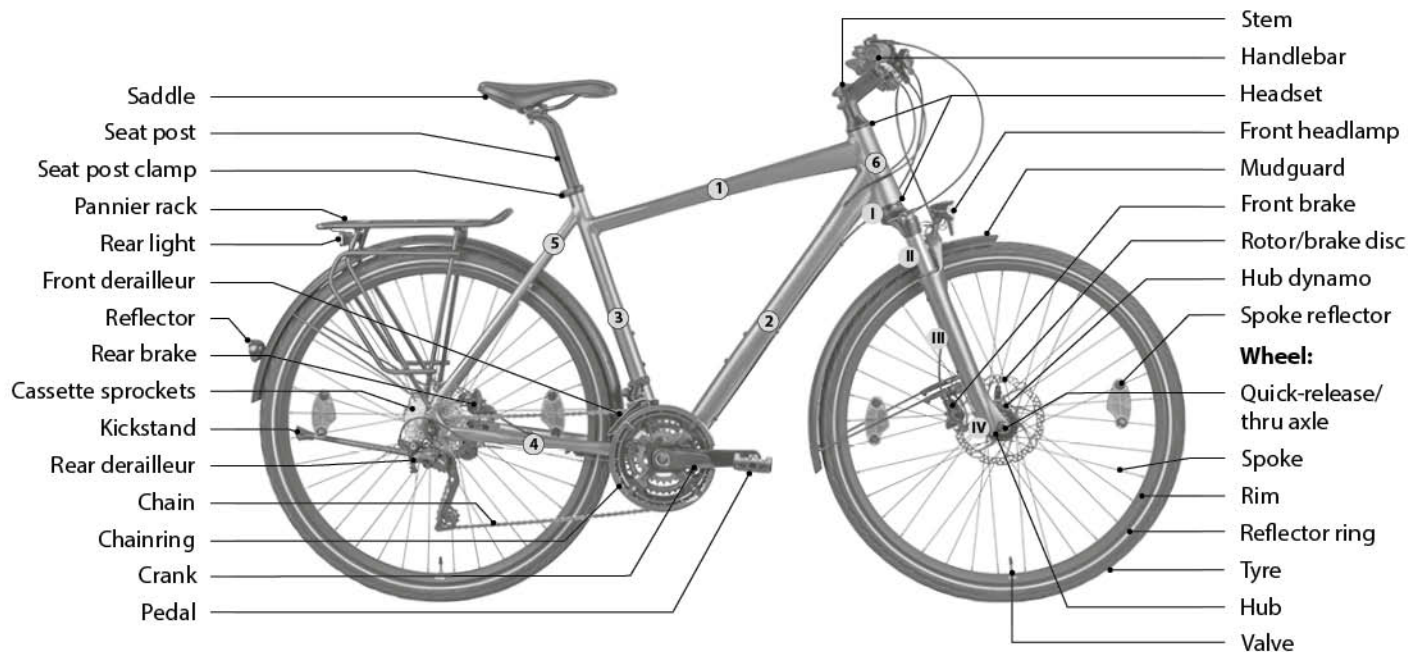
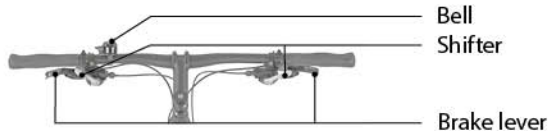
Frame:

- ① Top tube
- ② Down tube
- ③ Seat tube
- ④ Chainstay
- ⑤ Rear stay
- ⑥ Head tube

Suspension fork:

- I Fork crown
- II Stanchion tube
- III Lower leg
- IV Dropout

Handlebar:



Pay particular attention to the following symbols:

⚠ WARNING

This symbol indicates a hazardous situation which could result in death or serious injury – if the relevant operational instructions are not followed or if the relevant protective measures are not taken.

⚠ CAUTION

This symbol indicates a hazardous situation which could result in minor or moderate injury – if the relevant operational instructions are not followed or if the relevant protective measures are not taken.

NOTICE

This symbol is used to address practices not related to physical injury – which may, however, result in damage to property and the environment.

SAFETY INSTRUCTIONS

This symbol indicates specific safety-related instructions or procedures about how to handle the product or refers to a section in the operating instructions that deserves your particular attention.

The described possible consequences will not be repeated in the operating instructions every time one of the symbols appears.

For the sake of better legibility, the male form is used with personal names and personal nouns throughout these operating instructions. The terms in question principally apply to all genders in the spirit of equal treatment. The abbreviated language form is used solely for editorial reasons and does not represent any value judgement.

SOME NOTES ON THIS MANUAL

The illustrations (c+d) show typical city/trekking bicycles – one of these types may look similar to the bicycle you have purchased. Today's bicycles come in various types that are designed for specific uses and equipped accordingly.

These operating instructions are not intended to help you assemble a bicycle from individual components, to repair it or to make a partly assembled bicycle ready-for-use.

These operating instructions are not applicable to any other than the displayed or specified bicycle type.

Technical details in the text and illustrations of these operating instructions are subject to change.

This manual complies with the requirements of the EN ISO standard 4210-2 and EN ISO 8098.

Also observe the enclosed operating instructions of the component manufacturers. These operating instructions are subject to European law. If delivered to countries outside Europe, supplementary information has to be provided by the bicycle manufacturer.



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GENERAL SAFETY INSTRUCTIONS

Dear Customer,

In purchasing this bicycle (a) you have chosen a product of high quality and technology. Each component of your new bicycle has been designed, manufactured and assembled with great care and expertise. Your authorised dealer gave the bicycle its final assembly and adjustment to guarantee proper operation and many enjoyable riding experiences with complete peace of mind from the very first metres.

This manual contains a wealth of information on the proper use of your bicycle, its maintenance and operation as well as interesting information on bicycle design and engineering. Read this manual thoroughly. We are sure that even if you have been cycling all your life you will find useful and detailed information. Bicycle technology has developed at a rapid pace during recent years (b). Therefore, before setting off on your new city/trekking bicycle, be sure to read at least chapter **"Before Your FIRST Ride"**.

To have as much fun as possible during cycling, be sure to carry out the functional check described in chapter **"Before EVERY Ride"** before setting off.

Even a manual as big as an encyclopedia could not describe any possible combination of bicycle models and components or parts on the market. It therefore focuses on your newly purchased bicycle and standard components and provides useful information and warnings.

When doing any of the adjusting or servicing (c), be aware that the instructions and notes provided in your manual only refer to this city/trekking bicycle.

The information included here is not applicable to any other bicycle type. As bicycles come in a wide variety of designs with frequent model changes, the routines described may require complementary information. Be sure to also observe the instructions of the component suppliers (d) that you received from your authorised dealer.

Be aware that these instructions may require further explanation, depending on the experience and/or skills of the person doing the work. For some jobs you may require additional (special) tools or supplementary instructions. This manual cannot teach you the skills of a bicycle mechanic.

Always ride carefully on public roads and observe the traffic rules so as not to endanger yourself or others.



INTENDED USE

Note that each type and/or kind of bicycle, referred to as **category** in the following, is designed for a specific use. Use your bicycle only according to its intended use, as it may otherwise not withstand the loads, fail and cause an accident with unforeseeable consequences! If you use your bicycle for another than its intended purpose, the warranty will become void, in addition.

Ask your authorised dealer to confirm the category to which your bicycle belongs. Have a look at your bike card.

Category 1: city, fitness and children's bicycles

Bicycles and components of the category 1 (a+b) are used for commuting and for leisure rides. Bicycles and components of this category are intended for riding on paved surfaces, i.e. on asphalted or cobbled roads, where the front and rear wheels remain in permanent contact to the ground. Drops are intended to be limited to a maximum of 15 cm.

Bicycles and components of the category 1 are not suitable for off-road use (in the terrain) and not for competitive use of any kind whatsoever.



Category 2 "Everyday": trekking, touring, cross and youth bicycles

Bicycles and components of the category 2 "Everyday" are used for leisure and trekking rides with moderate effort. Bicycles and components of this category are intended for riding on paved and unpaved surfaces as well as on gravel paths of moderate classification. Under these conditions contact with uneven terrain and loss of tyre contact with the ground may occur. Drops are intended to be limited to a maximum of 15 cm.

Bicycles and components of the category 2 "Everyday" are not suitable for off-road use (in the terrain) and not for competitive use of any kind whatsoever.

Due to their design and equipment, bicycles of the categories 1 and 2 "Everyday" are not always suitable for being used on public roads. If you want to use them on public roads, these bicycles must be equipped according to the respective rules (c).

Observe the traffic rules when cycling on public roads.

For more information see chapter "**Legal Requirements for Riding on Public Roads**".

Category 1 describes city, fitness and children's bicycles (d). In general, these are bicycles with wheel sizes of 26 or 28 inches (urban, city and fitness bicycles) as well as 12 to 24 inches (children's bicycles).

Category 2 "Everyday" describes trekking, touring, cross and youth bicycles. In general, these are trekking, touring, cross and ATB bicycle with wheel sizes of 26 or 28 inches as well as youth bicycles with wheel sizes of 24 inches.

The **maximum permissible overall weight** is specified in the bike card. Under certain circumstances the maximum permissible overall weight can be further limited by the component manufacturers' recommendations for use.

⚠ WARNING

Bicycles of the categories 1 and 2 "Everyday" are not suitable for riding over terrain, stair riding, jumps, slides, stoppies, wheelies, tricks etc.!

For your own safety, do not overestimate your riding skills. Note that though looking easy the riding manoeuvres of a professional are hazardous to your life and limb. Always protect yourself with suitable clothing.

Use your bicycle only for its intended purpose, as it may otherwise not withstand the loads and fail. Risk of accident!

Your bicycle is designed for a maximum permissible overall weight including rider, luggage, bicycle and child seat or trailer load, if permitted. The maximum permissible overall weight is specified in the bike card (g) of this manual; if it is not, contact your authorised dealer.

Children should not ride near precipices, staircases or swimming pools as well as on paths used by automotive mobiles.

⚠ WARNING

Regular maintenance of your bicycle is essential for its suitability and decisive for its safety. You as owner are the only one who knows how often you use your bicycle, where you use it and how hard you do. It is therefore your responsibility, to have regular servicing and maintenance carried out. For more information see the chapter "Service and Maintenance Schedule" or contact your authorised dealer.

Due to their design and equipment, bicycles of the categories 1 (h) and 2 "Everyday" are not always suitable for being used on public roads. If you want to use them on public roads, these bicycles must be equipped according to the respective rules. Observe the traffic rules when cycling on public roads.

SAFETY INSTRUCTIONS

For more information about the intended use of your bicycle and the maximum permissible overall weight (rider, bicycle, luggage and child seat or trailer load, if permitted) see the bike card and chapter "Before Your First Ride".

g

BIKE CARD		Intended Use	
Manufacturer:	_____	The bike accessories with	
Model:	_____	<input type="checkbox"/> category <input type="checkbox"/> category "Junior"	
Name no.:	_____	Maximum permissible overall weight	
Suspension type:	_____	Bicycle, rider, luggage and child seat or	
- model:	_____	trailer load (kg)	
- wheel no.:	_____	Forward seat allowed	<input type="checkbox"/> yes <input type="checkbox"/> no
Frame type:	_____	Trailer load	<input type="checkbox"/> yes <input type="checkbox"/> no
Frame no.:	_____	Child seat allowed	<input type="checkbox"/> yes <input type="checkbox"/> no
Colour:	_____	Trailer allowed	<input type="checkbox"/> yes <input type="checkbox"/> no
Special feature:	_____	Trailer trailer allowed	<input type="checkbox"/> yes <input type="checkbox"/> no
<input type="checkbox"/> W01-011010 Part of Sport-Manager "Radler-You-Go-2016" "Radler-You-Go" and "Radler-You-Go" in the accessories list.		Trailer load - Brake adjustment Lights: <input type="checkbox"/> front wheel brake <input type="checkbox"/> rear wheel brake <input type="checkbox"/> front wheel brake <input type="checkbox"/> rear wheel brake Bell: <input type="checkbox"/> front wheel brake <input type="checkbox"/> rear wheel brake	
<input type="checkbox"/> W01-011010 Part of Sport-Manager "Radler-You-Go-2016" "Radler-You-Go" and "Radler-You-Go" in the accessories list.		Stamp and signature of the bicycle dealer	



BEFORE YOUR FIRST RIDE

1. The above-mentioned bicycle categories are designed for a **maximum permissible overall weight** including rider, luggage, bicycle and child seat or trailer load, if permitted. The maximum permissible overall weight is specified in the bike card of this manual; if it is not, contact your authorised dealer.
2. If you want to use your bicycle on public roads, it has to comply with the respective legal requirements. These requirements may vary in each country. The equipment of your bicycle is, therefore, not necessarily complete. Ask your authorised dealer for the laws and regulations applicable in your country or in the country you intend to use the bicycle.

Have your bicycle equipped accordingly (a), before using it on public roads.

NOTICE

We recommend that you take out private liability insurance. Make sure that coverage for this kind of damage is provided by your insurance. Contact your insurance company or agency.

3. Are you familiar with the brake system? Have a look at the bike card and check whether the brake lever of the front brake (b) is on the side you are used to (right or left). If it is not, ask your authorised dealer to change the brake levers before you set off for the first time.

Your new bicycle is equipped with modern brakes (c) which may be far more powerful than those you were used to so far. Be sure to first practise using the brakes on a level, non-slip surface off public roads!

For more information see chapter **“Brake System”** and the enclosed operating instructions.

4. Are you familiar with the type and functioning of the gears (d)? Ask your authorised dealer to explain the gear system to you and make yourself familiar with your new gears in an area free of traffic.

For more information see chapter **“Gears”** and the enclosed operating instructions.



5. Are both saddle and handlebar properly adjusted? The saddle should be set to a height from which you can just reach the pedal in its lowest position with your heel. Check whether your toes reach to the floor when you are sitting on the saddle (e). Your authorised dealer will be pleased to help you, if you are not happy with your seating position.

For more information see chapter “**Adjusting the Bicycle to the Rider**”.

6. If your bicycle is equipped with clipless or step-in pedals (f): Have you ever tried cycling with the respective cycling shoes? Do not set off until you have practised engaging and disengaging the shoes from the pedals in standing. Ask your authorised dealer to explain the pedals to you.

For more information see chapter “**Pedals and Shoes**” and the enclosed operating instructions.

7. If you have bought a suspension bicycle (g+h), you should ask your authorised dealer to adjust the suspension mechanism to your needs before delivery. Improperly adjusted suspension components are liable to malfunction or damage. In any case they will impair the performance of your bike as well as your safety and joy whilst riding.

For more information see chapters “**Suspension Forks**” and “**Suspension Seat Posts**”. Further notes regarding suspension seat posts and suspension forks are possibly enclosed with this manual.

⚠ WARNING

- Use your bicycle only for its intended purpose, as it may otherwise not withstand the loads and fail! Risk of accident!
- A lack of practice when using clipless pedals or too much spring tension in the mechanism can lead to a very firm connection, from which you cannot quickly step out. Risk of accident!

⚠ CAUTION

- Make particularly sure there is enough space between your crotch and the top tube so that you do not hurt yourself, if you have to get off your bicycle quickly.

SAFETY INSTRUCTIONS

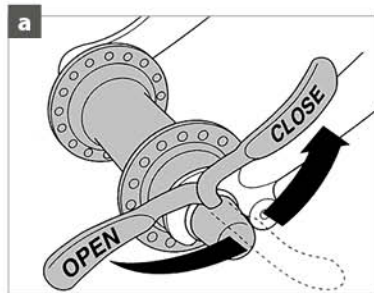
- Before hitching a trailer to your bicycle or mounting a child seat, have a look at the bike card and contact your authorised dealer.



BEFORE EVERY RIDE

Your bicycle has undergone numerous tests during production and a final check has been carried out by your authorised dealer. Nevertheless, be sure to check the following points to exclude any malfunctioning that may be due to the transport of your bicycle or to a work a third person may have performed on your bicycle before delivery:

1. Are the quick-release levers (a) of the front and rear wheel properly closed and the bolts of the seat post and other components accurately tightened? For more information see chapter **“How to Use Quick-Releases”**.
2. Are the tyres in good condition and do they have sufficient pressure (b)? A higher pressure gives a better riding stability and reduces the risk of a puncture. The minimum and maximum pressure (in bar or psi) is indicated on the tyre side. For more information see chapter **“Wheels and Tyre Equipment”** and the enclosed operating instructions.
3. Spin the wheels to check whether the rims are true. Watch the gap between rim and brake pad or, in the case of disc brakes, between frame and rim or tyre. Untrue rims can be an indication of tyres with ruptured sides, broken axles or spokes.



For more information see chapter **“Wheels and Tyre Equipment”** and the enclosed operating instructions.

4. Test the brakes in standing by firmly pulling the brake levers towards the handlebar (c).

The brake pads of **rim brakes** must hit the rim evenly with their entire surface (d) without touching the tyre during braking, in open condition or in between. You should not be able to pull the lever all the way to the handlebar. If your bike has hydraulic brakes, check the hydraulic brake hoses for oil leaks! Also check the thickness of the brake pads.

With **disc brakes** you should have a stable pressure point at once. If you have to actuate the brake lever more than once to get a positive braking response, have the bicycle checked by your authorised dealer. You should not be able to pull the lever all the way to the handlebar. If your bike has hydraulic brakes, check the hydraulic brake hoses for oil or brake fluid leaks! Also check the thickness of the brake pads.

For more information see chapter **“Brake System”** and the enclosed operating instructions.

5. Let your bicycle bounce on the ground from a small height. If there is any rattling, check the proper fit. Check the bearings and bolted connections, if necessary.

6. If you want to ride on public roads, make sure your bicycle is equipped according to the regulations of your country. Riding without lights and reflectors in dark or dim conditions is very dangerous. A permissible lighting system is a must on public roads (e). Turn on the lights as soon as dusk sets in. For more information see chapter “**Legal Requirements for Riding on Public Roads**”.
7. In case you have a bicycle with suspension, press down on your bicycle and see whether the spring elements retract and extend as usual (f). For more information see chapters “**Suspension Forks**”, and “**Suspension Seat Posts**” as well as the enclosed operating instructions.
8. If your bike has a kickstand, make sure it is fully raised before you set off. **Risk of accident!**
9. Do not forget to take a high-value D-, folding (g) or chain lock with you on your ride. The only way to effectively protect your bicycle against theft is to lock it to an immovable object.
10. If you have bought an e-bike/EPAC/EAPC, check the battery's charge state before you set off. For more information see the **supplementary instructions** enclosed with your e-bike/EPAC/EAPC.



⚠ WARNING

- **Improperly closed fastenings (h) can cause components to come loose and result in serious accidents!**
- **Do not use your bicycle, if it fails on one these points! Riding a defective bicycle can result in serious accidents! If you are in doubt or if you have any questions, contact your authorised dealer.**
- **During use your bicycle is undergoing stress resulting from the surface of the road and from the rider's action. Due to these dynamic loads, the different parts of the bicycle react with wear and fatigue. Check your bicycle regularly for wear marks, scratches, deformations, colour changes and any indication of cracking. Components which have reached the end of their service life may fail suddenly without previous warning. Let your authorised dealer maintain and service your bicycle regularly and in cases of doubt it is always best to replace components.**
- **Be aware that the distance you need to stop your bicycle increases, when you are riding with your hands on bar ends. The brake levers are not in all gripping positions within easy reach.**

AFTER AN ACCIDENT

1. Check whether the wheels are still firmly fixed in the drop-outs (a) and whether the rims are still centred with respect to the frame or fork. Spin the wheels and observe the gap either between brake pads and rim sides or between frame and tyre. If the width of the gap changes markedly and you have no way to true the rim where you are, you have to open the rim brake a little so that the rim can run between the brake pads without touching them. Note that in this case the brakes may not act as powerfully as you are used to. For more information see chapters **“Brake System”**, **“How to Use Quick-Releases”** and **“Wheels and Tyre Equipment”** as well as the enclosed operating instructions.
2. Check that handlebar and stem are neither bent nor broken and that they are level and upright (b). Make sure the stem is firmly fixed on the fork by trying to turn the handlebar relative to the front wheel (c). Briefly lean on the brake levers to make sure the handlebar is firmly fixed in the stem. Realign the components, if necessary, and gently tighten the bolts to ensure a reliable clamping of the components.

The maximum torque values are printed directly on the components or specified in the enclosed operating instructions. For more information see chapters **“Adjusting the Bicycle to the Rider”**, **“Headset”** and the enclosed operating instructions.

3. Check whether the chain still runs on the chainrings and the sprockets. If your bicycle fell over to the chain side, verify the proper functioning of the gears. Ask somebody to lift the bicycle by the saddle and carefully shift through all the gears. Pay particular attention when shifting to the small gears and make sure the rear derailleur does not get too close to the spokes (d+e) as the chain climbs onto the larger sprockets.

If the rear derailleur or the drop-outs/derailleur hanger are bent, the rear derailleur may collide with the spokes or the chain may slip. This can result in damage to the rear derailleur, the rear wheel and the frame. Check the function of the front derailleur, as a displaced front derailleur can throw off the chain, thus interrupting the drive train of the bicycle.

For more information see chapter **“Gears”** and the enclosed operating instructions.



4. Make sure the saddle is not out of alignment using the top tube or the bottom bracket shell as a reference. If necessary, open the clamping, realign the saddle and retighten the clamping. For more information see chapters **“Adjusting the Bicycle to the Rider”**, **“How to Use Quick-Releases”** and the enclosed manuals of the component manufacturers.
5. Lift your bicycle up a few centimetres and let it bounce onto the ground (f). If this causes any sort of noise, search for loosened bolts or components. Tighten them slightly, if necessary.
6. Finally, take a good look at the whole bicycle to detect any deformations, colour changes or cracks (g).

Ride back very carefully by taking the shortest route possible, even if your bicycle went through this check without any problems. Do not accelerate or brake hard and do not ride your bicycle out of the saddle. If you are in doubt about the performance of your bicycle, have yourself picked up by car, instead of taking any risk.

Back home you need to check your bicycle thoroughly. The damaged parts must be repaired. Ask your authorised dealer for help.

⚠ WARNING

- Deformed components, especially components made of aluminium, can break without previous warning. They must not be repaired, i.e. straightened, as this will not reduce the imminent risk of breakage. This applies in particular to the fork, the handlebar, the stem, the cranks, the seat post and the pedals. When in doubt, it is always recommendable to have these components replaced, as your safety comes first. Ask your authorised dealer for help.**
- If your bicycle is assembled with carbon components (h), it is imperative that you have your bicycle checked by your authorised dealer after an accident or similar incident. Carbon is an extremely strong material which allows producing components of very high strength and low weight. It is, however, one of the inherent properties of carbon that possible overstress may compromise the inner carbon-fibre structure without showing any visible deformation as is the case with steel or aluminium. A damaged component can fail without previous warning. Risk of accident!**



HOW TO USE QUICK-RELEASES

Most city/trekking bikes are equipped with quick-releases to ensure quick adjustments, assembly and disassembly. Be sure to check whether all quick-releases are tight before you set off on your bicycle. Quick-releases should be handled with greatest care, as they affect your safety directly.

Practise the proper use of quick-releases to avoid any accidents.

Quick-release mechanisms essentially consist of two operative elements:

1. The hand lever on one side of the hub which creates a clamping force via a cam when you close it (a).
2. The tightening nut on the other side of the hub with which the preload on the threaded rod (quick-release axle) is set (b).



⚠ WARNING

Make sure the levers of both wheel quick-releases are always on the side opposite to the chain (c). This will help you to avoid mounting the front wheel accidentally the wrong way round. In the case of bicycles with disc brakes and quick-releases having a 5-mm-axle, it may be reasonable to mount the quick-release with the levers on the side of the chain drive. This would help you not to come into contact with the brake disc, also referred to as rotor, and prevent you from having your fingers burnt. If you are in doubt or if you have any questions, contact your authorised dealer.

Never ride a bicycle without having checked first whether the wheels are securely fastened (d). Risk of accident!

⚠ CAUTION

Do not touch the brake disc/rotor directly after having stopped – you may burn your fingers! Always let the brake disc/rotor cool down before opening the quick-release.

NOTICE

If your bicycle is equipped with quick-releases, be sure to lock it to an immovable object together with the frame when you leave it outside.

How to Fasten Components Securely with a Quick-Release

Open the quick-release. The marking "Open" on the lever should become visible now (e).

Make sure the component to be fastened is in the accurate position. For more information see chapters **"Wheels and Tyre Equipment"** and **"Adjusting the Bicycle to the Rider"**.

Move the lever back, as if to close it. Now you should be able to read "Close" on the outside of the lever (f). When you start closing the lever you should feel virtually no resistance with your hand until the lever is at a right angle to the frame/fork.

When continuing to close the lever the resistance you feel should increase significantly and towards the end even more strength is required to close the lever. Use the ball of your thumb to push it in all the way while your fingers pull on an immovable part, such as the fork (g) or the rear stay, but not on a brake disc/rotor or spoke.

In its end position, the lever should be at right angle to the quick-release axle, i.e. it should not stick out to the side. The lever should lie close to the frame or the fork so that it cannot be opened accidentally. Make sure, however, the lever is easy to handle for an actually quick use.

To check whether the lever is securely locked apply pressure to the end of the hand lever and try to turn it while it is closed. If you can turn the lever around, open it and increase the preload. Screw the tightening nut on the opposite side clockwise by half a turn. Close the quick-release lever and check it again for tightness.

Finally lift the bicycle a few centimetres so that the wheel no longer touches the ground and hit the tyre from above. A securely fastened wheel remains in the axle mounts of frame or fork and will not rattle.

If your seat post is equipped with a quick-release mechanism, check whether the saddle is firmly fixed by trying to twist it relative to the frame (h).

⚠ WARNING

With an insufficiently closed quick-release the wheel can come loose. Imminent risk of accident!



ADJUSTING THE BICYCLE TO THE RIDER

Your body height and proportions are decisive for the frame size of your bicycle. Make particularly sure there is enough space between your crotch and the top tube so that you do not hurt yourself, if you have to get off your bicycle quickly (a).

By choosing a specific type of bicycle you roughly determine the posture you will be riding in (b). However, some components of your bicycle are especially designed so that you can adjust them to your body proportions up to a certain degree (c). This includes the seat post, the stem and the brake levers.

As these adjustments require know-how, experience, appropriate tools and a certain amount of skill, you should restrict yourself to the adjustment of the seating position. Ask your authorised dealer for the correct seating position or if you want something changed. They will see to your wishes the next time you leave your bicycle at the workshop, e.g. for the first inspection.

After any adjustment/assembly work, be sure to make a short functional check as described in chapter **"Before Every Ride"** and do a test ride in an area free of traffic.

⚠ WARNING

- If you have a very small frame, there may be the danger of your foot colliding with the front wheel. Therefore, make sure the cleats of your clipless pedals are properly adjusted.**
- All tasks described in the following require the know-how of a mechanic and appropriate tools. Make it a rule to tighten the bolted connections always with greatest attention. Increase the torque values bit by bit and check the fit of the component in between. Use a torque wrench and never exceed the maximum torque values! You find the prescribed values in chapter "Recommended Torque Values", directly on the components and/or in the manuals of the component manufacturers.**

SAFETY INSTRUCTIONS

- If sitting on the saddle is painful, e.g. because it numbs your crotch, this may be due to the saddle. Your authorised dealer has a very wide range of saddles available and can offer advice on position (d).**



Adjusting the Saddle to the Correct Height

The correct saddle height for almost all bicycle types is the height which gives maximum pedalling comfort and efficiency. During pedalling the ball of your foot should be positioned above the centre of the pedal axle. With your feet in this position you should not be able to stretch your legs completely straight at the lowest point (e), otherwise your pedalling will become awkward.

Check the height of your saddle with flat-soled shoes. This is best done with suitable cycling shoes.

Sit on the saddle and put your heel on the pedal at its lowest point. Your leg should be fully stretched and your hips should remain horizontal.

To adjust the saddle height loosen the quick-release lever (see chapter “**How to Use Quick-Releases**”) or the binder bolt of the seat post clamp (f) at the top of the seat tube.

The latter requires suitable tools, e.g. an Allen key, with which you turn the bolt two to three turns anticlockwise. Now you can perform the vertical adjustment of the seat post.

Be sure not to pull out the seat post too far – the mark on the seat post (g) (min. insert, minimum, maximum, stop or the like) should always remain within the seat tube – and to grease the surface of an aluminium or titanium seat post that is inserted into a seat tube made of aluminium, titanium or steel.

Do not grease **carbon seat posts** and/or **carbon seat tubes** in the clamping area! Use special **carbon assembly paste** instead.

Align the saddle with the frame by using the saddle nose and the bottom bracket or top tube as a reference point (h).

Clamp the seat post tight again, by closing the quick-release, as described in chapter “**How to Use Quick Releases**” or by turning the seat post binder bolts clockwise in half turns. You should not need much strength in your hands to clamp the seat post sufficiently tight. Otherwise the seat post does not match the frame.



Verify in between that the seat post is sufficiently tight by taking hold of the saddle at both ends and then trying to rotate the seat post inside the seat tube (a). If it does rotate, gently retighten the clamping bolt by half a turn and do the check again.

Does the leg stretch test now produce the correct result? Check by moving your foot and pedal to the lowest point. When the ball of your foot is exactly above the pedal centre in the ideal pedalling position, your knee should be slightly bent. If it is, you have adjusted the saddle height correctly.

Check whether you can touch the ground safely while sitting on the saddle by stretching your feet to the floor (b). If you cannot, you should lower the saddle a little, at least to begin with.

⚠ WARNING

Never apply grease or oil into a seat tube of a frame made of carbon, unless an aluminium sleeve is inside the frame. If you mount a carbon seat post, do not put any grease on it, even if the frame is made of metal. Once greased, carbon components (c) may never again ensure reliable clamping! Use special carbon assembly paste instead.

⚠ WARNING

Never ride your bicycle with the seat post drawn out beyond the min. insert, maximum, limit or stop mark! The seat post might break or cause severe damage to the frame. In the case of frames with seat tubes that extend beyond the top of the frame's top tube the seat post should be inserted into the seat tube at least below the bottom of the top tube and below the top of the rear stays! If seat post and frame require different minimum insertion depths, you should opt for the deeper insertion depth.

⚠ CAUTION

Tighten carefully by approaching the prescribed maximum torque value in small steps (0.5 Nm increments) (d) and check in between the proper fit of the component. Never exceed the maximum torque value indicated by the manufacturer!

SAFETY INSTRUCTIONS

If the seat post does not move easily inside the seat tube or if it cannot be tightened sufficiently, ask your authorised dealer for advice. Do not use brute force!



Adjusting the Height of the Handlebar

The height of the handlebar compared to the saddle and the distance between saddle and handlebar determines how much your upper body will be inclined forward. Lowering the handlebar gives you a streamlined position and brings more weight to bear on the front wheel. However, it also entails an extremely forward leaning posture which is tiring and less comfortable, because it increases the strain on your wrists, arms, back, upper body and neck.

There are three different stem systems that allow vertical adjustment of the handlebar, i.e. the conventional, the adjustable and the Ahead-set®-stem. These systems require special knowledge. In this regard, the descriptions hereafter may be incomplete. If you are in doubt or if you have any questions, contact your authorised dealer.

⚠ WARNING

The stem is one of the load bearing parts of your bicycle. Changes to it can impair your safety. If you are in doubt or if you have any questions, contact your authorised dealer!

⚠ WARNING

Stems come in varying lengths (e) as well as shaft and binder tube diameters. A stem of inappropriate dimension can become a source of danger: Handlebars or stems can break, resulting in an accident. When replacing any parts, be sure to only use suitable original spare parts that bear the appropriate mark. Your authorised dealer will be pleased to help you.

The bolted connections of stem and handlebar have to be tightened to the prescribed torque values (f). If you disregard the prescribed values, the handlebar or stem may come loose or break. Use a torque wrench (g) and never exceed the maximum torque value! You find the prescribed values in chapter "Recommended Torque Values", directly on the components (h) and/or in the manuals of the component manufacturers.

Make sure the handlebar/stem-combination is approved by the handlebar and/or stem manufacturer.

Make sure the handlebar clamping area is free of sharp edges.



Conventional Stems

Handlebars with conventional stems allow limited vertical adjustment. This is done by moving the stem up or down inside the fork steerer tube.

Release the expander bolt by two to three complete turns. The stem should now turn freely inside the fork. If it does not, release the bolt by tapping it gently with a rubber hammer (a). With Allen bolts, you need to stick the Allen key into its head first, as it is normally countersunk and therefore impossible to be hit directly.

Now you can move the handlebar/stem-unit up and down as a whole. Be sure not to pull out the stem too far. The mark on the stem (min. insert, minimum, maximum, stop or the like) should always remain within the tube (b). Setting the stem to a lower position can only add to your safety!

Realign the handlebar with the front wheel (c). Retighten the expander bolt with a torque wrench.

Tighten carefully by approaching the prescribed maximum torque value in small steps (0.5 Nm increments) and check in between the proper fit of the component. Never exceed the maximum torque value indicated by the manufacturer!

Make sure the stem is firmly fixed by taking the front wheel between your legs and trying to turn the handlebar and stem relative to the wheel (d). If there is movement, you have to increase the torque value. If the handlebar is still too high or too low, you can replace the stem. This can be quite a big job, as it may mean taking off and re-mounting the entire handlebar equipment. Inform yourself at your authorised dealer about the various stem types available.

⚠ WARNING

Never ride a bicycle with a stem that has been drawn out beyond the mark for the maximum permissible height! Check all bolted connections and test your brakes before you set off!

NOTICE

Never try to unscrew the top race of the headset when you only want to adjust the stem, as you will otherwise alter the bearing play.



Adjustable Stems

There are various solutions for adjusting the tilt of the front part of adjustable stems (e):

Some designs use bolts on the sides of the joint (f), others have bolts coming from above or below (g), and other again are equipped with additional locking mechanisms or adjusting bolts.

Before adjusting read the enclosed operating instructions of the stem manufacturer. Ask your authorised dealer to explain you both function and adjustment of your stem or let him do that work.

⚠ WARNING

Note that the bolted connections of adjustable stems and handlebars have to be tightened to the specified torque values. Otherwise the handlebar or stem may come loose or break. Use a torque wrench (h) and observe the minimum and maximum torque values! You find the prescribed values in chapter "Recommended Torque Values", directly on the components and/or in the manuals of the component manufacturers.

SAFETY INSTRUCTIONS

Keep in mind that readjusting the position of the stem changes the position of handlebar, brake and shift levers. Readjust these components, as described in chapter "Adjusting the Tilt of the Handlebar, Bar Ends and Brake Levers".



Stems for Threadless Systems, the Aheadset®-System

(Aheadset® is a registered trade mark of Dia-Compe)

In the case of bicycles with Aheadset® the stem also serves to adjust the bearing preload. If you change the position of the stem you have to readjust the bearing play (see chapter **"Headset"**). The vertical setting range is determined by the intermediate rings, also referred to as spacers. In the case of flip-flop stem models the stem can be mounted the other way round to achieve a different handlebar height.

Unscrew the preload bolt at the top of the fork steerer tube, remove the Ahead® cap and release the bolts on either side of the stem by up to three turns (a). Remove stem and spacers from the fork steerer tube. In doing so keep hold of both frame and fork to prevent the fork from slipping off the head tube.

You can determine the handlebar height by the arrangement of stem and spacers (b). Slip the remaining spacers onto the fork steerer tube above the stem. Adjust the headset, as described in chapter **"Headset"**.

If you want to turn the stem around, you have to also release the bolts of the faceplate securing the handlebar (c). If the stem has a faceplate, you can simply remove the handlebar. If it has no faceplate, you have to remove the handlebar equipment.

Mount the handlebar and, if necessary, the handlebar equipment, as described in chapter **"Adjusting the Tilt of the Handlebar, Bar Ends and Brake Levers"** and/or in the manuals of the component manufacturers.

Check whether the handlebar is firmly seated in the stem by trying to rotate the handlebar downwards. Verify whether the handlebar/stem-combination can be turned relative to the fork. Do this by taking the front wheel between your knees and trying to twist the handlebar (d). If there is movement, carefully tighten the bolts a little more and check the proper fit again.

Tighten carefully by approaching the prescribed maximum torque value in small steps (0.5 Nm increments) and check in between the proper fit of the component. Never exceed the maximum torque value indicated by the manufacturer!



⚠ WARNING

These routines require a certain amount of manual skill and (special) tools and are best left to your authorised dealer. If you nevertheless want to try it by yourself, read the operating instructions of the stem manufacturer carefully before you start.

In the case of turned stems, the cables may be too short. Riding with too short cables is dangerous. Ask your authorised dealer for help.

Stems come in varying lengths (e) as well as shaft and binder tube diameters. A stem of inappropriate dimension can become a source of danger: Handlebars and stems can break and thus cause an accident!

NOTICE

When removing spacers the fork steerer tube must be shortened. This procedure is irreversible. The shortening should be carried out by you authorised dealer, but only after you have found your preferred position.

SAFETY INSTRUCTIONS

If you want your handlebar in a higher position, you may opt for a riser bar model which has an upward bend. Ask your authorised dealer for help.



Adjusting the Tilt of the Handlebar, Bar Ends and Brake Levers

The handlebars of city, trekking and children's bikes are usually slightly bent at the ends. Set the handlebar to a position in which your wrists are relaxed and not turned too much outwards.

To adjust the angle of the handlebar, release the Allen bolt(s) on the underside or front side of the stem (c). Turn the handlebar to the desired position. Make sure the handlebar is accurately centred in the stem (f). Carefully retighten the bolt(s) in a cross pattern by using the torque wrench until they lightly hold the handlebar in place (g). Make sure the upper and lower clamping slots of the stem are parallel and identical in width (h). Tighten the bolt(s) evenly in a cross pattern by using a torque wrench and observe the recommended torque values.

Once clamped in the stem try rotating the handlebar and tighten the bolt a little more, if necessary. Use a torque wrench and never exceed the maximum torque values! You find the prescribed values in chapter "Recommended Torque Values", directly on the components and/or in the manuals of the component manufacturers.

After adjusting the handlebar you need to adjust the brake lever/shifter units.

Release the Allen bolt at either brake lever unit. Turn the levers on the handlebar. Sit in the saddle and place your fingers on the brake levers. Check whether the back of your hand forms a straight line with the line of your forearm (a). Retighten the units with a torque wrench and do a twist test (b)!

Bar ends give you additional ways of gripping the handlebar. They are usually fixed in a position that gives the rider a comfortable grip when pedalling out of the saddle. The bar ends are then almost parallel to the ground or tilted slightly upwards (by about 25°).

Release the bolts, which are usually located on the underside of the bar ends, by one to two complete turns. Turn the bar ends to the desired position making sure the angle is the same on both sides. Retighten the bolts to the required torque value (c). Check whether the bar ends are firmly fixed by trying to turn them out of position.

⚠ WARNING

- **Note that the bolted connections of the stem, handlebar, bar ends and brakes have to be tightened to their prescribed torque values. Use a torque wrench and never exceed the maximum torque values! You find the prescribed values in chapter "Recommended Torque Values", directly on the components and/or in the manuals of the component manufacturers.**
- **Never fix bar ends in vertical position or with their ends pointing rearwards as this would increase the risk of injury in the event of a fall.**
- **Be aware that the distance you need to stop your bicycle may increase, when you are riding with your hands on bar ends (d). The brake levers are not in all gripping positions within easy reach.**

SAFETY INSTRUCTIONS

- **If you intend to mount bar ends to a handlebar, verify first that the handlebar is suitable and approved for the mounting of the bar ends. Some handlebars must be equipped with specific reinforcing sleeves (handlebar plugs). If you are in doubt or if you have any questions, contact your authorised dealer.**



Adjusting the Brake Lever Reach

With most brake systems the distance between the brake levers and the handlebar grips (e) is adjustable. This gives in particular riders with small hands the convenience of bringing the brake levers closer to the handlebar. The first knuckles of middle and index fingers should be able to grip around the lever (f).

On most bicycles there is a small adjusting screw near the point where the brake cable of a cable brake enters the brake lever unit or at the lever itself. Turn the bolt clockwise and watch, whether and how the lever adjusts as you do so.

Hydraulic brakes also have adjusting devices at the brake lever (g). There are different systems. Ask your authorised dealer for help or read the respective manual.

When adjusting the lever reach, make sure the first knuckle of the index finger reaches around the brake lever. Check the proper adjustment and functioning of the brake system (h) subsequently, as described in chapter “**Brake System**” and/or in the brake manufacturer’s instructions. Some brake models allow the adjusting of the lever distance and the pressure point.

⚠ WARNING

- After the adjusting do a test ride in a place free of traffic or in an unfrequented place.
- Make sure you cannot pull the brake levers all the way to the handlebar. Your maximum brake force should be reached short of this point.

SAFETY INSTRUCTIONS

- If you have hydraulic brakes and disc brakes, follow the instructions of the brake manufacturer. If you are in doubt or if you have any questions, contact your authorised dealer.



Correcting the Fore-to-Aft Position and Tilt of the Saddle

The inclination of your upper body (a), and hence your riding comfort and pedalling power, are also influenced by the distance between the grips of the handlebar and the saddle. This distance can be altered slightly by changing the position of the saddle rails in the seat post clamp. However, this also influences your pedalling. Whether the saddle is positioned more to the front or to the back of the bike will alter how rearward the pedalling position of your legs is.

You need to have the saddle horizontal in order to pedal in a relaxed manner. If it is tilted, you will constantly have to lean against the handlebar to prevent yourself from slipping off the saddle.

⚠ WARNING

The bolted connections of the seat post have to be tightened to the prescribed torque values (b). Use a torque wrench and never exceed the maximum torque values! You find the prescribed values in chapter "Recommended Torque Values", directly on the components and/or in the manuals of the component manufacturers.



⚠ WARNING

Make sure the saddle is clamped within the range of the marking on the saddle rail (c). Otherwise the saddle rail can fail!

SAFETY INSTRUCTIONS

The setting range of the saddle is very small. Replacing the stem allows you to make far bigger adjustments to the rider's fore-to-aft position, as stems come in different lengths (d). In doing so you may achieve differences of more than ten centimetres. In this case you usually would have to adjust the length of the cables – a job best left to your authorised dealer!

The manufacturers of saddles deliver their products with detailed manuals. Read them carefully before adjusting the position of your saddle. If you are in doubt or if you have any questions, contact your authorised dealer.

Adjusting Saddle Position and Tilt

Patent clamping with one bolt or two parallel bolts (e)

With patent seat posts a single bolt fixes the clamping mechanism, which controls both the tilt and the horizontal position of the saddle. Most seat posts have two bolts side-by-side.

Release the bolt(s) at the top of the seat post. Release the bolt(s) two to three turns anticlockwise at the most, otherwise the whole assembly can come apart. Move the saddle forth or back, as desired. You may have to give the saddle a light tap to move it. Observe the marking on the saddle rail and do not go beyond.

Make sure the seat of the saddle remains horizontal (f) as you retighten the bolt(s). The bicycle should stand on level ground while you adjust the saddle.

Having found your preferred position, make sure both clamp halves fit snug around the saddle rails before tightening the bolt(s) to the correct torque as prescribed by the seat post manufacturer.

Retighten the bolt(s) with a torque wrench according to the instructions of the manufacturer (g). After fastening the saddle, check whether it resists tilting by bringing your weight to bear on it once with your hands at either end of the saddle (h).

⚠ WARNING

- The saddle clamping bolts are among the most delicate bolts of the entire bicycle. Therefore, make absolutely sure that you do not come below the recommended minimum torque value and above the recommended maximum torque value. You find the prescribed values in chapter "Recommended Torque Values", directly on the components and/or in the manuals of the component manufacturers. Always use a torque wrench.**
- Check the bolts by using a torque wrench once a month according to the values indicated in the enclosed manuals or directly on the components.**
- Poorly tightened or loosening bolts can fail. Risk of accident!**



Clamping with two bolts in line (a)

Release both bolts at the top of the seat post. Turn the bolts two to three turns anticlockwise at the most, otherwise the whole assembly can come apart. Move the saddle forward or backward as desired to adjust the horizontal position. You may have to give the saddle a light tap to move it. Observe the marking on the saddle rail and do not go beyond.

Having found your preferred position, make sure both clamp halves fit snug around the saddle rails before tightening the bolt(s) to the correct torque as prescribed by the seat post manufacturer.

Tighten both bolts evenly (b+c) so that the saddle remains at the same angle. If you wish to lower the nose of the saddle a little, tighten the front bolt clockwise. You might have to loosen the rear bolt a little as well. To lower the rear part of the saddle, the rear bolt has to be tightened clockwise and the front bolt to be released, if necessary.

After fastening the saddle, check whether it resists tilting by bringing your weight to bear on it once with your hands at either end of the saddle (d).

⚠ WARNING

The saddle clamping bolts are among the most delicate bolts of the entire bicycle. Therefore, make absolutely sure that you do not come below the recommended minimum torque value and above the recommended maximum torque value. You find the prescribed values in chapter "Recommended Torque Values", directly on the components and/or in the manuals of the component manufacturers. Always use a torque wrench.

Check the bolts by using a torque wrench (b+c) once a month according to the values indicated in the enclosed manuals or directly on the components.

Poorly tightened or loosening bolts can fail. Risk of accident!



CHILDREN'S BICYCLES

Useful Information for Parents

Children are among the most vulnerable road user groups, not only because of their lack of experience and practice, but also for the simple reason that they are smaller and may therefore have difficulties overseeing things and be easily overlooked by other road users.

If you want your child to use his/her bicycle on the road, you should be willing to invest time in road safety instruction and help him/her improve his/her riding skills (e). Children are not as observant as adults, and you should therefore get into the routine of checking the children's bicycle and performing adjustments and maintenance as necessary. If you are in doubt or if you have any questions, contact your authorised dealer.

Bear in mind that it is your responsibility to supervise your child on his/her first rides and do not overchallenge your child! Inform yourself about the traffic rules in your country. They vary from country to country. In the UK cycling on a pavement (f) alongside a road is forbidden by law, unless it has been marked as a cycle track. Children aged under 10 are, however, below the age of criminal responsibility. Therefore, they cannot be prosecuted for a criminal offence either.

What is important is that your child has good control of his/her bicycle before riding on public roads. As a first step in this direction we recommend that you give your child a scooter or a pedalless bicycle (g) so that he/she can train his/her sense of balance.

This being accomplished you will need to make your child familiar with the functioning of the brakes and gears before you let him/her sit on the bicycle. Find a place away from the road, ideally a backyard or park, where you can practise braking and shifting gears with your child under your supervision.

Once your child has progressed to a point where he/she can ride in traffic, teach him/her how to cross kerbs and railway tracks, i.e. to cross these obstacles, if possible, at right angle. Your child should also learn to look ahead and back for any danger before taking this kind of obstacle.

Set a good example when it comes to wearing a cycling helmet (h) and to riding on cycle lanes. It is also advisable to let your child take part in road safety lessons offered at schools or by local clubs and associations.



⚠ WARNING

It is important to tell children when they practise braking that in wet conditions the brake performance is less effective and the tyre grip reduced and that they should therefore ride more slowly and brake more carefully.

Take care your child is wearing the helmet while cycling only. For example, wearing the helmet at a park or playground can be hazardous; the helmet can get caught on features or obstacles and result in strangulation by helmet straps.

Children should not ride near precipices, staircases or swimming pools as well as on paths used by automotive mobiles.

Make sure the child always wears a properly fitting cycling helmet and well visible, i.e. bright, clothing. It is also advisable to wear reflector stripes to increase visibility.

⚠ WARNING

Children can be vain. Therefore, buy a cycling helmet that the child feels happy with. Take your child with you to make sure you buy one which is comfortable and fits correctly. This will increase the chances that the helmet is actually worn, which one day might be a life-saver. Make sure the helmet is always fastened!

When you buy the helmet, have yourself explained how to adjust the straps of the helmet to the head. Only a properly fitted helmet (a) can provide full protection in case of an accident!

SAFETY INSTRUCTIONS

Make sure the cycling helmet complies with the BSEN 1078 standards.



Adjustment

Adjusting the bicycle to the bodily proportions of a child (b-d) is even more important than in the case of an adult. When determining the saddle height you should find a compromise that allows the child to reach the ground with both feet when sitting in the saddle while at the same time giving them enough space for pedalling (e). A safe standing (when stopping) takes absolute priority!

Handlebars that are too far away from the saddle or adjusted in a too high/low position can also lead to the fact that the child is less confident and relaxed during cycling. Normally, children's bicycles allow adjustments of the saddle tilt and sometimes the tilt of the handlebar can be adjusted, as well.

Special attention should be paid to the adjustment of the control elements, such as brake levers. Easy reach and operation should be ensured for the child.

For more information on how to perform the adjustments of the children's bicycle to the proportions (f) and needs of your child, read chapter "Adjusting the Bicycle to the Rider". If you are in doubt or if you have any questions, contact your authorised dealer.

Get into the habit of doing the checks as described in chapter "Before Every Ride" together with your child. In this way, your child will

learn to handle the bicycle properly and you will be able to detect any defects that have developed during use. Encourage your child to tell you, if anything should not be working properly on his/her bicycle. Rectify the fault immediately or take the bicycle to your authorised dealer for repair.

⚠ WARNING

Only buy tested training wheels, e.g. in accordance with BS or GS standards.

⚠ CAUTION

Children and adolescents need to have the saddle height (g) and the position of saddle and handlebar checked at least every 3 months!

SAFETY INSTRUCTIONS

If you want to install training wheels (h), ask your authorised dealer about suitable models. Read the mounting instructions of the supplier and ask your authorised dealer for more information, if necessary.

The training wheels are only an unsatisfactory riding aid for very small children and should be removed as soon as possible to train the sense of balance of your child.



BRAKE SYSTEM

General Information on Brakes

Brakes (a-c) are used for adjusting one's speed to the surrounding terrain and traffic. In an emergency situation, the brakes must bring the bicycle to a halt as quickly as possible.

In the event of such emergency braking, the rider's weight shifts forward abruptly, thus reducing the load on the rear wheel. The rate of deceleration is primarily limited by the danger of the rear wheel losing contact with the ground resulting in an overturning of the bicycle and secondly by the tyres' grip on the road. This problem becomes particularly acute when riding downhill. Therefore, in case of an emergency braking situation you must try to put your weight back and down as far as possible.

Actuate both brakes simultaneously and bear in mind that, due to the weight transfer, the front brakes can generate a far better braking effect on a surface with good grip.

The braking conditions on unpaved surfaces differ, i.e. overbraking the front wheel can make the wheel slip away. Therefore, be sure to practise braking on different kinds of surface.

Wet weather reduces the braking power. Actuate the brakes carefully when riding on wet or slippery ground, as the tyres can easily slip away. Therefore, reduce your speed when riding in such conditions.

SAFETY INSTRUCTIONS

Be sure to obtain the relevant operating instructions from the brake manufacturer so that you can adjust the brake yourself if necessary. After each adjustment, practise braking in a place free of traffic to get used to it.



There are various types of brake systems that may be subject to the following problems:

Rim brakes (d+e) are liable to overheating as a result of too long braking or brake dragging. This can damage the inner tube or make the tyre slip on the rim causing a sudden loss of air which could lead to a serious accident in the process.

Rims also wear down over time. They are even likely to burst. Therefore, they have to be replaced from time to time.

With **roller, drum, back-pedal and disc brakes** (f) prolonged braking or permanent dragging of brake pads can also lead to an overheating of the brake system. This can result in a reduction of the brake force or brake failure. **Risk of accident!**

When riding downhill, get used to braking hard and then releasing the brake again, whenever the road surface and the situation allows for it. If you are in doubt about the braking action, stop and let the brake system cool down.

⚠ WARNING

- *The brake lever to brake setup can vary, e.g. left lever acts on front brake. Have a look at the bike card and check whether you can actuate the front brake with the same brake lever (right or left) you are used to. If it is not, ask your authorised dealer to change the brake levers before you set off for the first time.*
- *Make yourself carefully familiar with your brakes. Practise emergency stops in a place clear of traffic until you are comfortable controlling your bicycle. This can save you from having accidents.*
- *Wet weather reduces the braking effect and the road grip of the tyres. Be aware of longer stopping distances when riding in the rain, reduce your speed and actuate the brakes carefully.*
- *Ensure that braking surfaces and brake pads are absolutely free of wax, grease and oil. Risk of accident!*

SAFETY INSTRUCTIONS

- *When replacing any parts, be sure to only use suitable original spare parts that bear the appropriate mark (g+h). Your authorised dealer will be pleased to help you.*



Rim Brakes

V-Brakes and Cantilever Brakes

Operation and wear

V-brake (a) and cantilever brake designs have two brake arms mounted separately on either side of the rim. When actuating the brake lever, both arms are pressed together by the cable, the pads touching the rim.

The friction generated by braking causes wear to the brake pads as well as to the rims. Frequent rides in the rain and dirt and over hilly terrain can accelerate wear on both braking surfaces. Some rims are provided with wear indicators, e.g. grooves or circular indentations. If the rim is worn down to the point where the grooves or indentations are no longer visible, they need to be replaced. Once the abrasion of the rim has reached a certain critical point, the rim may break under the tyre pressure. This can make the wheel jam or the inner tube burst. **Risk of accident!**

Functional check

Check whether the brake pads (b) are accurately aligned with the rims and still sufficiently thick. You can judge the wear of the brake pads by the appearance of grooves.

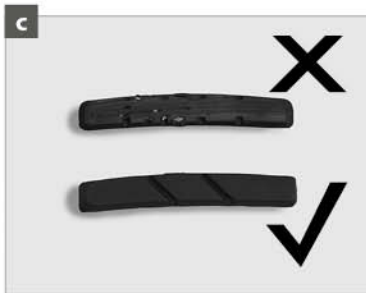
If the pads are worn down to the bottom of the grooves (c), it is time to replace them. Be sure to observe the according instructions of the respective manufacturers.

See your authorised dealer and ask them to examine the remaining thickness of the rims when you have worn through your second set of brake pads at the latest (d). Your authorised dealer has special measuring devices for determining the remaining thickness of the rims.

The brake pads must hit the rim simultaneously, first touching it with the front portion of their surface. At the moment of first contact the rear part of the pads should be a millimetre away from the braking surface. Viewed from the top the brake pads form a “V” with the trough pointing to the front. This setting is to prevent the brake pads from screeching when applied.

The brake lever must always remain clear of the handlebar. You should not even be able to pull them all the way to the handlebar in the event of an emergency stop. If this is the case, however, observe the following chapter “**Synchronising and Readjusting**”.

Only a successful passing of all these points will ensure a correctly adjusted brake.



⚠ WARNING

Brake cables which are damaged, e.g. frayed (e), must be replaced immediately, as they can otherwise fail in a critical moment, possibly causing a fall!

Adjusting the position of the brake pads relative to the rims requires a considerable degree of skill. Replacing and adjusting the brake pads is a job best left to your authorised dealer.

Have your rims regularly checked and measured by the authorised dealer.

Synchronising and readjusting

Almost all brake designs have a bolt located next to one or both brake callipers for adjusting the spring preload (f). Turn the bolt slowly and watch how the gap changes between brake pads and rim.

Adjust the spring in a way that with an unapplied brake the gaps are equal on either side and the brake pads touch the rim simultaneously during braking.

The position of the brake lever where the brake starts to act, also referred to as pressure point, can be adjusted to the size of the hand as well as to individual convenience by readjusting the brake cable. Make absolutely sure you cannot pull the brake lever all the way to the handlebar grip. With an unapplied brake the brake pads should not be too close to the rim sides, otherwise they could drag along the rim during riding. Before making this adjustment, observe the notes in chapter **“Adjusting the Brake Lever Reach”**.

To readjust the brakes, unscrew the knurled lock ring located at the point where the brake cable enters the brake lever on the handlebar (g). Unscrew the knurled, slotted adjusting bolt by a few turns. This reduces the free travel of the brake lever. Keeping the adjusting bolt firm, tighten the lock ring against the brake lever unit. This prevents the adjusting bolt from coming loose by itself. Ensure that the slot of the bolt faces neither forward nor upward, as this would permit water or dirt to enter more easily.

⚠ WARNING

Always test the brakes' function in standing after adjusting them (h), making sure the brake pads engage fully with the rim when you pull them hard.



Hydraulic Rim Brakes

Operation and wear

Common hydraulic rim brakes (a+b) consist of two brake assemblies that are mounted on the left and right side of the rim and connected by an assembly plate and, if necessary by a brake booster. Actuating the brake lever compresses the hydraulic pistons through oil pressure, pushing the brake pads against the rims.

The friction generated by braking causes wear to the brake pads (c) as well as to the rims. Frequent rides in the rain and dirt and over hilly terrain can accelerate wear on both braking surfaces. Some rims are provided with wear indicators, e.g. grooves or circular indentations. If the rim is worn down to the point where the grooves or indentations are no longer visible, they need to be replaced. Once the abrasion of the rim has reached a certain critical point, the rim may break under the tyre pressure. This can make the wheel jam or the inner tube burst. **Risk of accident!**

Keep the hydraulic brake assemblies, especially the brake pad area, clean (d), as dirt can prevent the pads from travelling back in their rest position. Regularly check the hoses and connections for leaks.

⚠ WARNING

Loose connections and leaky brake hoses can drastically impair the braking effect. If you find leaks in the brake system or buckled hoses, contact your authorised dealer. Risk of accident!

Functional check

Check whether the brake pads are accurately aligned with the rims and still sufficiently thick. You can judge the wear of the brake pads by the appearance of grooves. If the pads are worn down to the bottom of the grooves, it is time to replace them. Be sure to observe the according instructions of the respective manufacturers.

See your authorised dealer and ask them to examine the remaining thickness of the rims when you have worn through your second set of brake pads at the latest. Your authorised dealer has special measuring devices for determining the remaining thickness of the rims (e).



The brake pads must hit the rim simultaneously and in parallel (b). This setting is to prevent the brake pads from screeching when applied.

The brake lever must always remain clear of the handlebar. You should not be able to pull it all the way to the handlebar (f), not even in the event of an emergency stop. If this is the case, however, observe the following chapter “**Synchronising and Readjusting**”.

Only a successful passing of all these points will ensure a correctly adjusted brake.

⚠ WARNING

Adjusting the position of the brake pads relative to the rims requires a considerable degree of skill. Replacing and adjusting the brake pads is a job best left to your authorised dealer.

Have your rims regularly checked and measured by the authorised dealer.

Synchronising and readjusting

Hydraulic rim brakes are synchronised together with the alignment of the brake pads. At the same time the position of the brake lever where the brake starts to act, also referred to as pressure point, can be adjusted to the size of the hand as well as to individual convenience (g). For more information also observe the notes in chapter “**Adjusting the Brake Lever Reach**”.

As the brake pads wear down, the pressure point moves towards the handlebar grips. Make absolutely sure you cannot pull the brake lever all the way to the handlebar grip. Most brake models, however, have a bolt (h) or a small knob at the brake lever unit to compensate the wear. For more information observe the brake manufacturer’s instructions or contact your authorised dealer.

SAFETY INSTRUCTIONS

Manufacturers of hydraulic brakes deliver their products with detailed manuals. Read them carefully before removing the wheel or doing any maintenance. Improper operation can lead to brake failure.



Disc Brakes

Operation and wear

The most striking feature of disc brakes is their outstanding braking effect. They respond a lot faster in wet conditions than rim brakes do and achieve their normal high braking power within a very short time. They require little maintenance and do not wear down the rims as rim brakes do.

Disc brakes (a) consist of the brake calliper (1), the brake disc/rotor (2), the brake hose or cable (3) as well as the brake grip/lever (b). Actuating the brake lever compresses the hydraulic pistons through hydraulic pressure or mechanically, pushing the brake pads against the brake disc/rotor. The friction generated by braking causes wear to the brake pads (c) as well as to the brake discs/rotors. Frequent rides in the rain and dirt and over hilly terrain can accelerate wear of the brake discs/rotors. Depending on the manufacturer and the model there are different ways of checking the brake pads and brake discs/rotors for their wear limits.

⚠ WARNING

New brake pads need a "break-in" period before they reach their optimal braking performance. For this purpose, accelerate the bicycle 30 to 50 times to around 30 km/h (18 mph) and bring it to a standstill each time. This procedure is finished, when the force required at the lever for braking has stopped decreasing.



⚠ WARNING

Dirty brake pads and brake discs/rotors can lead to drastically reduced brake force. Therefore, make sure the brake remains free of oil and other fluids, especially when you clean your bicycle or grease the chain. Dirty brake pads can under no circumstances be cleaned, they must be replaced! Brake discs/rotors can be cleaned with special brake cleaners and with a clean absorbing cloth or with warm water and detergent (d).

Unusual noises (scratching, chafing etc.) during braking and/or a noticeable change of the brake force (stronger or weaker) are indications that the brake pads are soiled or worn down. Check the brake pads and replace them, if necessary. Otherwise you risk further damage, e.g. to the brake disc/rotor, or even an accident due to brake failure! If you are in doubt, contact your authorised dealer.

⚠ CAUTION

Disc brakes get hot in use. For this reason do not touch the rotors directly after stopping, especially after a long downhill ride.

Hydraulic Disc Brakes

Functional check

Regularly check the hoses (e) and connections for leaks while pulling on the lever. In case of a brake liquid leakage, contact your authorised dealer immediately. A leak in the brake lines can render the brake ineffective. **Risk of accident!**

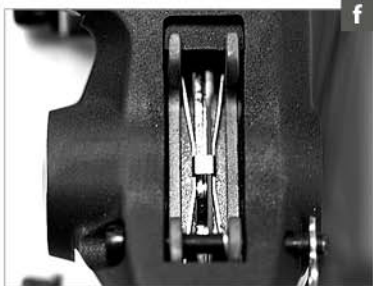
Wear and maintenance

Check the pads for wear at regular intervals (f) by following the service instructions in the manual of the respective manufacturer.

Measure the thickness of the brake pad on the mount by using a calliper gauge (g). The brake pad must all over be 0.5 mm thick at least. Measure the pad and the mount together as well as the mount alone; the difference is the thickness of the pad. Re-insert the cleaned brake pads into the cleaned calliper.

⚠ WARNING

Loose connections and leaky brake hoses drastically impair braking effect. If you find leaks in the brake system or buckled hoses, contact your authorised dealer immediately!



⚠ WARNING

Do not place a bicycle with hydraulic disc brakes upside down. Air could get into the system. This could render the brake ineffective (h).

⚠ CAUTION

Do not open the brake hoses. Risk of brake fluid leakage which is harmful to health and coating.

SAFETY INSTRUCTIONS

If your brake system works with DOT brake fluid, the latter needs to be replaced regularly according to the intervals prescribed by the manufacturer.

The manufacturers of hydraulic disc brakes usually deliver their products with detailed manuals. Be sure to read them carefully before removing a wheel or doing any maintenance work.

Mechanical Disc Brakes

Functional check

The more brake pads of mechanical disc brakes wear down, the longer is the brake lever travel. Regularly check whether you get a positive braking response before the lever touches the handlebar. Make sure the brake cables are in sound condition!

⚠ WARNING

Damaged cables (a) should be replaced immediately, as they can snap. Risk of accident!

Wear and maintenance

To a certain extent, wear of the brake pads can be compensated directly at the brake lever. Unscrew the knurled lock nut on the bolt through which the cable enters the grip (b) and then unscrew the bolt until the lever has the desired travel. Retighten the lock nut thereby taking care that the slot of the bolt does not face upward or forward, as this would permit an unnecessarily high amount of water or dirt to enter.

Now check the functioning of the brake and make sure the brake pads do not drag on the brake disc/rotor (c+d) when you release the brake lever and let the wheel spin.

Repeated readjustment at the brake lever makes the arm on the brake calliper change its position. This can reduce braking power and result in a complete brake failure in an extreme case. **Risk of accident!**

Some models offer further ways of adjusting the brakes directly at the brake calliper, though this requires a certain amount of skill. In any case, be sure to read the original instructions of the brake manufacturer before adjusting the brakes. If you are in doubt or if you have any questions, contact your authorised dealer.

⚠ WARNING

Repeated readjustment at the brake lever can drastically reduce the maximum braking performance.

SAFETY INSTRUCTIONS

The manufacturers of mechanical disc brakes usually deliver their products with detailed manuals. Be sure to read them carefully before removing a wheel or doing any maintenance work.



Roller, Drum and Back-Pedal Brakes

These types of brakes have an enclosed design; brake pads and surfaces inside the hub body are largely protected against the influences of the weather. The braking force is transmitted through cables from the levers to the brakes. As rear brake they are mostly connected to an internal gear hub (e) and sometimes they are operated by back pedalling.

With back-pedal brakes maximum brake force is achieved by stepping on one of the pedals in its rearmost position with the cranks horizontal. With internal gear hubs from SRAM the brake force increases by shifting into a lower gear.

The risk of overheating is particularly high with these brake systems. Brake overheating occurs on prolonged (steep) downhill rides with permanent brake dragging. Brake fading is a result thereof which, in extreme cases, can lead to brake failure.

Therefore, if you notice that the braking effect deteriorates, stop and let the brake system cool down. Sometimes, it will be enough to operate the front and rear brake in an alternating pattern. If that will not suffice, stop for a couple of minutes before you set off again.



⚠ WARNING

- *Brake cables which are damaged, e.g. frayed, must be replaced immediately, as they can otherwise fail in a critical moment, possibly causing a fall!*
- *If during braking the travel of the brake lever increases, unusual noises occur and/or the braking effect is more or less effective than usual, do not ride your bicycle. In such a case, contact your authorised dealer immediately.*
- *Check regularly whether the torque support is firmly attached to the frame (f) or fork. Use a torque wrench and never exceed the maximum torque values!*

Checking and Readjusting Back-Pedal Brakes

The chain tension (g) of bicycles with back-pedal brakes has to be checked and retensioned, if necessary, after approx. 1,000 km (600 miles) or 50 hours of use. For more details read chapter “Chain – Care and Wear”.

⚠ WARNING

- *Keep in mind that the back-pedal brake is ineffective with a fall-en-off chain (h). Risk of accident!*

GEARS

Derailleur Gears

The gears (a+b) of your bicycle serve to adjust the gear ratio to the terrain you are riding on and the desired speed. A low gear (where in the case of derailleur gears the chain runs on the small chainring and a large sprocket) allows you to climb steep hills with moderate pedalling force. You must, however, pedal at a faster pace. High gears (large chainring, small sprocket) are for riding downhill. Every turn of the pedals takes you many metres forward at correspondingly high speed.

⚠ WARNING

Practise shifting gears in a place free of traffic until you are familiar with the functioning of the levers or twist grips of your bicycle.

SAFETY INSTRUCTIONS

Read the gear manufacturer's operating instructions and make yourself familiar with gear shifting before you set off for the first time.



Operation and Control

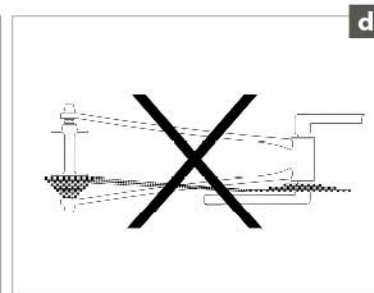
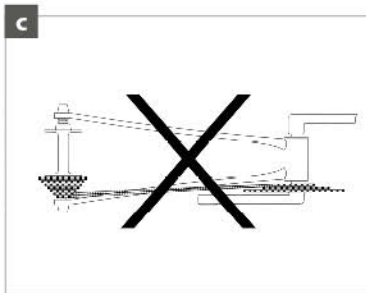
Derailleur gears always work according to the following principle:

Large front chainring – high/heavy gear – bigger gear ratio
 Small front chainring – low/easy gear – smaller gear ratio
 Large rear sprocket – low/easy gear – smaller gear ratio
 Small rear sprocket – high/heavy gear – bigger gear ratio

Normally, the shifters are mounted as follows:

Shift lever right – rear sprockets
 Shift lever left – front chainrings

Modern city/trekking bicycles can have up to 30 gears. As there are, however, overlapping ranges, actually 15 to 18 gears are usable. It is not advisable to use gears which involve an extremely oblique run of the chain, as this reduces power transmission efficiency and hastens wear of the chain. An unfavourable run of the chain is when the smallest chainring is used with one of the two or three outermost (smallest) sprockets (c) or when the largest chainring is used with one of the inmost (largest) sprockets (d).



The bottom bracket (e) is the interface between cranks and frame. There are different designs, in some cases the bearing shaft is part of the bottom bracket, in some other cases it is integrated into the right crank. Sealed bottom brackets are maintenance free and delivered without play ex works. The bottom bracket in the frame and the cranks on the shaft must be checked for play at regular intervals.

Also check at regular intervals whether the cranks are firmly attached to the bearing shaft or whether there is play. Grab the crank and try to jiggle it forcefully. It must be absolutely free of play (f). If you notice any play, contact your authorised dealer immediately.

Depending on the gear system, gear shifting is initiated by actuating a shift lever or by a short turn of the wrist with twist grips (g). Continue pedalling during gear shifting, however, at reduced pedalling force.

Find below the principles of the shift lever types and their operation. It is, however, also possible that your new bicycle has a gear system that is not listed below.

In the case of shift levers pressing the large shifter (thumb shifter) moves the chain towards the larger chainrings/sprockets.

That means that any gear shift made by pressing the large thumb shifter on the right produces a lower gear. This is an indexed shifting system with the option of shifting several gears with one action. Actuating the large thumb shifter on the left produces a higher gear.

Pulling the small lever located in front of the handlebar from the rider's viewpoint and actuated with the index finger (index finger lever) shifts the chain towards the smaller chainrings/sprockets, i.e. on the right side to the heavy gears and on the left side to the easy gears.

SAFETY INSTRUCTIONS

The gear manufacturers usually deliver their products with detailed manuals. Read them thoroughly. Make yourself familiar with your new gears, if necessary, in an area free of traffic, if necessary (h). If you are in doubt or if you have any questions, contact your authorised dealer.

The principle is different with **twist grips**. Turning the right-hand grip towards you makes for a lower gear ratio, while the same movement on the left produces a higher gear – and vice versa. The shifting direction may vary in this case, as well.



⚠ WARNING

Always wear straight-cut trousers or use trouser clips or the like (a) to make sure your trousers do not get caught in the chain or the chainrings. Risk of accident!

Shifting gears under load, i.e. while pedalling hard, can make the chain slip. At the front derailleur the chain may even slip off the chainrings and result in an accident! At least the service life of the chain will be shortened considerably.

NOTICE

If there is play between bearing shaft and cranks, they can sustain damage. Risk of breakage!

Avoid gears with the chain running at an extreme angle, as this will increase wear!

It is therefore crucial when switching gears to continue pedalling smoothly and without too much force. Do not shift under load, in particular not at the front derailleur (b), as this will shorten the service life of your chain considerably. Furthermore, this can lead to a chain-suck, i.e. the chain can get jammed between chain stay and chainrings.

Checking and Readjusting

The derailleur gears of your bicycle were carefully adjusted by your dealer before delivery (c). However, Bowden cables may stretch a little on the first kilometres/miles, making gear shifting imprecise and the chain rattle.

Adjusting the front and rear derailleur (d) accurately is a job for an experienced mechanic. If you want to try it by yourself, observe the gear manufacturer's operating instructions. If you have any problems with the gears, contact your authorised dealer.

⚠ WARNING

For your own safety, bring your bicycle to your dealer for its first inspection after 100 to 300 kilometres (60 to 180 miles), 5 to 15 hours of initial use or four to six weeks, at the very latest, however, after three months.



Adjusting the Rear Derailleur

Increase the tension of the Bowden cable by turning the adjustable cable stop at the shifter lever (e) or the adjusting bolt through which it runs into the rear derailleur (f). To do so, shift to the smallest sprocket and turn the bolts anticlockwise in half turns until the cable is slightly tensioned.

After tensioning the Bowden cable check whether the chain immediately climbs onto the next larger sprocket. To find out you either have to turn the cranks by hand (g) or ride the bicycle and shift through the gears.

If the chain easily climbs onto the next larger sprocket, check whether it just as easily shifts to the small sprockets. If it does not, release the respective adjusting bolt a little. You may need several tries.

⚠ WARNING

Adjusting the front and rear derailleur accurately is a job for an experienced mechanic. Observe the instructions of the gear manufacturer. If you have any problems with the gears, contact your authorised dealer.



SAFETY INSTRUCTIONS

Ask a helper to lift the rear wheel. By turning the cranks and shifting through you can easily check the function.

Adjusting the limit stops

The rear derailleur is equipped with limit screws (h) which limit the movement range of the derailleur, thus preventing the derailleur and chain from colliding with the spokes or the chain from dropping off the smallest sprocket. The limit screws are adjusted by your authorised dealer. They do not alter their position during normal use.

If necessary, correct the position of the jockey wheels by means of the limit screws. The limit screws on rear derailleurs are often marked "H" for high gear and "L" for low gear. High gear means that the chain is running on the smallest sprocket. Turn the screw clockwise to move the rear derailleur towards the wheel and anticlockwise to move it away from the wheel.

Shift to the biggest (inmost) sprocket and check whether the teeth of the sprocket and the teeth of the guide pulley are all in a perfectly vertical line. Turn the limit screw marked "L" clockwise until the rear derailleur stops moving towards the spokes and can neither be moved by actuating the shift lever nor by pushing it with your hand (a, p. 46).

This adjustment prevents the chain from getting stuck between sprocket and spokes or the rear derailleur or the derailleur cage from touching the spokes, which could result in damage to the spokes, the rear derailleur and the frame. In the worst case, it could be impossible to continue cycling.

⚠ WARNING

If your bicycle has tipped over or the rear derailleur received a blow, the rear derailleur or its mount, also referred to as derailleur hanger, might be bent. It is advisable to check its range of movement and readjust the limit screws, if necessary, after such an incident or after mounting a new rear wheel on your bike.

Do a test ride in a place free of traffic, after adjusting the gears of your bicycle.

NOTICE

Poorly adjusted gears are one of the main causes for irreparable damage to frame, rear derailleur and wheels.

SAFETY INSTRUCTIONS

Have your bicycle checked by your authorised dealer at regular intervals.

Adjusting the Front Derailleur

The range within which the front derailleur (b) keeps the chain on the chainring without itself touching the chain is very small. The swivelling range is reduced in the same way as with the rear derailleur, i.e. by turning the limit screws marked "H" and "L". The limit screws are adjusted by your authorised dealer. They do not alter their position during normal use.

As with the rear derailleur, the cable of the front derailleur (c) is subject to lengthening which leads to a reduced precision in gear changing. If necessary, shift to the small chainring and increase the tension of the Bowden cable by turning the adjusting bolt through which it passes at the entry to the gear shifter (d).

⚠ WARNING

Always check after an accident whether the guide plates of the front derailleur are still parallel to the chainrings. Make sure they do not touch the large chainring which would block the drive. Risk of accident!

Adjusting the front derailleur is a very delicate job. Improper adjustment can cause the chain to jump off, thus interrupting the driving force. This can cause a fall!

Do a test ride in a place free of traffic, after adjusting the gears of your bicycle.



Multi-Speed Hubs (Internal Gear Hubs)

General Information on Multi-Speed Hubs

The gears of your bicycle serve to adjust the gear ratio to the terrain you are riding on and the desired speed. A low gear allows you to climb steep hills with moderate pedalling force. You must, however, pedal at a faster pace. High gears are for riding downhill. Every turn of the pedals takes you many metres forward at correspondingly high speed.

The advantages of multi-speed hubs (e) are their enclosed design. Unlike derailleur gears the gear drive is within the hub body, only the primary ratio from the chainring to the sprocket being outside. What is more, all gears can be shifted through with one gear shifter (f).

Provided that it is serviced regularly, the drive chain has a comparatively longer service life. And this even more when it is protected from the influences of the weather by a sealed chain box.

With multi-speed hubs normally the power transmission and the gear ratio adjustment is guaranteed via one or several planetary gears, depending on the number of gears. To change gears the pedal force should be reduced significantly for a short time.

Always make sure changing gears makes as little noise as possible and is absolutely jerk free. This increases the service life considerably.

Make yourself familiar with the operation of your gears in a place free of traffic (g) and practise operating the shifters or the twist grips as well as the brake system, before using your bicycle on public roads.

In contrast to derailleur gears, multi-speed hubs cannot only be combined with manually actuated brakes (rim, drum, roller or disc brakes). They can also be actuated with back-pedal brakes (roller or drum brakes) by a reverse rotation of the pedals. Most effective braking is achieved with the pedals in horizontal position (h).

Removing and mounting wheels differs from that of derailleur gears. For more details read the chapters **“Tyre Puncture”** and **“Readjusting the chain tension”** and observe the notes given in the operating instructions of the manufacturer.



Operation and Control

The gear drive in multi-speed hubs is operated with a shifter that is usually positioned on the right side of the handlebar.

The gear mechanism works either mechanically by cable or electronically by shifting cable or by radio transmission (a).

During the shifting process you should interrupt pedalling or avoid strong pressure on the pedal.

If you have a back-pedal brake, be sure to use an additional second or if available a third brake for long and steep downhill rides (b) to avoid an overheating of the back-pedal brake.

Excessive heating of the hub (c) can result in a loss of lubricant and thus in reduced or strong braking power. In this case, be sure to contact your authorised dealer.

Do not use the bicycle until it has been repaired. Also observe the operating instructions of the hub manufacturer.

⚠ WARNING

If untypical noises occur during braking or if the brake force decreases or increases unexpectedly, you should stop riding immediately and contact your authorised dealer!



Check, Readjustment and Maintenance

Multi-speed hubs require only little maintenance and need not be adjusted very often. Check the chain tension (d), in particular when removing and mounting wheels and read in addition the chapter “Chain – Care and Wear”. If the gear steps do not engage and function trouble-free, even after the control or adjustment described in the following, contact your authorised dealer.

⚠ WARNING

If your bicycle has hydraulic disc brakes, do not place it upside down for repair purposes, i.e. handlebar and saddle on the ground. This would render the brake ineffective.

⚠ CAUTION

When working in the area of the rear wheel hub and its cassette joint, be aware of the risk of crushing the fingers. Therefore, do not turn the cranks during the work or do not push the bicycle backwards.

CAUTION

Brake discs/rotors, roller and back-pedal brakes can become hot. Let them cool down before doing any work on the wheels.

NOTICE

Do not pull the (disc) brake lever (e) with a removed wheel and make sure to mount the safety locks when removing the wheel.

SAFETY INSTRUCTIONS

In addition, observe the information and the operating instructions of the gear manufacturers. They are available on their websites:

<https://si.shimano.com>

www.rohloff.de/en/service

<https://support.enviolo.com/hc/en-us>

www.pinion.eu/en/downloads/

If you have any questions, contact your authorised dealer.

Adjusting 5-/7-/8-/11-speed Shimano Nexus and Alfine internal gear hubs (mechanically operated)

Set the shift lever to the setting gear required for the respective hub.

For the 5-speed Shimano Nexus it is gear 3. For the 7 and 8-speed Shimano Nexus and the 8-speed Shimano Alfine it is gear 4 (f). For the 11-speed Shimano Alfine it is gear 6.

Check the setting lines at the cassette joint positioned on the right side of the hub in direction of motion. The mainly yellow setting lines under the window of the cassette joint must be aligned (g).

If they are not, turn the barrel adjuster on the shifter gradually, i.e. in quarter turns, clockwise or anticlockwise (h), until the setting lines under the window are aligned.

Turn the crank and shift through all gears several times with the shift lever before shifting back to the respective setting gear.



Re-check whether the setting lines are still aligned. If necessary, you have to slightly readjust the setting once again. Do to so turn the barrel adjuster on the shifter gradually once again clockwise or anti-clockwise until the setting lines are aligned.

Adjusting 14-speed Rohloff (mechanically operated)

The setting of the 14 speeds of the Rohloff gears cannot be adjusted from outside.

The mark of the gear number and the play of the twist shifter can however be adjusted with the two barrel adjusters at the frame or at the gear box.

For the Rohloff hub with internal activation the barrel adjusters are in most cases on the top left or bottom rear stay in direction of motion (a). For the Rohloff hub with external activation they are located at the gear box. The gear box is on the left side of the Rohloff hub in direction of motion.

The mark on the twist shifter can be aligned without changing the cable tension (b).

To do so one of the barrel adjusters has to be screwed in and the other one to be unscrewed to the same extent (c).

The play of the twist shifter is adjusted via the cable tension with the barrel adjusters. Unscrewing both barrel adjusters increases, screwing in both barrel adjusters reduces the cable tension and thus the play. The play of the twist shifter should be approx. 1–2 mm. Proceed step-by-step, e.g. in quarter turns.

Adjusting Enviolo/NuVinci (mechanically operated)

The Enviolo gear is a stepless gearbox without fixed gear steps. Therefore, the gears cannot be adjusted.

The cable tension can be adjusted with the two barrel adjusters at the twist shifter (d). The ideal play is 0.5 mm.

SAFETY INSTRUCTIONS

The setting and diagnosis of electronically operated internal gear hubs (Shimano Alfine Di2, Rohloff E14, Enviolo H-Sync) can only be performed with the soft and hardware of the respective manufacturer. If you have any questions, contact your authorised dealer.



Adjusting Pinion

The setting of the speeds of the Pinion gears (e) cannot be adjusted from outside.

The mark of the gear number and the play of the twist shifter can however be adjusted with the two barrel adjusters at the twist shifter (f).

The mark on the twist shifter can be synchronised without changing the cable tension. To do so one of the barrel adjusters has to be screwed in and the other one to be unscrewed to the same extent. Proceed step-by-step, e.g. in quarter turns.

The play of the twist shifter is adjusted via the cable tension with the barrel adjusters. Unscrewing both adjustment barrels increases and screwing in both adjustment barrels reduces the cable tension and thus the play.

The cable tension is properly set when the ends of the shift cable housings are in the barrel adjusters without play, but unpressurised. The play of the twist shifter should be approx. 2 mm.

Chain tension

After a certain period of time every chain extends. On a bicycle with multi-speed hub the chain play midway between chainring and rear sprocket should be approx. 1–2 cm (g). If there is more play, the chain has to be re-tensioned.

Check the chain tension in varying crank positions.

NOTICE

Adjusting the chain tension is only necessary on bikes with multi-speed hubs, because the chain on a bike with derailleur gears is automatically tensioned by the rear derailleur.

Readjusting the chain tension

To adjust the chain tension the two rear axle nuts and, if available, the clamp bolt (of the brake arm) have to be loosened (h). By pulling the rear wheel back in the drop-outs the chain tension is increased until the optimum chain tension is reached.



Tighten the wheel nuts then to a torque value of 35 Nm (a) and the clamp bolt of the brake arm to a torque value of 3–4 Nm.

Some frame designs do not have a horizontally opened drop-out. The drop-outs are slidable and screwed to the frame instead. To tension the chain the bolted connection of the slidable drop-out has to be released (b+c).

Regularly check the reliable fit of the bolted connection of the hub and, if available, of the brake arm on the frame.

Maintenance of the internal gear hubs

Shimano recommends that you have lubricated the Nexus and Alfine internal gear hubs every second year or every 5,000 kilometres (3,000 miles) of intensive use (d). The 11-speed Alfine internal gear hub requires a first oil change after 1,000 kilometres (600 miles). Subsequently, the oil has to be changed every 5,000 kilometres (3,000 miles) or every two years. With this fact in mind read the operating instructions or contact your authorised dealer.

Internal gear hubs must be maintained regularly. Observe the intervals in the chapter “**Service and Maintenance Schedule**”.

SAFETY INSTRUCTIONS

In addition, observe the information and the operating instructions of the gear manufacturers. They are available on their websites:

<https://si.shimano.com>

www.rohloff.de/en/service

<https://support.enviolo.com/hc/en-us>

www.pinion.eu/en/downloads/

If you are in doubt or if you have any questions, contact your authorised dealer.



CHAIN – CARE AND WEAR

Regular and correct lubrication of your bicycle chain ensures enjoyable riding and prolongs its service life. It is not the quantity but the distribution and regular application of lubricant that counts. Clean the dirt and oil off your chain with an oily rag from time to time (e). Special degreasers are not necessary; they even have a damaging effect.

Apply chain oil, wax or grease to the bright chain links (f). To lubricate the chain, drip the lubricant onto the rollers of the lower run of the chain while you turn the crank. Once this is done, turn the cranks a few more times; then let the bicycle rest for a few minutes so that the lubricant can disperse. Finally wipe off excess lubricant with a rag so that it does not spatter around during riding or can collect road dirt.

⚠ WARNING

Make sure the braking surfaces of the rims, the brake discs/rotors and the brake pads remain clear of lubricants. This would render the brake ineffective!

NOTICE

For the sake of the environment, only use biodegradable lubricants. Bear in mind that some of the lubricant can end up on the ground, especially in wet conditions.



Although the chain is one of the wearable parts of the bicycle, there are still ways for you to prolong its life. Make sure the chain is lubricated regularly, especially after riding in the rain. Try to only use gears which run the chain in the straightest line between the sprockets and chainrings and get in the habit of high cadence pedalling.

Chains of bicycles with derailleur gears are worn out after approx. 800 to 2,500 km (480 to 1,500 miles) or 40 to 125 hours of use. Heavily stretched chains impair the operation of derailleur gears. Cycling with a worn-out chain also accelerates the wear of the sprockets and chainrings. Replacing these components is relatively expensive compared with the costs of a new chain. It is therefore advisable to check the condition of the chain at regular intervals.

Your authorised dealer has accurate measuring instruments for checking the chain wear (g). Replacing the chain should ideally be left to an expert, as this requires special tools. In addition, you need to select a chain matching your gear system.

⚠ WARNING

An improperly joined or heavily worn chain can break and cause an accident.

SAFETY INSTRUCTIONS

When replacing your chain, only use appropriate and suitable original spare parts (h). Your authorised dealer will be pleased to help you.

GATES BELT DRIVE

In the case of the Gates belt drive (a) a carbon drive belt (b) replaces the usual chain. Gates belts can only be combined with internal gear hubs and Pinion gears, however not with derailleur gears (c).

Maintenance and Care

Thanks to the carbon fibre surface, the belt remains free of dirt. Therefore, it will do to clean the belt with water, if necessary. The carbon drive belt must or may not be lubricated or oiled.

Checking the Belt Tension

The optimum operation of the Gates belt drive requires the proper tension of the belt. An unusually low tension can make the belt skip and thus affect the performance. Too high a tension of the belt will render the drive sluggish and unnecessarily increase the wear of the belt and the bearings.

Setting the tension requires specific equipment and experience and is therefore a job for your authorised dealer.

If you want to try it nevertheless: The tension can be easily adjusted with the Gates Carbon Drive™ mobile app (d) or the belt tension gauge (Gates Krikit Gauge).

SAFETY INSTRUCTIONS

Contact your authorised dealer to have your Gates belt drive checked or re-tensioned. More information is also available at: www.gatescarbondrive.com



WHEELS AND TYRE EQUIPMENT

The wheel consists of the hub, the spokes and the rim. The tyre is mounted onto the rim so that it encases the tube. There is a rim tape running around the rim well (e) to protect the sensitive tube against the spoke nipples and the edges of the rim trough, which are often sharp.

Due to the rider's weight and the luggage as well as unevennesses in the field, the wheels are subjected to considerable load. Although wheels are manufactured with great care and delivered accurately trued, spokes and nipples can lose a little tension on the first kilometres/miles. Therefore, ask your authorised dealer to check and true up the wheels after a short period of operation already, i.e. after about 100 to 300 kilometres (60 to 180 miles) or 5 to 15 hours of use.

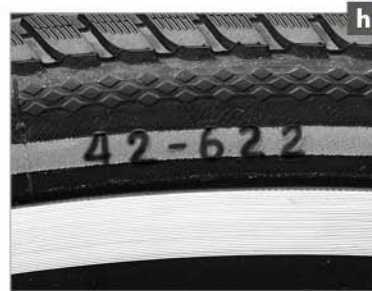
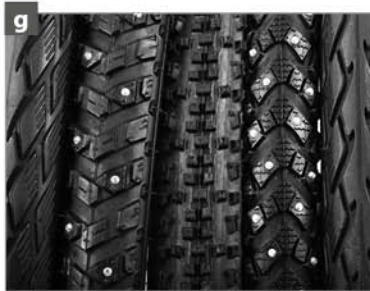
After the initial "break-in" period, check the wheels regularly. It will, however, rarely be necessary to tighten the spokes (f).

Tyres, Inner Tubes, Rim Tape, Inflation Pressure

The tyres should provide grip and traction. At the same time they should run smooth and enhance the rider's comfort by absorbing small shocks. Both the rolling friction and the grip depend on the nature of the tyre carcass, the rubber compound and the tyre tread. Your authorised dealer will be pleased to help you choose from the numerous types of tyres (g).

If you want to mount a new tyre, you need to mind the sizing system and the actual size of the old tyre. The latter is specified in two different units on the side of the tyre. One of the sizes is the standardised size in millimetres which is more precise, e.g. the number sequence 42-622 means that the tyre is 42 mm wide when fully inflated and has an (inner) tyre diameter of 622 millimetres (h). The other size is indicated in inches (e.g. 28x1.6").

Tyres must be inflated to the proper inflation pressure to provide an optimal compromise between smooth running and riding comfort. Properly inflated tyres are also more resistant to punctures. An insufficiently inflated tyre can easily get pinched ("snakebite"), when it goes over a sharp kerb.



The air pressure recommended by the manufacturer is given on the tyre side or on the type label. The lower of the two pressure specifications makes for better cushioning for lightweight riders and is therefore best for cycling on a rough surface. Rolling resistance on level ground decreases with growing pressure, but so does comfort. Highly inflated tyres are therefore most suitable for heavy riders and for riding on smooth asphalt.

Inflation pressure is often given in the old system of units, i.e. in psi (pounds per square inch). The table (a) gives the most common pressure values in terms of both systems.

The tyre and rim alone are not able to hold the air. To maintain the pressure inside an inner tube is placed inside the tyre and filled through a valve.

⚠ WARNING

Are the tyres in good condition and do they have sufficient pressure? A higher pressure gives a better riding stability and reduces the risk of a puncture. The minimum and maximum pressure (in bar or psi) is indicated on the tyre side.

psi	bar	psi	bar
45	3.1	75	5.2
50	3.4	80	5.5
55	3.8	85	5.9
60	4.1	90	6.2
65	4.5	95	6.6
70	4.8	100	6.9



Valves

There are three valve types in general use on city and trekking bicycles:

1. **Sclaverand or Presta valves (b):** This valve is nowadays used on almost all types of bicycles. It is designed to withstand extremely high pressures.
2. **Schrader or American valve (c):** This is an adapted car tyre valve.
3. **Dunlop or Woods valve (d):** the usual valve.

All valve types come with a plastic cap to protect them from dirt.

The **Schrader** and **Dunlop valve** can be inflated with a suitable pump directly after removing the protective cap.

In the case of **Presta valves** you first have to undo the small knurled nut a little and depress it carefully until air starts to escape. Check the nut is tightened and seated in its stem, otherwise air may slowly leak out. Do not forget to tighten by hand the valve nut after inflating.

Tyres with **Schrader valves** can conveniently be inflated at car filling stations with a compressed air dispenser. The same applies to **Dunlop** and **Presta valves** equipped with special adapter. A compressed air dispenser must be used very carefully as you may otherwise overinflate the tyre and make it burst. To let out air, shortly press the pin in the centre of the Schrader valve (e) or the knurled nut of the Presta valve (f).

In the case of the **Dunlop valve** unscrew the knurled nut until air comes out of the valve. Retighten the knurled nut subsequently. Normally, you have to inflate the tyre completely.

It can be hard to inflate tyres to the necessary pressure by using hand pumps. It is much easier with a track pump equipped with a pressure gauge (g).

⚠ WARNING

Replace tyres with a worn tread or with brittle or frayed sides. Dampness and dirt penetrating the tyre can cause damage to its inner structure. The tube might burst. Risk of accident!

Treat your tyres with care. Never inflate your tyres beyond the maximum permissible pressure, otherwise they might burst or come off the rim during the ride. Risk of accident!

⚠ WARNING

Tyres allowing an inflation pressure of 5 bars or more have to be mounted on Crochet-type rims, identifiable by the designation "C". If you are in doubt or if you have any questions, contact your authorised dealer.

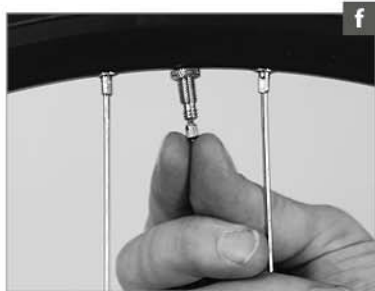
If you mount a tyre of another size than the standard one, it may be that the tyre will rub against the suspension fork, the mud-guard, the brakes or other components and sustain damage. This can even lock up the wheel. When buying tyres, ask your authorised dealer for advice.

Are the tyres in good condition and do they have sufficient pressure (h)? A higher pressure gives a better riding stability and reduces the risk of a puncture. The minimum and maximum pressure (in bar or psi) is indicated on the tyre side.

SAFETY INSTRUCTIONS

Always ride your bicycle with the prescribed tyre pressure and check the pressure at least once a week.

Observe the maximum pressure value of the rim. The pressure is dependent on the tyre width. You will find the values in the enclosed instructions of the rim or wheel manufacturer.



Rim Trueness and Spoke Tension

For the true running of the wheel the spokes must be tensioned evenly (a). If the tension of a single spoke changes, e.g. as a result of riding fast over a kerb or of a loose nipple, the tensile forces acting on the rim become unbalanced and the wheel will no longer run true. The functioning of your bicycle may even be impaired before you notice the wobbling appearance of a wheel that has gone out of true.

In the case of rim brakes the sides of the rims also serve as braking surfaces (b). An untrue wheel can impair the braking effect. It is therefore advisable to check the wheels for trueness from time to time. For this purpose lift the wheel off the ground and spin it with your hand. Watch the gap between the rim and the brake pads (c). If the gap varies by more than a millimetre, you should ask an expert to true up the wheel (d).

⚠ WARNING

Do not ride with untrue wheels. In the case of extreme side-to-side wobbles, the brake pads of rim brakes can miss the rim and get caught in the spokes! This normally instantly jams the wheel and throws you off your bicycle.

Loose spokes must be tightened at once. Otherwise the load on the other spokes and the rim will increase.

NOTICE

Truing (retruing) wheels is a difficult job which you should definitely leave to your authorised dealer.



TYRE PUNCTURE

Flat tyres are the most common cause of puncture during cycling. However, as long as you have the necessary tools and a spare tube or a repair kit, this need not mean the end of your cycle ride. If your wheels are attached with quick-releases to the frame and the fork, you only need two tyre levers and a pump.

SAFETY INSTRUCTIONS

Before removing a wheel read chapters “Wheel Mounting” and “How to Use Quick-Releases”. If you are in doubt or if you have any questions, contact your authorised dealer.

Wheel Removal

If your bicycle has **mechanical rim brakes** (cantilever and V-brakes), you have to unhook the brake cable from the brake arm first (e). To do this, grip the rim with one hand and press the brake pads or the brake arms together. In this position the usually barrel-shaped nipple of the lateral brake cable or the brake hose (of V-brakes) can easily be disengaged.



If your bicycle has **hydraulic rim brakes** from Magura, open their quick-release lever on one side of the brake (f) and remove the brake from the cantilever socket.

If you have (hydraulic or mechanical) **disc brakes**, you should first check the exact position and condition of the brake pads and/or wear indicators (g). This will help you to verify subsequently, whether the brake pads are still in the proper position after dismounting. Read the brake manufacturer's operating instructions. Do not actuate the brake lever when the wheel is removed.

If you have **derailleur gears**, you should shift the chain to the smallest sprocket before removing the rear wheel. This shifts the rear derailleur right to the outside where it does not interfere with the removal of the wheel.

Open the quick-release of the wheel, as described in chapter “**How to Use Quick-Releases**”.

If you still cannot remove the front wheel, this is due to the drop-out safety tabs. These are tabs in the fork ends (drop-outs). You have to release the preload nut of the quick-release a little and slip the wheel from the safety tabs.

You will find it easier to remove the rear wheel, when you pull the rear derailleur slightly backwards (h). Lift the bicycle off the ground and give the wheel a gentle tap with your hand so that it drops out.

Wheel Removal Front Wheel

⚠ WARNING

If your bicycle has hydraulic disc brakes, do not place it upside down for repair purposes (a), i.e. handlebar and saddle on the ground. This would render the brake ineffective.

⚠ CAUTION

Brake discs/rotors, roller and back-pedal brakes can become hot. Let them cool down before removing a wheel.

NOTICE

Do not pull the (disc) brake lever with a removed wheel and make sure to mount the safety locks when removing the wheel.

Front wheel with axle nuts

The axle is clamped in the fork either by means of hex lock nuts (b) or by means of quick-release lever or thru axle (c).

If it is clamped with hex lock nuts, loosen the two axle nuts by three to four turns.

The axle nuts do not have to be dismantled completely. Slide both lock washers from the fork drop-outs, if available.

⚠ WARNING

Most bicycles have integrated drop-out safety tabs on their fork. In this case, no additional lock washers are necessary (d). A grooved washer has to be mounted between axle nut and fork nevertheless in a way that the grooves show towards the fork.

To loosen the hex nuts you need a 15-mm open-end wrench or still better a 15-mm ring spanner (e).



Front wheel with quick-release

Open the quick-release of the wheel, as described in chapter “How to Use Quick-Releases”.

If you still cannot remove the front wheel, this is due to the drop-out safety tabs. These are tabs in the fork ends (drop-outs) (f). You have to release the preload nut of the quick-release a little and slip the wheel from the safety tabs.

SAFETY INSTRUCTIONS

If your bicycle has thru axles, observe the operating instructions of the fork manufacturer.

Front wheel with hub dynamo

Loosen the plug connection from the hub dynamo's connection terminal first (g). Loosen then the axle nuts or the quick-release lever of the front wheel.

Wheel Removal Rear Wheel

⚠ WARNING

If your bicycle has hydraulic disc brakes, do not place it upside down for repair purposes (a), i.e. handlebar and saddle on the ground. This would render the brake ineffective.

⚠ CAUTION

When working in the area of the rear wheel hub and its cassette joint, be aware of the risk of crushing the fingers. Therefore, do not turn the cranks during the work or do not push the bicycle backwards.

Brake discs/rotors, roller and back-pedal brakes can become hot. Let them cool down before removing a wheel.

NOTICE

Do not pull the (disc) brake lever with a removed wheel and make sure to mount the safety locks (h) when removing the wheel.



SAFETY INSTRUCTIONS

In the case of drum and roller brakes as well as of internal gear hubs the brake arm supporting the drive and brake forces on the frame has to be loosened. The shift cables must also be dismounted before removing the wheel (a).

In addition, observe the information and the operating instructions of the gear manufacturers. They are available on their websites:

<https://si.shimano.com>

www.rohloff.de/en/service

<https://support.enviolo.com/hc/en-us>

www.pinion.eu/en/downloads/

If you have any questions, contact your authorised dealer.

If your bicycle has **mechanical rim brakes** you have to unhook the brake cable from the brake arm first. To do this, grip the rim with one hand and press the brake pads or the brake arms together. In this position the usually barrel-shaped nipple of the lateral brake cable or the brake hose (of V-brakes) can easily be disengaged.

If your bicycle has **hydraulic rim brakes** from Magura, open their quick-release lever on one side of the brake (b) and remove the brake from the cantilever socket.

With 5-/7-/8-/11-speed Shimano Nexus and Alfine multi-speed hubs

First relieve the shift cable by shifting to gear one with the twist shifter.

Pull the cable housing from the limit stop in the gear unit positioned on the right side of the hub in direction of motion (c). Remove the shift cable including threaded nipple from the guide and its mount (d).

SAFETY INSTRUCTIONS

The gear unit shows a high spring preload. The shift cable is dismounted opposite to this spring preload and therefore requires a certain manual force. You can also use a 2-mm Allen key to relieve the mechanism (e).



Now loosen the axle nuts anticlockwise by means of an open-end spanner or still better with a ring spanner. In most cases, the axle nuts do not have to be removed completely. It will do to release them by a few turns. Slide the lock washers on the axle outwards so that the metal catches no longer engage with the drop-out. If you remove the axle nuts and the lock washers (f) completely from the axle, note the mounting position of the lock washers for later remounting.

Now you can remove the rear wheel from the drop-outs of the frame. Subsequently, take down the chain and remove the wheel from the frame.

If your bicycle has a drive belt, it has to be absolutely free of tension before you take it down carefully and without bending from the rear belt sprocket. The belt must be easy to remove.

SAFETY INSTRUCTIONS

Depending on tyre equipment and frame design it may be helpful to deflate the rear wheel partly or even completely before removal.

If your bicycle has horizontal drop-outs open towards the rear (g), the removal of the rear wheel deviates from the above-described proceeding. This requires, however, a high degree of craftsmanship. If you are in doubt or if you have any questions, contact your authorised dealer.

With 5-/7-/8-speed Shimano Nexus multi-speed hubs with back-pedal brake

The removal is basically the same as the above-described removal with the 5-/7-/8-/11-speed Shimano Nexus and Alfine internal gear hubs. However, before you loosen the axle nuts of the rear wheel also loosen the bolt of the brake arm clip (h) completely and remove it.



With 14-speed Rohloff (mechanically operated)

Before removing the rear wheel the shift cables have to be separated or the gear box (a) has to be detached from the hub.

If you have a Rohloff hub with internal activation, set a middle gear with the twist shifter first. Subsequently, both bayonet connectors have to be loosened by turning them opposite to one another.

If you have a Rohloff hub with external activation, set gear 14 with the twist shifter first. After unscrewing the grooved bolt the gear box can be removed from its mount at the hub (b).

NOTICE

As long as the gear box is removed from the hub the twist shifter should not be activated until the gear box was screwed back to the hub after remounting of the rear wheel.

Loosen the quick-release lever or the lock nuts subsequently. Now you can take down the chain and remove the rear wheel from the frame.

If your bicycle has a drive belt, it has to be absolutely free of tension before you take it down carefully and without bending from the rear belt sprocket. The belt must be easy to remove.

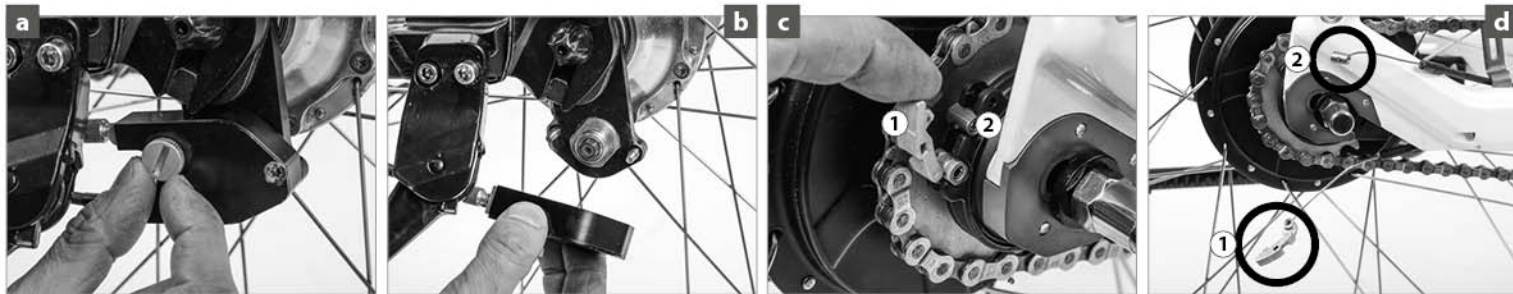
With Enviolo/NuVinci (mechanically operated)

Before removing the rear wheel the cables have to be removed from the cassette joint. Undo the shift cable with fastener (c) from its guide (1) and also remove the second shift cable (2) including its threaded nipple (d) from the cassette joint.

Now loosen the axle nuts anticlockwise by means of an open-end spanner or still better with a ring spanner. In most cases, the axle nuts do not have to be removed completely. It will do to release them by a few turns. Slide the lock washers on the axle outwards so that the metal catches no longer engage with the drop-out. If you remove the axle nuts and the lock washers completely from the axle, note the mounting position of the lock washers for later remounting.

Now you can remove the rear wheel from the drop-outs of the frame. Now you can take down the chain (e) and remove the wheel from the frame.

If your bicycle has a drive belt, it has to be absolutely free of tension before you take it down carefully and without bending from the rear belt sprocket. The belt must be easy to remove.



SAFETY INSTRUCTIONS

Depending on tyre equipment and frame design it may be helpful to deflate the rear wheel partly or even completely before removal.

With Pinion

Loosen the quick-release lever or the lock nuts. Now you can take down the chain and remove the rear wheel from the frame.

If your bicycle has a drive belt (f), it has to be absolutely free of tension before you take it down carefully and without bending from the rear belt sprocket. The belt must be easy to remove.

SAFETY INSTRUCTIONS

Depending on tyre equipment and frame design it may be helpful to deflate the rear wheel partly or even completely before removal.

Clincher and Folding Tyres

Tyre Removal

Remove the cap and the fastening nut from the valve and deflate the tyre completely (g). Press one tyre side from the rim sides towards the centre of the rim. This will ease the removal.

Apply a plastic tyre lever under one bead of the tyre about 5 cm beside the valve and lever the tyre side over the rim edge (h). Hold the lever in this position. Slip the second tyre lever between rim and tyre at a distance of about ten centimetres on the other side of the valve and lever the next portion of the bead over the edge of the rim.

After levering a part of the tyre side over the edge of the rim you should normally be able to slip off the whole tyre on one side by moving the tyre lever around the whole circumference. Now you can remove the inner tube. Make sure the valve does not get caught in the rim, as this can damage the inner tube. If necessary, you can remove the whole tyre by pulling the other tyre side off the rim. Repair the puncture according to the instructions of the repair kit manufacturer or replace the inner tube.



When you have removed the tyre, you should also check the rim tape (a). It should be positioned evenly, covering all spoke nipples and holes, and must not be damaged or brittle.

In the case of double wall rims the tape must cover the entire rim base, but it should not be so broad as to stand up along the inside edges of the rim trough. Rim tapes for this type of rim should only be made of fabric or durable plastic. If you are in doubt or if you have any questions, contact your authorised dealer.

WARNING

If the fabric of the tyre is destroyed by the perforating object, replace the tyre to be on the safe side.

Replace spoilt rim tapes immediately.

NOTICE

Keep in mind when buying spare tubes that Schrader valves do not fit in all rims!

NOTICE

If you have a puncture en route, inflate the inner tube and bring it close to your ear. In most cases you can hear the air coming out. At home you can help yourself with a bucket of water where you can locate the hole by the bubbles. When you have found the hole, look for the corresponding place on the tyre and check it, as well. The foreign object is often still in the tyre. Remove it, otherwise the next puncture is bound to occur.

Tyre Mounting

When mounting a tyre make sure no foreign matter, such as dirt or sand, gets inside the tyre and you do not damage the inner tube in the process.

Slip one bead of the tyre onto the rim. Using your thumbs, press one bead over the edge of the rim and then around the entire circumference. This should normally be possible without using tools.

Stick the valve of the inner tube through the hole in the rim (b). Inflate the inner tube slightly so that it becomes round and push it into the tyre all the way round. Make sure not to leave any folds in the inner tube.



To finish mounting the tyre, start at the opposite side of the valve. Using your thumbs, press as much of the second bead of the tyre over the edge of the rim as you can.

Make sure the inner tube does not get pinched and squashed between the tyre and the rim. You can prevent this by pushing the inner tube into the hollow of the tyre (c) with a finger as you work along.

Work the tyre into the rim by approaching the valve symmetrically from both sides. Towards the end, you will have to pull the tyre forcefully downwards (d) to make the already mounted section of the tyre slip towards the deepest part of the rim well. This will ease the job noticeably on the last centimetres.

Before fitting the tyre completely on the rim check again whether the inner tube lies properly inside the tyre and press the last stretch of tyre over the edge of the rim using the balls of your thumbs.

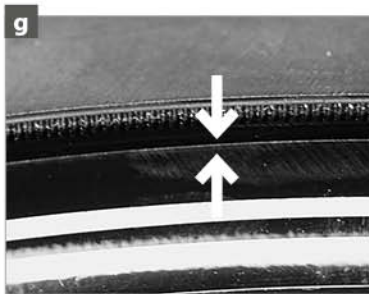
If this does not work, you have to use the tyre levers (e). Make sure the bent ends point towards the inner tube and the inner tube does not get damaged.

Push the valve a little into the tyre so that the inner tube does not get caught between the rim and the tyre beads. Check whether the valve stands upright. If not, dismount one bead again and reposition the inner tube.

To make sure the inner tube does not get pinched between the rim and the bead, move it sideways back and forth between the sides of the rim. While doing so, also check whether the rim tape has shifted.

Inflate the inner tube to the desired pressure (f). The maximum pressure is indicated on the side of the tyre.

Check whether the tyre is properly seated by inspecting the fine witness line (g) just above the rim edge. This line should be even to the rim all around the tyre. Starting from the maximum tyre pressure you can now reduce the pressure through the valve to suit your needs. Observe the recommended tyre pressure range (h).



Wheel Mounting

⚠ WARNING

If your bicycle has hydraulic disc brakes, do not place it upside down for repair purposes, i.e. handlebar and saddle on the ground. This would render the brake ineffective.

⚠ CAUTION

When working in the area of the rear wheel hub and its cassette joint, be aware of the risk of crushing the fingers. Therefore, do not turn the cranks during the work or do not push the bicycle backwards.

NOTICE

Do not pull the (disc) brake lever with a removed wheel and make sure to mount the safety locks when removing the wheel.

SAFETY INSTRUCTIONS

*In addition, observe the information and the operating instructions of the gear manufacturers. They are available on their websites: <https://si.shimano.com>
www.rohloff.de/en/service
<https://support.enviolo.com/hc/en-us>
www.pinion.eu/en/downloads/*

SAFETY INSTRUCTIONS

If you have any questions, contact your authorised dealer.

Mounting the wheel is generally done in reverse order to the removal. Make sure the wheel is properly seated in the drop-outs and accurately centred between the fork legs or the seat and chainstays. Make sure the quick-release and the possibly available safety tabs are properly seated (a). For more information see chapter “**How to Use Quick-Releases**”.

If you have disc brakes, check before mounting the wheel whether the brake pads rest snugly in their seats in the brake calliper body. The gap between the brake pads and the wheel should be parallel and the wear indicators in their correct position. Make sure you slide the rotor between the brake pads (b).

After mounting the wheel and tightening the axle nut or the quick-release and possibly a thru axle pull the brake lever (c) (several times, if you have disc brakes). Lift the bicycle and then spin the wheel with your hand (d). With the wheel spinning the rotor should not drag along the brake calliper or the brake pads and the rim should keep off the (rim) brake pads.



Wheel Mounting Front Wheel

When mounting a front wheel with hub dynamo (e) make sure the hub dynamo's connection terminal is on the right side in direction of motion. The connection terminal has to be aligned with the front wheel fork in a way that it points slightly backwards and upwards (f). Do not try to turn the connection terminal after having fixed the front wheel in the fork.

If your front wheel has no quick-release, you need a 15-mm open-end wrench or ring spanner (g) or still better a torque wrench to tighten the axle nuts.

Axle nuts have to be tightened alternately on both sides. Otherwise the hub axle can twist with the lock washers and be subject to stress. The torque value is 20–25 Nm.

After you have securely fixed the wheel in the fork, re-connect the plug of the lighting cable to the connection terminal.

⚠ WARNING

Never ride with the plug connection (h) disconnected, as the lighting cable can get caught in the spokes. Risk of an accident!



Finish by checking the front and rear lights on the bicycle by turning the front wheel.

Wheel Mounting Rear Wheel

⚠ CAUTION

When working in the area of the rear wheel hub and its cassette joint, be aware of the risk of crushing the fingers. Therefore, do not turn the cranks during the work or do not push the bicycle backwards.

SAFETY INSTRUCTIONS

In addition, observe the information and the operating instructions of the gear manufacturers. They are available on their websites:

<https://si.shimano.com>

www.rohloff.de/en/service

<https://support.enviolo.com/hc/en-us>

www.pinion.eu/en/downloads/

If you have any questions, contact your authorised dealer.

With 5-/7-/8-/11-speed Shimano Nexus and Alfine multi-speed hubs

Insert both lock washers on the left and right side of the hub axle in direction of motion. Turn the hub axle in a way that the metal catches of the lock washers engage with the recesses of the drop-outs (a). Mount the axle nuts on both sides of the hub axle.

Tension the chain and tighten the axle nuts to 30–45 Nm (b) to attach the wheel to the frame.

Remount the shift cable to the cassette joint of the multi-speed hub. Hook the shift cable including threaded nipple in the guide of the cassette joint (c). Position the shift cable along the intended guide around the cassette joint. Pull the cable housing to the front (d) and hook it into the holder of the cassette joint.

⚠ WARNING

After having mounted the rear wheel and the shift cable check the setting and the function of the gears (f).

SAFETY INSTRUCTIONS

The gear unit shows a high spring preload. The shift cable is mounted opposite to this spring preload and therefore requires a certain manual force and technical skills. You can also use a 2-mm Allen key to relieve the mechanism (g).

Check the function of the brake and whether the wheel rotates easily before you set off.

With 5-/7-/8-speed Shimano Nexus multi-speed hubs with back-pedal brake

Insert both lock washers on the left and right side of the hub axle in direction of motion. Turn the hub axle in a way that the metal catches of the lock washers engage with the recesses of the drop-outs (a). Mount the axle nuts on both sides of the hub axle.

Align the bore in the brake arm with the bore in the brake arm clip and insert the clamp bolt. Place a nut including washer from the rear on the clamp bolt thread. Screw these components by 3 to 4 turns on one another.



Tension the chain and tighten the axle nuts to 30–45 Nm (b) to attach the wheel to the frame.

Tighten the clamp bolt of the brake arm to a torque value of 3–5 Nm (e). Make sure that the thread projects from the clamp nut by about 2–3 mm. If it does not, you need a longer bolt.

Remount the shift cable to the cassette joint of the multi-speed hub. Hook the shift cable including threaded nipple in the guide of the cassette joint. Position the shift cable along the intended guide around the cassette joint. Pull the cable housing to the front (d) and hook it into the holder of the cassette joint.

⚠ WARNING

After having mounted the rear wheel and the shift cable check the setting and the function of the gears (f).

SAFETY INSTRUCTIONS

The gear unit shows a high spring preload. The shift cable is mounted opposite to this spring preload and therefore requires a certain manual force and technical skills. You can also use a 2-mm Allen key to relieve the mechanism (g).

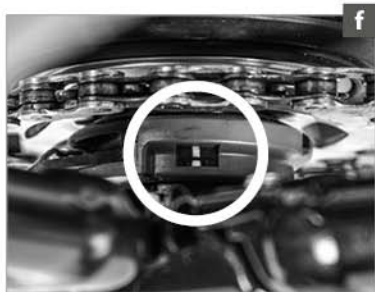
Check the proper function of the brake and whether the wheel rotates easily before you set off.

With 14-speed Rohloff (mechanically operated)

Mounting the rear wheel with a Rohloff speedhub is generally done in reverse order to the removal.

Make however sure the torque arm is positioned properly (h).

For more information read the operating instructions of the gear manufacturer or contact your authorised dealer.

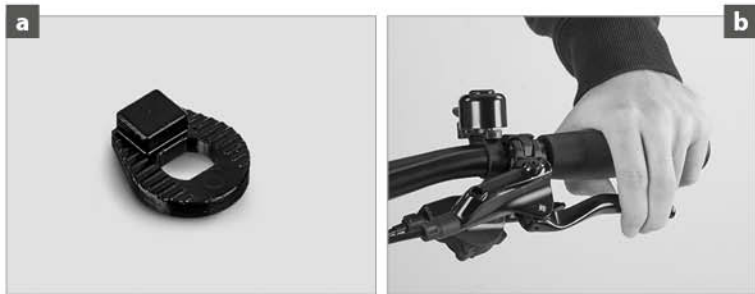


With Enviolo/NuVinci

Place the rear wheel into the frame. Make sure not to clamp the shifting cables in doing so. Insert one no-turn washer (a) respectively on either end of the axle. The grooves of the no-turn washer must point to the rear frame. The rectangular boss must engage in the rear frame. Tighten the axle nuts to a torque value of 30–40 Nm. If your bicycle has roller brakes, observe the operating instructions of the manufacturer. Mount both shifting cables to the cassette joint according to the manufacturer's instructions.

⚠ WARNING

- ***If you have disc brakes, pull the brake levers (b) several times after you have mounted the wheel. You must reach a precise positive braking response.***
- ***If you have rim brakes, make sure you hook up the brake cable immediately after the wheel mounting!***
- ***If you have hydraulic rim brakes, remount the brake body immediately and close the quick-release (c)! Make sure the brake calliper does not touch the rim, the tyre or the spokes, when the wheel rotates.***



⚠ WARNING

- ***Before setting off again check whether the brake surfaces and/or brake discs/rotors are still free of grease or other lubricants after the wheel mounting.***
- ***If you have a hub dynamo, re-insert the connector into the respective connection terminal.***
- ***Check whether the brake pads hit the brake surfaces of the rims (d). Make sure the wheel is properly seated and firmly fixed in the drop-outs. Be sure to do a brake test as the bicycle is standing as described in chapter "Before Every Ride"!***

NOTICE

- ***Improper mounting of the no-turn washer may result in damage to the rear frame and the hub. Overtightening may damage parts, undertightening may result in the axle sliding in the rear frame.***

With Pinion

Mounting the rear wheel of a bicycle with Pinion gearbox is generally done in reverse order to the removal.



HEADSET

The headset connects the fork to the frame, but allows it to move freely. It must turn with virtually no resistance, if the bicycle is to run straight, stabilising itself as it travels. Shocks caused by uneven road surfaces expose the headset to considerable levels of stress. In this way it can become loose and go out of correct adjustment.

⚠ WARNING

Riding the bicycle with a loose headset increases the loads on the fork and the bearing. The fork can break. Risk of accident!

Checking and Readjusting

Check the headset for play by placing your fingers around the upper headset cup (e).

Bring your weight to bear on the saddle, pull the front brakes with your other hand and push the bicycle firmly back and forth with the wheel remaining on the ground (f). If the bearing has play, you will feel the upper head tube race moving in jerks relative to the lower head tube race – visible as a small gap in between the head tube races.



To check whether the headset runs smoothly, lift the frame up until the front wheel no longer touches the ground. The handlebar should turn from far left to far right without feeling roughness or tightness at any point. With a gentle tap on the handlebar the fork should turn easily from the middle position (g).

If you face any problems during the test, contact your authorised dealer.

⚠ WARNING

Check the secure fit of the stem after adjusting the headset by taking the front wheel between your legs and trying to turn the handlebar and stem relative to the wheel (h). Otherwise, a loose stem can cause an accident.

SAFETY INSTRUCTIONS

Adjusting the headset requires a certain amount of experience and should therefore be left to your authorised dealer.

SUSPENSION

Glossary

Suspension fork

Bicycle fork absorbing and damping shocks through moving components. The most common among these forks are the telescopic suspension forks (a). What is designated as stanchion tubes are the thinner tubes press fitted or screwed to the fork crown of a telescopic fork. What is designated as lower legs are the lower tubes the stanchion tubes slide in.

Spring rate or hardness

The force that is required to compress the spring by a certain travel – measured in Newton per millimetre (N/mm) or pound per inch (lbs/in). A higher spring rate requires more force for the travel. With air spring elements a higher rate means a higher pressure.

Spring preload

In the case of the widespread air suspension systems, the air pressure in the fork is crucial for the spring rate and the spring preload. Observe your manufacturer's recommendations. Within a certain range a preload can be applied to the steel springs. Then the suspension only reacts when a greater load is applied.

The spring rate remains, however, unchanged. Heavier riders cannot compensate a too soft spring rate with a higher preload.

Negative suspension travel ("sag") (b)

The spring travel of the rear frame or the fork during compression when the rider takes up his or her usual riding position at a standstill. This is usually specified as a percentage of the overall spring travel.

Rebound damping (c)

In most cases a red adjusting knob. Decelerates and/or slows down the speed at which the fork or shock recovers or bounces back. Prevents bike bobbing.

Lockout (d)

In most cases a lever on the suspension element or the handlebar. A device to block the fork or the rear shock so that the suspension element does not cause bob when riding on asphalted roads or smooth surfaces. Must not be used off road.

Platform damping

Increases the (low speed) compression damping rate and suppresses bobbing. In contrast to the lockout function, the suspension is not blocked completely.



SUSPENSION FORKS

Most trekking and many city bicycles are equipped with suspension forks (e+f). This feature gives you better control of your bicycle when riding cross-country or on rough road surfaces and ensures more ground contact for the tyre. It noticeably reduces the strain on you and your bicycle caused by the mechanical shocks from the terrain. Suspension forks differ in their types of spring elements and damping. The suspension is usually provided by coil springs, special types of plastic (elastomers) or sealed air compartments or combinations of these options. The damping is usually done by oil or by the self-damping properties of the elastomers.

SAFETY INSTRUCTIONS

Suspension fork manufacturers normally include manuals with their deliveries. Read them carefully before changing any settings or doing any maintenance work on your suspension fork.

Adjusting the Spring Rate

To work perfectly, the fork has to be adjusted to the weight of the rider, the sitting posture and the intended use. The suspension fork should yield by about 10–25 % of its total travel under the rider's weight.

Be sure to have this adjustment carried out by your authorised dealer at the moment of delivery.

If you can hear the fork hit the end of its travel in the terrain or on poor road surfaces, the spring is adjusted too soft. In this case the spring preload/the pressure must be increased (g). If the adjustment range of the coil springs is too small, have the springs replaced by your authorised dealer.

⚠ WARNING

- Suspension forks are designed in a way to absorb shocks. If the fork is too rigid and jammed, shocks hit the frame undiminished. In these areas the frame is normally not designed to bear these loads. If your suspension fork has a lockout mechanism (h), do not activate the lockout function when riding in rough terrain, but only when riding over smooth terrain (roads, field tracks).**
- The suspension fork must be designed or set in a way that it bottoms out only in extreme cases. A spring rate which is too soft (or too low an air pressure) can usually be heard or felt as a "clunk" type noise. This noise is caused by the sudden complete compression of the suspension fork as it reaches bottom out. If the suspension fork frequently reaches bottom out, it will sustain damage over time, and so will the frame.**



Damping and Lockout

The damping is adjusted by inside valves. Excessive bobbing of the suspension fork after having ridden over an obstacle is prevented.

For long uphill rides involving hard pedalling out of the saddle it is advisable to disable the damping, if the suspension fork has a lockout mechanism. For downhill rides on uneven ground the lockout mechanism must be open.

Suspension forks with adjustable rebound damping are equipped with an adjusting knob to slow down or accelerate the rebound movement. Start the adjusting with a completely open damping (" - "). Ride over an obstacle (e.g. a kerb) and turn the rebound damping in small steps towards the "+" setting. You have found the proper rebound setting when the suspension fork does not cycle more than once. Always check a modified adjustment during a test ride.

⚠ WARNING

A too strong damping of the fork can result in a sluggish rebound movement with a suspension fork that will not recover when exposed to a quick series of impacts. Risk of accident!



⚠ WARNING

Do not turn any screws in the vague hope of adjusting them somehow. You could release the fastening mechanism, thus causing a fall. All manufacturers normally mark adjustment devices with a scale or with "+" signs (a) (for stronger damping/harder suspension) and with "-" signs (b).

When mounting a new front tyre, make sure there is enough clearance between tyre and fork crown as the fork compresses entirely. The front wheel can get jammed. Risk of accident!

Do not ride your bicycle, if the suspension fork often bottoms out. This could damage the suspension fork itself as well as the frame.

Do not actuate the lockout function when riding over rough terrain, but only when riding over smooth terrain (roads, field tracks) (c).

SAFETY INSTRUCTIONS

Contact your authorised dealer or follow the respective notes in the operating instructions of the suspension fork manufacturer (d).



Maintenance

Suspension forks are components of sophisticated design that require regular maintenance and care. This has led almost all suspension fork manufacturers to establish service centres where you can have your fork thoroughly checked and overhauled at regular intervals according to use, e.g. once a year. Be sure to have all bolted connections checked at regular intervals by your authorised dealer.

The following routines are essential for maintenance:

Make sure the sliding surfaces of the stanchion tubes are absolutely clean.

Clean the fork with water and a soft sponge (e) when soiled.

After washing your bike, spray the stanchion tubes of the suspension fork with a little grease spray (f) approved by the manufacturer or apply a very thin film of hydraulic oil. Compress the fork several times and wipe off excess lubricant with a clean rag before you set off for your next ride.

Do not use a steam jet (g) or aggressive cleaning agents for cleaning! Ask your authorised dealer for an appropriate lubricant.

If your fork has an elastomer filling, you should regularly clean and lubricate the synthetic springs with a non-corrosive resin-free grease. Some fork manufacturers supply special greases (h) for fork maintenance. Strictly observe the recommendations of the manufacturers. Suspension forks with air spring have to be checked regularly for air pressure, as the air escapes over time.

SAFETY INSTRUCTIONS

Suspension elements are of sophisticated design. The maintenance routines and above all the disassembly of the suspension elements are jobs best left to your authorised dealer.

Have your bicycle with suspension fork checked by a service centre of the fork manufacturer once a year at least.



SUSPENSION SEAT POSTS

Suspension seat posts (a+b) enhance the cyclist's comfort when riding on uneven ground. They can be used on roads and field tracks.

The seat posts are usually designed for a cyclist of average weight, i.e. 75 kilograms. Their shock-absorbing properties can be altered either by adjusting the spring preload and/or by replacing the springs.

⚠ WARNING

Be sure not to pull out the seat post too far. The mark on the seat post (c) (min. insert, minimum, maximum, stop or the like) should always remain within the seat tube.

SAFETY INSTRUCTIONS

Seat post manufacturers normally include instructions with their deliveries. Read them carefully before changing any settings or doing any maintenance work on your rear shock.

Check and Maintenance

Grasp the saddle at both ends and try to move it from side to side (d). That is how you can check the seat post for side-to-side play.

If you notice any play, have it checked and, if necessary, reduced by your authorised dealer.

SAFETY INSTRUCTIONS

Have the seat post checked once a year by your authorised dealer.



LIGHTING

For riding on public roads a functioning lighting set is obligatory (see chapter “**Legal Requirements for Riding on Public Roads**”). You should be familiar with the assembly of the lighting set so that you can repair possible failures yourself.

Rear light (e) and front lamp (f) are powered by the generator (also referred to as dynamo). They are connected with two cables each to the generator. In some cases the front lamp and the rear light are wired with only one cable each the frame being in this case the return line.

Rear Light

Either bulbs or LEDs beam through a (red) diffusion disc rearwards and are visible at best even from the side. Meanwhile, most rear lights provide a stand light function that are powered by a condensator or a battery when the bicycle has to stop e.g. at a traffic light.



Front Lamp

Illuminants are either bulbs, halogen lamps or one or several LEDs, i.e. light emitting diodes, beaming white light by means of a reflector and/or a diffusion disc on the road lane. Some models are equipped with a sensor that automatically switches on the front lamp when it gets dark; the dynamo must, however be activated. An additional feature of particularly high quality front lamps is a stand light function or even daytime running lights (both with LEDs).

Bottle Dynamo

The bottle dynamo (g) should be mounted with its drive shaft vertical to the wheel axle and with its roller in full contact to the tyre. The bottle dynamo can be mounted to the front or rear wheel. When switched on it tilts with its roller against the tyre side. To switch off the dynamo it is tilted back in its initial position where it locks in place.



Hub Dynamo

Hub dynamos (h, p. 79+a) are built into the hub of the front wheel. They are virtually non-wearing and extremely effective. Some models are switched on electronically, some others mechanically. Hub dynamos are either switched on by a lever at the handlebar or directly at the front lamp (b). Other models offer the comfort of being switched on and off automatically by means of a sensor.

Battery-Powered Lighting

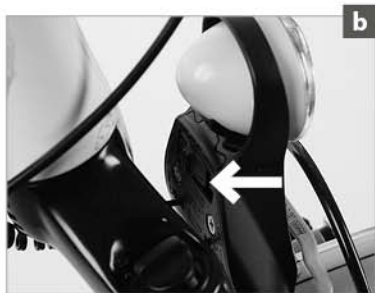
Check the usage of battery-powered front lamps and rear lights (c) on the basis of the road traffic licensing regulations in your country. Read also chapter “**Legal Requirements for Riding on Public Roads**”.

⚠ WARNING

- **Switch on and off a bottle dynamo (d) only while standing and make sure it keeps clear of the spokes! Caution: In wet conditions the roller of the bottle dynamo can slip against the tyre surface resulting in the dynamo becoming less effective.**
- **An incomplete or inoperative lighting set is not only against the law, it is also a hazard to your life. Cyclists riding in the dark without a light are liable to be overlooked and at risk of getting involved in serious accidents!**

SAFETY INSTRUCTIONS

- **Carefully read the enclosed operating instructions of the lighting and dynamo manufacturers and follow the instructions. In case you need more information on your lighting, set contact your authorised dealer.**



THINGS WORTH KNOWING ABOUT BICYCLES AND CYCLING

Cycling Helmets and Glasses

Cycling helmets are a must when riding a bicycle. Your authorised dealer has a variety of styles and sizes (e).

Cycling helmets are only approved for use during cycling. Observe the manufacturer's instructions.

⚠ WARNING

Never ride without a helmet and glasses (f)! But remember that even the safest helmet is useless unless it fits properly and is correctly adjusted and fastened.

Apart from a cycling helmet and suitable clothing, cycling glasses (g) are absolutely essential when you set off on your bicycle.

They do not only protect your eyes from the sun and the wind, but also keep out flies and other impurities that may impede your vision when they fly into your eyes. **Risk of accident!**

Your authorised dealer has a wide range of cycling glasses available and will be pleased to advise you.



Clothing

⚠ WARNING

Never ride with wide-cut trousers or skirts that might get caught in the spokes, chain or chainrings. To avoid any such mishap, use suitable clips or straps, if necessary.

For increased visibility to other road users be sure to wear bright-coloured clothing!

Pedals and Shoes

Cycling shoes (h) should be made of solid material to provide firm support for your feet. In addition, they should have a stiff sole so that the pedal cannot press through. The sole should not be too wide; otherwise you will not be able to assume a natural foot position.

Special cycling shoes are obligatory, if your city/trekking bike is equipped with clipless pedals. With these shoes small cleats are fixed to the sole. They give you a firm connection between shoe and pedal and allow an acceptable walking position.

The main advantage is that these cycling shoes and clipless pedals (a) prevent your feet from slipping off when pedalling fast or when riding over rough ground. They enable you not only to push but also to pull the pedals.

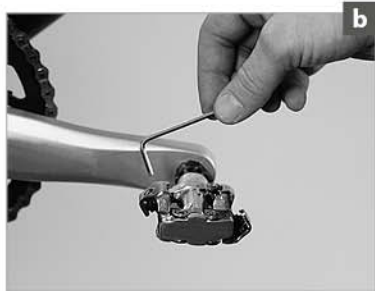
The usual way to engage with the pedal is to turn it from the lowest position of the crank to the horizontal using the tip of the cleat and push down on the back of it. Normally, the shoe engages with the pedal with a click which you will hear and feel clearly.

The release force of clipless pedals is adjusted by means of an Allen key (b). If there are any creaking or squeaking noises occurring, some grease will solve the problem in most cases. These noises as well as lateral play of the shoe on the pedal can, however, be also signs of wear. Check the cleats at regular intervals.

⚠ WARNING

Make sure the fastening bolts of the cleats are properly tightened, as you will find it almost impossible to disengage your shoe from the pedal, if the cleat is loose. Risk of accident!

Taking up the pedals, engaging and disengaging the shoes should first be practised in standing (c). Later you can refine your technique in a place clear of traffic.



⚠ WARNING

Only use clipless pedals allowing you to engage and disengage smoothly. A defective pedal or a badly worn cleat can make the shoe disengage from the pedal. Or unclipping the shoe from the pedal is sometimes very difficult or even impossible. In both cases, there is the danger of an accident!

Make sure pedals and shoe soles are always free of mud and other impurities (d) and grease the lock-in mechanism with lubricant at regular intervals.

SAFETY INSTRUCTIONS

Read the pedal manufacturer's operating instructions and ask your authorised dealer to inform you about the different cycling shoe models.

Accessories

In purchasing this bicycle you laid the foundation for many years and miles of enjoyable cycling. Whatever you are planning to do with your bicycle, be sure to have proper equipment and to keep a few tips in mind. Your authorised dealer has a variety of useful accessories on offer enhancing both your safety and convenience.

Your bicycle can be equipped with various kinds of accessories (e). Make sure to observe the requirements according to the traffic regulations in your country and of the BSEN standards. Any retrofitted part must be compatible with your bicycle.

⚠ WARNING

Improper accessories may change the qualities of your bicycle and even cause an accident. Therefore, before fitting any accessories contact your authorised dealer and observe the instructions regarding the intended use of your bicycle.

Bicycle Locks

Do not forget to take a high quality D-, folding or chain lock (f) with you on your ride. The only way to effectively protect your bicycle against theft is to lock it to an immovable object.



Puncture Kit

The most important accessories for a successful cycle tour are a tyre pump and a small tool kit. The tool kit should include two plastic tyre levers, the most commonly used Allen keys, a spare tube, a tyre repair kit, your mobile phone, if necessary, and a little cash (g). In this way you will be well prepared in the event of a puncture or some other mishap.

SAFETY INSTRUCTIONS

Retrofitted accessories, such as mudguards, pannier racks etc. can impair the functioning of your bicycle. Ask your authorised dealer for advice before mounting any kind of accessories to your bicycle.

Before buying any additional bells (h), horns or lighting accessories, inform yourself thoroughly whether they are permitted and tested and accordingly approved for use on public roads. Make sure additional battery/accumulator-powered lamps are marked with the wavy line and the letter "K".

TRANSPORTING LUGGAGE

Transporting Luggage with Hardtail Frames

There are various ways of carrying luggage on a bicycle. Your choice depends primarily on the weight and volume of the luggage. Using a bicycle rucksack (a) is a convenient way of transporting luggage on a bicycle. But for longer cycling tours and heavy and bulky cargo your trekking bike is equipped with a pannier rack (b).

It is advisable to carry luggage in stable pannier bags with a very low centre of gravity.

Another possibility of transporting luggage are handlebar bags (c). They often have snap buckles for quick mounting and removal. Handlebar bags are particularly suitable for valuables, the photographic equipment and maps that should be within easy reach during your tour.

When buying pannier bags, make sure they are watertight so that your belongings are protected and you will not have any unpleasant surprises after the first rain shower.

Bags designed to be mounted at the front, also referred to as lowrider bags, are attached to the fork with special holders. If you are in doubt or if you have any questions, contact your authorised dealer.

⚠ WARNING

- If necessary, do not overload your bicycle (see the bike card) and also observe the maximum load capacity marked on or impressed in your pannier rack.**
- Adjust the suspension fork and the tyre pressure to the additional load.**
- Luggage generally changes the riding characteristics of your bicycle and increases your stopping distance! Therefore, practise riding a loaded bicycle (d) in a place free of traffic.**



TAKING CHILDREN WITH YOU

SAFETY INSTRUCTIONS

There are some city and trekking bikes that are not suitable for mounting child seats with a special mounting device. Have a look at the bike card and ask your dealer for advice.

Prior to towing a trailer with your bicycle, check that it is designed for this purpose. Have a look at the bike card or ask your authorised dealer for advice.

The only possible and legal way of transporting children by bicycle is in special child seats (e) or trailers (f).

⚠ WARNING

Always secure the little passenger(s) with the seat belt, as erratic movements inside the trailer can make the bicycle or the trailer topple over.

Make sure the child you are taking with you wears a helmet. A child seat or a trailer only provide insufficient protection in the event of an accident. Keep in mind that you always wear a helmet, as well.



⚠ WARNING

Note that your stopping distance increases due to the additional load of the child seat or trailer.

Be sure to only buy tested child seats and child trailers (e.g. BSEN/GS-tested systems) and always make sure they are properly mounted. Detailed information in this regard is provided in the manuals of the manufacturers that you have obtained with your purchase.

Child Seats

⚠ CAUTION

Cover the springs of your saddle to make sure that your child will not have the fingers pinched.

Child Trailers

With special child trailers that are towed behind a bicycle you can transport one or two children.

Trailers affect the braking behaviour of your bicycle and occupy far more width than the bicycle would alone. First, practise drawing the trailer without passengers. Equip the trailer with a long pole with coloured pennant to increase visibility. It should be equipped with all active and passive lights that are prescribed for riding on public roads in your country. As this depends on the type of trailer, inform yourself in the instructions of your trailer manufacturer.

⚠ WARNING

Prior to towing a trailer with your bicycle be sure to equip the trailer according to the regulations prescribed in your country and switch on the lighting as soon as darkness sets in or with poor visibility.

Kids' Tandem Bicycles/Trailer Systems

There are different systems on the market (a+b) that allow a children's bicycle to be attached to an adult bicycle to cycle together with your child on public roads.

Inform yourself at your authorised dealer about the different types of kids' tandem bicycles.

These trailer systems also affect the braking behaviour of your bicycle. Therefore, before riding with a children's bicycle tandem on public roads, practise riding and brake behaviour without passengers in an area free of traffic!

⚠ WARNING

Trailer systems affect the bicycle's riding characteristics a lot. The weight of both the hitched bicycle and the child will make the bicycle somewhat top-heavy. It may tend to wobble. Practise getting on and off your bicycle as well as cycling. Keep in mind, in particular when turning, that your bicycle including trailer system is much longer.



⚠ WARNING

It is also important for you to practise with your child how to behave on a hitched bicycle during the ride. Make sure your child wears a helmet even when riding on a tandem bicycle. Set a good example by wearing a helmet, as well!

Only buy tested trailer systems (e.g. BSEN/GS tested systems) and have them mounted correctly. The manuals of the manufacturers included in the delivery of your trailer system, provide detailed information in this regard.

When riding in the dark the attached kid's bicycle should be equipped with the prescribed lighting, i.e. the latter should be marked with a wavy line and the letter "K" (c). For more information see chapter "Legal Requirements for Riding on Public Roads". If the bottle dynamo's roller does not spin, we recommend a tested battery-powered rear light (d).

SAFETY INSTRUCTIONS

Prior to mounting a trailer system to your bicycle, check that it is designed for this purpose. Have a look at the bike card or ask your authorised dealer for advice.



BICYCLE TRANSPORT

By Car

Nearly every car accessory dealer and car company offers carrier systems (e) that allow the transport of a bicycle without disassembly.

The usual design involves rails fixed to the roof of the car onto which the bicycles are fixed with clamps gripping the down tubes. This can result in irreparable damage to the frame. High-end, very thin-walled aluminium or carbon frames are particularly susceptible to such kind of damage. Due to the material properties of carbon, you may not see a severe damage at first sight. This can result in an unforeseeable severe accident at a later date. There are, however, special suitable models available in the car accessory trade.

Rear carriers are becoming more and more popular. Their big advantage over roof carriers is that you do not have to lift up the bicycle so high to attach it. Make sure the clamps do not cause any damage to the fork or frame. **Risk of breakage!**

Whatever system you opt for, make sure it complies with the relevant safety standards of your country.

Read the operating instructions of your bicycle carrier (f) and observe the maximum load capacity and recommended or prescribed speed limit. Observe the necessary drawbar load, if available.

⚠ WARNING

- **Make sure to remove all parts of your bicycle (tools, pannier bags (g), child seats (h) etc.) which might come loose during transport. Risk of accident!**
- **Do not buy a carrier on which the bicycle has to be mounted upside down, i.e. with the handlebar and saddle fixed face down to the carrier. This way of fastening the bicycle exposes handlebar, stem, saddle and seat post to extreme stress during transport. Do not opt for a carrier system with crank arm fit. Risk of breakage!**
- **Check whether your bicycle is properly fastened before and at regular intervals during the ride. A bicycle that detaches from the roof carrier may endanger other road users.**
- **Always secure the bicycle or bicycle components when putting it/them into the interior of your car. Parts shifting around can impair your safety.**



⚠ WARNING

Make sure the lights and the number plate of your car are not hidden from view. For some carriers, a second exterior rear view mirror is required by the road traffic regulations.

Pull the brake lever and secure it with a strong rubber band when transporting a bicycle with hydraulic disc brakes horizontally or hanging.

NOTICE

Most clamps are a potential source of damage to large-diameter frame tubes (a) that are not designed to be fixed in such clamps! Do not use such systems with carbon frames.

Bear in mind that your car has a greater overall height with the bicycle on it. Measure the overall height and place a sign stating the height somewhere in the cockpit or on the steering wheel so that it can be easily seen.

If your bicycle has disc brakes, be sure to mount the safety locks (b) before transporting the bicycle with the wheels dismantled.

Secure the bicycles on the bicycle carrier with an additional lock e.g. during a halt.



By Rail / By Public Transport

In cities the regulations for taking bicycles (c) by public transport (d) differ. There are e.g. some places where you are only allowed to travel with your bicycle during off-peak hours and with an additional bicycle ticket. Inform yourself in time about the regulations of carrying the bicycle before you start the trip!

In some countries regional trains have special spaces for the storage of bicycles and other things. This is an option to take your bicycle with you. They are often at the front or end of a train and marked with a bicycle sign.

When taking a high-speed train check whether you can take your bicycle with you.

⚠ CAUTION

Remove, if necessary, heavy or bulky pannier bags and luggage for an easier boarding and disembarking of the train.

SAFETY INSTRUCTIONS

Before you start your trip inform yourself in time about the conditions of carriage and also observe the regulations and rules about bicycle transport in the countries through which you intend to travel.

GENERAL NOTES ON CARE AND SERVICING

Maintenance and Servicing

Your authorised dealer will have assembled and adjusted your bicycle ready for use when you come to collect it. Nevertheless, your bicycle needs regular servicing (e). Have your local authorised dealer do the scheduled maintenance work. This is the only way to ensure that all components function safely and reliably for many kilometres/miles.

The bicycle will be due for its first service after 100 to 300 kilometres (60 to 180 miles), 5 to 15 hours of initial use or four to six weeks. The bicycle must be serviced, because in this initial "break-in" period of use, safety-relevant bolted connections and spokes can slightly lose tension or gears may go out of adjustment. This "break-in" period is unavoidable. Therefore, remember to make an appointment with your authorised dealer for the first inspection of your new bicycle. The first service is very important for both functioning and durability of your bicycle.

The intended use of the bicycle includes regular servicing and the replacement of worn out parts in time, e.g. brake pads (f) or Bowden and brake cables (g), and therefore has an influence on the liability for material defects and the warranty, as well.

You should have your bicycle serviced regularly by your authorised dealer after the initial "break-in" period of use.

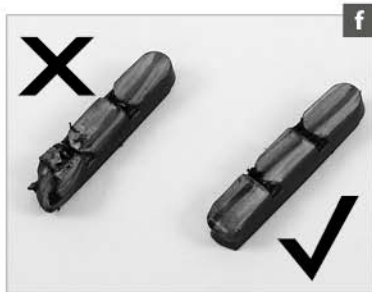
If you ride a great deal on poor road surfaces or cross-country, it will require correspondingly shorter service periods.

⚠ WARNING

- Servicing and repairs are jobs best left to your authorised dealer. If you have your bicycle serviced by anyone else than an expert, you run the risk that parts of your bicycle will fail. Risk of accident! When working on your bicycle restrict yourself to jobs for which you are equipped e.g. with a torque wrench including bits (h) and have the necessary knowledge.**
- If a component needs to be replaced, make it a rule to only use original spare parts (a, p. 90). Wearing parts of other manufacturers, e.g. brake pads or tyres that are not of identical size, may cause harm to the safety of your bicycle. Risk of accident!**
- For your own safety, bring your bicycle to your dealer for its first inspection after 100 to 300 kilometres (60 to 180 miles), 5 to 15 hours of initial use or four to six weeks, at the very latest, however, after three months.**

NOTICE

- Multi-speed hubs must be maintained regularly. Observe the intervals in chapter "Service and Maintenance Schedule".**



Cleaning and Caring for the Bicycle

Dried sweat, dirt and salt from riding during the winter or in sea air can harm your bicycle. You should therefore make it a habit of cleaning all components at regular intervals.

Avoid cleaning your bicycle with a pressure water washer. The high-pressure water ejected in a narrowly focused jet may pass through seals and penetrate bearings. This leads to the dilution of lubricants and consequently to greater friction. This destroys and impairs the functioning of the bearing races in the long term. Pressurised water also tends to abrade frame stickers.

A much more gentle way of cleaning your bicycle is with a low pressure water jet or a bucket of water and a sponge or a large brush. Cleaning your bicycle by hand has another positive side-effect: you may discover defects in the paint (b) as well as worn or defective components at an early stage.

Inspect the chain after you have finished cleaning and oil it, if necessary (c) (see chapter “Chain – Care and Wear”).

Apply a coat of standard hard wax on painted, metal and carbon surfaces (except from brake surfaces) (d). Polish the waxed surfaces after drying to give them a nice shine.



⚠ WARNING

- **While cleaning, watch out for cracks, scratches, dents as well as bent or discoloured material. Have defective components replaced immediately and touch up paint defects. If you are in doubt or if you have any questions, contact your authorised dealer.**
- **Keep cleaning agents and chain oil free of the brake pads, brake discs/rotors and rim sides (brake surfaces). This could render the brake ineffective (see chapter “Brake System”)! Never grease or lubricate the clamping areas of a frame made of carbon, e.g. handlebar, stem, seat post and seat tube. Once greased, carbon components may never again ensure reliable clamping.**

NOTICE

- **Do not clean your bicycle with a high-pressure water or steam jet and if you do, be sure to keep it at a distance.**
- **Only use petroleum based solvents for cleaning tough oil or grease stains from paint and carbon surfaces. Never use degreasing agents containing acetone, methyl chloride or the like, or solvent-containing, non-neutral or chemical cleaning agents that could attack the surface!**

Sheltering and Storing the Bicycle

If you regularly service your bicycle during the year, you will not need to take any special precautions when storing it for a short time, apart from securing it against theft. It is advisable to store the bicycle in a dry and airy place.

There are some things to bear in mind, when putting the bicycle away for the winter: Inflated tubes tend to gradually lose air when the bicycle is not used for a long time. If the bicycle is left standing on flat tires for an extended period, this can cause damage to the structure of the tyres. It is therefore better to hang the wheels or the entire bicycle or to check the tyre pressure regularly (e).

Clean the bicycle (f) and protect it against corrosion. Your authorised dealer offers a variety of care products, such as spray wax etc. (g).

Dismount the seat post and let dry away possibly penetrated humidity. Spray atomized oil into the seat tube exclusively in the case of metal frames. Shift the gear to the smallest chainring and the smallest sprocket (h). This relaxes both cables and springs.

SAFETY INSTRUCTIONS

There is usually minimal waiting time for repairs and servicing at your authorised dealers during the winter months. What is more, many dealers offer annual checks at a special price. Use the off-season to take your bicycle to your dealer for inspection!



SERVICE AND MAINTENANCE SCHEDULE

You should have your bicycle serviced regularly after the initial “break-in” period of use. The schedule given in the table below is a rough guide for cyclists who ride their bike between 1,000 and 2,000 km (600 and 1,200 miles) or 50 to 100 hours of use a year.

If you consistently ride more or if you ride a great deal on poor road surfaces, the maintenance periods will shorten accordingly.

Component	What to do	Before every ride	Monthly	Annually	Other intervals
Lighting	Check function	■			
Tyres	Check pressure	■			
	Check tread and side walls		■		
Brakes (rim brakes)	Check lever travel, wear of brake pads, position of pads relative to rim, if necessary; test brakes in standing	■			
Brakes (drum/roller)	Lever travel, test brakes in standing	■			
Brakes, brake pads (rim brakes)	Clean		■		
Brake cables, pads, hoses	Visual inspection		■		
Brakes (disc brakes)	Check lever travel, wear of brake pads, check seals, test brakes in standing	■			
	Replace liquid (DOT-liquids)			×	
Suspension fork	Check bolts			×	
	All-inclusive service (change oil or grease elastomers)			×	
Rims (of rim brakes)	Check thickness, replace, if necessary				× After 2nd set of brake pads at the latest
Fork (rigid)	Check and replace, if necessary				× At least every two years
Suspension seat post	Service			×	
Multi-speed hub/ internal gear hub	8-speed internal gear hub: oil gear			×	
	11-speed internal gear hub: change gear oil				× After the first 1,000 km (600 miles) or after 1 year, then every 5,000 km (3,000 miles)
	Check for bearing play			×	

Component	What to do	Before every ride	Monthly	Annually	Other intervals
Bottom bracket	Check for bearing play		■		
	Dismount and regrease (cups)			×	
Chain	Check and grease, if necessary	■			
	Check wear, replace, if necessary Derailleur gears				× After 1,000 km (600 miles) or 50 hours of use
Crank	Check and retighten, if necessary		■		
Painted/anodized/carbon surfaces	Polish				■ At least every 6 months
Wheels/spokes	Check for trueness and tension		■		
	True or retighten				× If necessary
Handlebar and stem (aluminium and carbon)	Check and replace, if necessary				× Every 2 years at the latest
Headset	Check for bearing play		■		
	Regrease			×	
Metal surfaces	Polish (except rim sides of rim brakes, brake discs/rotors)				■ At least every 6 months
Hubs	Check for bearing play		■		
	Regrease			×	
Pedals (all)	Check for bearing play		■		
Pedals (clipless)	Clean and grease locking mechanism		■		
Seat post/stem	Check bolts		■		
	Disassemble and regrease			×	
	Carbon: new assembly paste (no grease!)				
Front/rear derailleur	Clean and grease		■		
Quick-releases	Check seat	■			
Bolts and nuts	Check and retighten, if necessary		■		
Valves	Check seat	■			
Cables gears/brakes	Dismount and regrease			×	

If you have a certain degree of mechanical skills, experience and suitable tools, such as a torque wrench, you should be able to do the checks marked ■ by yourself. If you come across any defects, take appropriate measures without delay. If you are in doubt or if you have any questions, contact your authorised dealer.

Jobs marked × are best left to your authorised dealer.

RECOMMENDED TORQUE VALUES

All bolted connections of the bicycle components have to be tightened carefully and checked regularly to ensure the safe and reliable operation of the bicycle. This is best done with a torque wrench that disengages as soon as the desired torque value is reached or a click-type torque wrench. Tighten carefully by approaching the prescribed maximum torque value in small steps (0.5 Nm increments) and check in between the proper fit of the component. Never exceed the maximum torque value indicated by the manufacturer!

Where no maximum torque value is given start with 2 Nm. Observe the indicated values and follow the enclosed manuals of the component manufacturers.

⚠ WARNING

Some components have the maximum permissible torque value printed on them. Use a torque wrench and never exceed the maximum torque values! If you are in doubt or if you have any questions, contact your authorised dealer.

Component	Bolted connections	Shimano ¹ (Nm)	SRAM/Avid ² (Nm)
Rear derailleur	Mount (on frame/derailleur hanger)	8–10	8–12
	Cable clamp	5–7	4–5
	Pulley wheels	3–4	
Front derailleur	Mount on frame	5–7	3–7
	Cable clamp	5–7	5–7
Shift levers	Mount on handlebars	5	2–5.5
	Hole covering	0.3–0.5	
Brake lever unit	Mount on handlebars (Allen key)	4–8	3–5.5
Hub	Quick-release lever	5–7.5	
	Locknut for bearing adjustment of quick-release hubs	10–25	
	Sprocket cluster lock ring	29–49	40
Internal gear hub	Axle nut	30–45	
Crank	Crank mount (grease-free square-head)	35–50	
	Crank mount (Shimano Octalink)	35–50	
	Crank mount (Shimano Hollowtech II)	12–14	
	Crank mount (Isis)		31–34
	Chainring mount	10–17	8–12
Sealed cartridge bottom bracket	Shell (square-head)	49–69	
	Shell (Shimano Hollowtech II)	35–50	
	Octalink	50–70	
Pedal	Pedal axle	35	

Component	Bolted connections	Shimano ¹ (Nm)	SRAM/Avid ² (Nm)
Shoe	Cleat	5–6	
	Spike	4	
Brake (V-brake)	Cable clamp	6–8	6–8
	Brake shoe mount	6–8	6–8
	Brake pad fixing	1–2	
Seat post	Patent clamping (saddle at seat post)	20–29	
	Saddle clamp	18	

These values are reference values of the above-mentioned component manufacturers. Observe the values given in the enclosed manuals of the component manufacturers. These values do not apply to the components of other manufacturers.

¹ <https://si.shimano.com>

² www.sram.com

³ www.magura.com

Recommended Torque Values for Disc Brakes and Hydraulic Rim Brakes

Component	Shimano ¹ (Nm)	Magura ³ (Nm)	SRAM/Avid ² (Nm)	Magura HS ³ (Nm)
Brake calliper mount on frame/fork	6–8	6	9.5	6
Brake lever unit on handlebar	4–8	4	3–5.5	4
			3	
Union screws of hose at grip and normal hose at brake calliper	5–7	4	5	4
Brake hose connector at brake calliper (disc tube cable)	5–7	6	5	3
Expansion tank cap	0.3–0.5	0.6		
Threaded pin (bleeder hole)	4–6	2.5		
Brake disc fixing (6-holes)	4	4	6.2	4
Brake disc/ rotor fixing (centerlock)	40			
Hose (lock nut) direct connection				4
Slave cylinder (bleeder screw)				4

LEGAL REQUIREMENTS FOR RIDING ON PUBLIC ROADS

In **Great Britain** (as of January 2022)

According to the **Highway Code** in Great Britain your bicycle must be equipped as follows:

1. Lighting, rear lights, reflectors:

At night your bicycle must have:

- a white front light (a)
- a red rear light
- a red rear reflector
- four amber pedal reflectors (if manufactured after October 1, 1985)

In addition, it should be equipped with:

- a white front reflector
- spoke reflectors
- flashing lights are permitted, a steady front lamp is however recommended.

(Law RVL R regs 13, 18 & 24)

It is not required that the prescribed lighting is mounted upon sale of the bicycle. If it is, however, it must comply with these regulations. Bicycles that are only used with good daylight visibility, such as e.g. road racing bicycles, are exempt from the lighting regulations.



2. Brakes

Every bicycle must be equipped with at least one braking system (b).
(Laws PCUR regs 6 & 10)

3. Signalling devices

It is recommended that a bell be equipped.

4. Cycle helmets

Wearing a cycle helmet which conforms to current regulations in the correct size and securely fastened is recommended.

5. Child transport

There are no rules as to the transport of children with bicycles.

6. Trailers

Cycle trailers must be equipped with a red rear light as well as a triangular rear reflector with an ECE mark III or IIIA.

7. Hand held mobile phones

Cycling with a hand held mobile phone is not illegal as such. You could, however, commit an offence of "careless riding" or "riding without due care and consideration". For safety reasons, you are strongly advised against using a mobile phone during cycling.

8. Other issues

Using cycle lanes is not compulsory, but can make your journey safer. You must not cycle on a pavement.

Laws HA 1835 sect 72 & R(S)A 1984, sect 129

SAFETY INSTRUCTIONS

For more important information on cycling, see chapter "General Safety Instructions".

For further information see:

www.direct.gov.uk

www.dft.gov.uk

www.ctc.org.uk

WARRANTY AND GUARANTEE

Your bicycle was manufactured with care and delivered to you by your authorised dealer fully assembled.

As direct purchaser you have full warranty rights within the first two years after purchase. Contact your authorised dealer in the event of defects.

To ensure a smooth handling of your complaint, it is necessary to present your receipt, your bike card, the handover report and the service reports. Therefore, keep these documents in a safe place.

To ensure a long service life and good durability of your bicycle, use it only for its intended purpose (see chapters **“Before Your First Ride”** and **“Intended Use”**). Observe the permissible weight specifications indicated in the bike card. In addition, you have to follow the manufacturers’ mounting instructions of the (above all, the torque values of the bolts) as well as the prescribed maintenance schedule.

Observe the checks and routines listed in this manual or in any other manual enclosed with this delivery (see chapter **“Service and Maintenance Schedule”**) as well as any instructions as to the replacement of safety-relevant components, such as handlebars, brakes etc.

SAFETY INSTRUCTIONS

This warranty law is only valid in the countries that have implemented the EU Directive into national law. Inform yourself about the regulations in your country. In the United Kingdom, see the respective regulations in the Consumer Rights Act 2015 (CRA 2015).

A Note on Wear

Some components of your bicycle are subject to wear due to their function. The rate of wear will depend on care and maintenance and the way you use your bicycle (mileage, riding in the rain, dirt, salt etc.). Bicycles that are often left standing in the open may also be subject to increased wear through weathering.

The components below require regular care and maintenance. Nevertheless, sooner or later they will reach the end of their service life, depending on conditions and intensity of use. Parts that have reached their limit of wear must be replaced.

This concerns:

- Drive chain
- Brake pads
- Brake fluid (DOT)
- Brake discs/rotors
- Brake cables
- Brake cable housings
- Seals of suspension elements
- Rims of rim brakes
- Rubber grips
- Chainrings
- Illuminants
- Tyres and inner tubes
- Sprockets
- Saddle covering
- Bowden cables
- Bowden cable housings
- Pulleys
- Lubricants

SAFETY INSTRUCTIONS

Ask your authorised dealer about any additional guarantee given by the manufacturer of your bicycle and insist on having it as printed version.

SERVICE SCHEDULE – STAMP FIELDS

1st service

After 100–300 kilometres (60 to 180 miles) or 5–15 hours of initial use at the latest or after three months from date of purchase

Order no.: _____

Date: _____

Mileage: _____

All necessary maintenance work carried out (see service and maintenance schedule); replaced or repaired parts:

Stamp and signature of the authorised dealer:

2nd service

After 2,000 kilometres (1,200 miles) or 100 hours of use at the latest or after one year

Order no.: _____

Date: _____

Mileage: _____

All necessary maintenance work carried out (see service and maintenance schedule); replaced or repaired parts:

Stamp and signature of the authorised dealer:

3rd service

After 4,000 kilometres (2,400 miles) or 200 hours of use at the latest or after two years

Order no.: _____

Date: _____

Mileage: _____

- All necessary maintenance work carried out (see service and maintenance schedule); replaced or repaired parts:

Stamp and signature of the authorised dealer:

4th service

After 6,000 kilometres (3,600 miles) or 300 hours of use at the latest or after three years

Order no.: _____

Date: _____

Mileage: _____

- All necessary maintenance work carried out (see service and maintenance schedule); replaced or repaired parts:

Stamp and signature of the authorised dealer:

5th service

After 8,000 kilometres (4,800 miles) or 400 hours of use at the latest or after four years

Order no.: _____

Date: _____

Mileage: _____

- All necessary maintenance work carried out (see service and maintenance schedule); replaced or repaired parts:

Stamp and signature of the authorised dealer:

6th service

After 10,000 kilometres (6,000 miles) or 500 hours of use at the latest or after five years

Order no.: _____

Date: _____

Mileage: _____

- All necessary maintenance work carried out (see service and maintenance schedule); replaced or repaired parts:

Stamp and signature of the authorised dealer:

7th service

After 12,000 kilometres (7,200 miles) or 600 hours of use at the latest or after six years

Order no.: _____

Date: _____

Mileage: _____

- All necessary maintenance work carried out (see service and maintenance schedule); replaced or repaired parts:

Stamp and signature of the authorised dealer:

8th service

After 14,000 kilometres (8,400 miles) or 700 hours of use at the latest or after seven years

Order no.: _____

Date: _____

Mileage: _____

- All necessary maintenance work carried out (see service and maintenance schedule); replaced or repaired parts:

Stamp and signature of the authorised dealer:

9th service

After 16,000 kilometres (9,600 miles) or 800 hours of use at the latest or after eight years

Order no.: _____

Date: _____

Mileage: _____

- All necessary maintenance work carried out (see service and maintenance schedule); replaced or repaired parts:

Stamp and signature of the authorised dealer:

10th service

After 18,000 kilometres (10,800 miles) or 900 hours of use at the latest or after nine years

Order no.: _____

Date: _____

Mileage: _____

- All necessary maintenance work carried out (see service and maintenance schedule); replaced or repaired parts:

Stamp and signature of the authorised dealer:

HANDOVER REPORT

The above-described bicycle was delivered to the customer ready for use, i.e. after its final assembly, inspection and functional check as described below (additionally required routines in parentheses).

- Lighting Brakes front and rear
- Suspension elements (adjusted to suit customer)
- Wheels (trueness/spoke tension/tyre pressure)
- Handlebar/stem (position/bolts with torque wrench)
- Pedals (adjustment of release force, if necessary)
- Saddle/seat post (saddle height and position of saddle adjusted to suit customer, bolts with torque wrench)
- Gears (limit stops!)
- Bolted connections of add-on parts (with torque wrench)
- Other routines performed _____

- Test ride carried out

Name
authorised dealer _____

Street _____

ZIP code/city _____

Phone/Fax _____

E-mail _____

**Delivery date,
stamp,
signature of
authorised dealer** _____

The customer confirms with his signature that he received the bicycle in proper condition along with the accompanying documents specified below and that he was instructed on the proper use of the bicycle.

- Manual/operating instructions

Additional instructions

- Brake system Suspension seat post Pedal system
- Suspension fork Seat post, stem Gear system
- Supplementary instructions "E-bike/Pedelec" Others

Name customer _____

Street _____

ZIP code/city _____

Phone/Fax _____

E-mail _____

City, date _____

**Signature of
customer** _____

- I hereby expressly consent that my above-mentioned data are stored by the authorised dealer and made available to the manufacturer so that I can be contacted directly e.g. in the event of a recall. The data will not be transmitted to third parties or used otherwise.

**Signature of
customer** _____

BIKE CARD

Manufacturer PIERER E-Bikes GmbH

Model _____

Frame no. _____

Suspension fork _____
 – manufacturer _____
 – model _____
 – serial no. _____

Frame type _____

Frame size _____

Size of wheels and tyres _____

Colour _____

Special features _____

Intended Use

Use in accordance with

category 1 category 2 "Everyday"

Maximum permissible overall weight

Bicycle, rider, luggage and child seat or trailer load, if permitted _____ kg

Pannier rack allowed yes no

Permissible load _____ kg

Child seat allowed yes no

Trailer allowed yes no

Permissible trailer load _____ kg

Brake levers – Brake assignment

Right lever: front wheel brake
 rear wheel brake

Left lever: front wheel brake
 rear wheel brake

WARNING

Read at least chapters "Before Your First Ride", "Intended Use" and "Before Every Ride" in these operation instructions.

 Stamp and signature of the authorised dealer

(Hint to the authorised dealer: Copy the bike card and the handover report and keep one copy in your customer file. Send another copy to the bike manufacturer, if necessary. Make sure the customer confirms by his signature on the handover report that his personal data are made available to the manufacturer.)

PIERER

E-Bikes GmbH

PIERER E-Bikes GmbH

Gewerbegebiet Nord 20

5222 Munderfing, Austria

