



THE RIDERS CHECKLIST

A COMPLETE GUIDE TO BIKE MAINTENANCE FOR BEGINNERS

WHAT TO USE

WHAT TO DO

HOW TO DO IT

Welcome to The Riders Checklist, our very own bicycle maintenance guide. It is our aim to give an outline of the basic safety checks and regular tune up's that will save you money and keep your bike out of the workshop and back out on the trails.

So take some time out, get the kettle on and have a read of this e-book. If you practise some of the techniques you will save yourself money and more importantly avoid being stranded on the side of the road!

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Firstly there are some essential tools that all riders must have. With a few tools and a little know-how, next time you suffer a bike failure away from home, out in the wilds or halfway to work, you may be able to fix the problem and save a potentially long walk!

1 PUNCTURE REPAIR KIT



Every rider will eventually get a flat tyre so this little piece of kit is a must. Available as a traditional puncture repair kit which comes with various size rubber patches and a vulcanising rubber glue. Or the more modern patch kit which includes self adhesive flexible patches and a piece of sand paper to rough up the surface of the inner tube allowing the patch to stick to the rubber effectively.

The more modern puncture kits are great because they are small and light and take up little space in your bag.



NO SPOONS ALLOWED

NOTE: You can get by without tyre levers, but they are cheap, easy to use and really should be part of your everyday riding kit. Tyres, especially on road bikes can be very hard to get off without them!

It is a good idea to carry a spare inner tube, it will be more reliable and save time. You can always repair the damaged one when you get home.

Make sure your spare tube is the correct size, you can check by looking at the size printed on your tyre. You will also need the correct valve type for your wheel. There are two common valve types:



presta

Presta valves are thinner and will use a smaller hole in the rim.



schrader

Schrader valves are the same as car valves and will use a larger hole on the rim.

THE ESSENTIALS

Everyday Tools for Everyday Riding

An invaluable piece of kit that you will need at home and on a ride is a pump, as once a puncture has been fixed your tyre will need to be re inflated.

Many pumps have adaptive heads, known sometimes as "smart heads" allowing them to be used on the two previous valve types. A smart head pump will work for all your bikes.

2 CO2 GAS PUMP



CO2 Gas pumps are a great quick fix and take up next to no space in a bag, great for racing!

3 HAND PUMP



A good hand pump is the most popular choice, these can be thrown in your bag or mounted on the bike.

4 FLOOR PUMP



Floor or track pumps, are a leave at home option but are much easier and faster to use.

CO2 Inflator or gas pumps are very popular with the racing crowd, they are pressurised canisters that allow super fast tyre inflation and will hit the high pressures needed by road bike tyres. They are very light and compact but they typically only allow one tyre to be inflated per canister and are not reusable.

NOTE: Racing bikes have high pressure tyres, typically 100psi. For these you will need to buy a pump capable of inflating to these high pressures.

THE ESSENTIALS

Everyday Tools for Everyday Riding

5 MULTI TOOL



A Multi tool or set of Allen keys will allow adjustments and maintenance to most of the bikes components. Almost all modern bikes use Allen key bolts with traditional nuts being used only on the wheels and occasionally on very basic derailleurs. This is becoming less common as time goes on.

If you are looking to buy one make sure it has a range of Allen keys from 2-8mm and is of good quality, low quality tools will often do more harm than good! Many multi tools will also include tyre levers, flat and cross head screwdrivers and chain splitting tools, all of which are very useful indeed.

NOTE: Remember to just carry the essential tools with you, you do not need to fill your bag with your whole toolbox!

6 SPANNERS



If your bike does not come with quick release wheels then typically a 15mm spanner will be needed to remove the wheel in case of a puncture. As previously mentioned nuts are not that common on bikes any more but having a smallish adjustable spanner is still useful. It is worth mentioning that street bikes and BMX's with pegs will require a socket wrench and extension bar with socket sizes including but not limited to 15mm, 17mm & 19mm.

THE ESSENTIALS

Everyday Tools for Everyday Riding

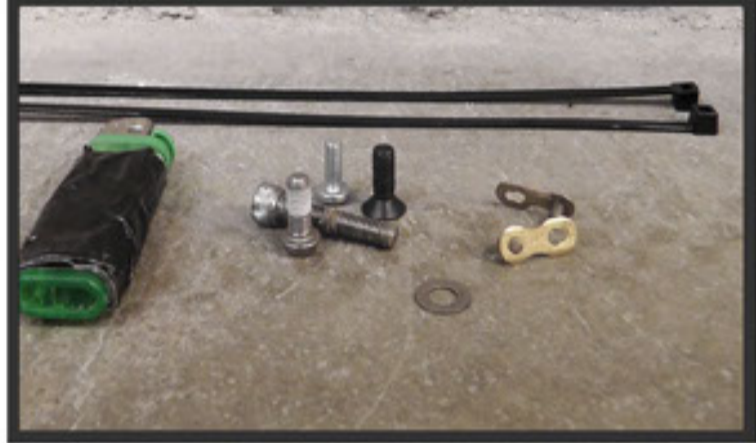
There are a many other small bits and pieces that you will recognise as essential for your tool kit. The tools we are outlining here are the bare minimum for a healthy bike.

7 LUBRICANT



You will not bring oil with you on a ride but you must have some at home. Try to lubricate your chain every couple of weeks or after every wash. More on this later in the book.

8 BITS AND BOBS



You may need to improvise on the odd occasion. Really useful things to have in your tool bag are: 3 or 4 bolts in various sizes with a couple of washers and nuts, a bit of gaffer tape, some bits of old inner tube and zip ties. These bits and bobs may well save the day!

Last word on tools: Keep your tools either in a saddle bag or in a rucksack you use when riding, try to keep them clean and dry and check they are all there regularly. One day you will need them.

Finally try to always carry a spare inner tube as some punctures will be too big to fix with patches, and you never know when a fellow cyclist might need one.

EVERY RIDE CHECKS

QUICK CHECKS BEFORE YOU JUMP ON THE BIKE

Before every ride there are some things that need to be checked to ensure your bike is safe and working correctly.

1 TYRES

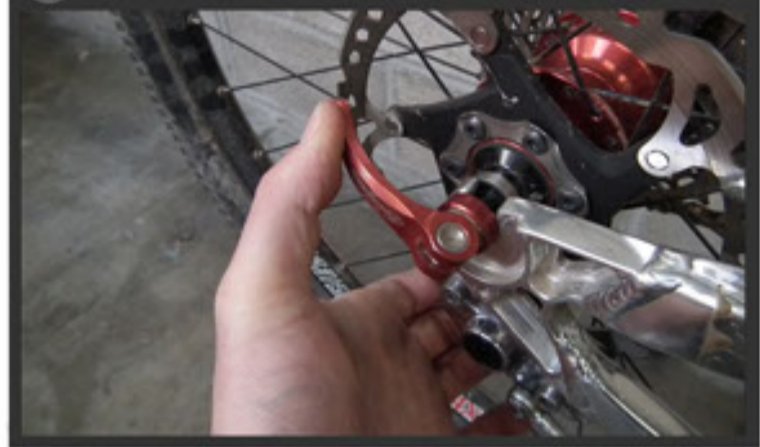


Checking your tyres is about the most important of your pre-ride checks. You are looking firstly to see if they are correctly inflated, an under inflated tyre will cause you to lose power and control. In a nutshell it makes your bike much more difficult to ride!

To check, Squeeze the side wall of the tyre below the tread. They should feel hard or difficult to squeeze. Typical pressure in a mountain bike tyre will be around 40psi and for a road bike around 120psi, commuter bikes will be somewhere in between. Look for the recommended pressure printed on the side wall and always stay within these limits.

The second crucial check is for damage, so carefully inspect the whole tyre. If there are any rips, holes, bulges, cracks or areas where the tread is worn through replace the tyre immediately., as a blow out due to a damaged tyre could result in injury to both you and your bicycle.

2 NUTS AND BOLTS



As a general rule the bolts on your bike want to be tightened to a level similar to that of opening a door handle. It should not take all your strength to get them undone again. The more you do this the more you will get to understand how tight is right!

Smaller bolts will need less pressure than larger ones. Having a torq wrench is the safest way to make sure you are applying the right pressure. These are relatively inexpensive and a great tool to own.

Ensure that any quick releases such as on the wheels are done up securely and check over the main bolts around your bike with a multi tool.

Pay particular attention to bolts around the bars and stem. It is not uncommon for bolts to work themselves loose through prolonged vibration. This can lead to damage to your components or yourself!

EVERY RIDE CHECKS

QUICK CHECKS BEFORE YOU JUMP ON THE BIKE

NOTE: If you are uncomfortable with the results, it is always best to have your bike checked over by a professional to avoid potential accidents or damage.

3 GEARS



To test your gears, change up or down a gear, lift up the bike with one hand by the saddle and pedal the bike with the other hand. The gears should change up or down a gear smoothly and should sit in the gear without clicking or skipping.

Run through both front and rear gears and make sure you are happy with them.

A workshop stand or other way of getting the bike off the ground makes this job much easier.

4 BRAKES



Give each brake a squeeze and try to move the bike while doing so. Make sure that the levers do not pull too close to the bars, in the event of an emergency you must be able to stop effectively.

Next spin the wheels whilst looking and listening for any rubbing. Ideally the brakes should run freely without any noise or rubbing. Have a brief look at the pads and make sure they are in good condition with braking surface left on them! This can be harder to see with Disc brakes.

Test Ride – Try to have a quick test ride before you leave home, just to make sure everything feels OK. Listen for any knocks, rattles or any other strange noises that could be the result of loose parts. Test the brakes and gears, also make sure you are comfortable with your seat height.

If everything feels smooth and comfortable then you are good to go!

CLEANING

REGULAR CLEANING WILL MAKE FOR
A LONGER LASTING COMFORTABLE RIDE

You should clean and checkover your bike regularly, put some time aside for this and enjoy it. With bike maintenance the more you put in the more you will get out!

An hour should be enough time so brew yourself another cuppa and get to work.

CLEAN ME!



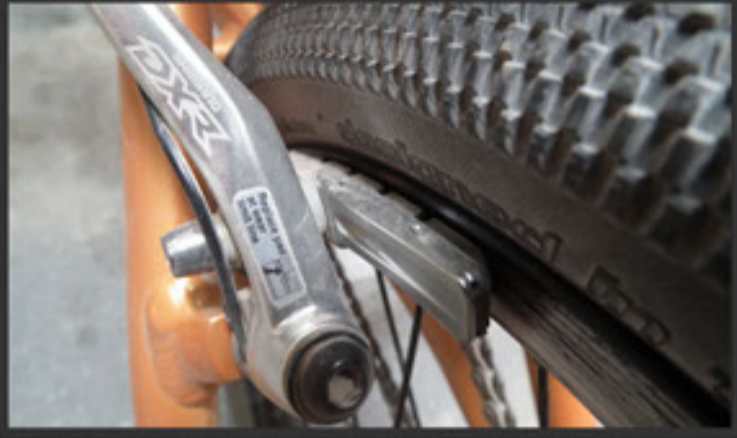
NOTE: A clean bike is always easier to work on and any problems will be more apparent.

There are lots of cleaning products available to make this job less of a chore. These include de-greasers and specially shaped brushes, however a good old fashioned bucket of water, a small amount of soap and a sponge will make a good start if that is all you have to hand.

When cleaning your bike pay extra attention to the chain and gears, this greasy area loves to pick up grit and dirt which has a detrimental affect on the lifespan of these parts. A good trick is to use an old tooth brush to help you shift this grime and dirt. The cleaner the better!

MONTHLY CHECKS | WHEELS

1 BUCKLES



Spin the wheels, they should run free and straight (otherwise known as 'true') without rubbing on the brakes. Check for buckles by looking down on the wheel checking for any side to side movement as it spins.

3 RIMS



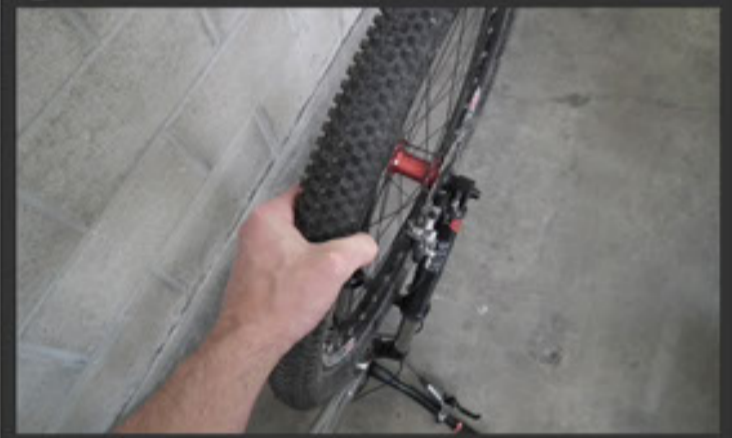
Check the rims for any damage and in the case of rim brakes check the rim for wear by feeling the braking surface. You are looking to see how concave this feels. If it is overly concave this is a good indication that the wheels are heavily worn. Some rims will have wear indicator lines on them and when these have worn through the rims are due for replacement.

2 SPOKES



Check all the spokes are tight, it is not uncommon for spokes to loosen off over time, especially on the rear wheel, so give them all a squeeze and make sure none are overly loose. As a rule they should twang when plucked and all at a similar pitch! (try it and you will see what I mean!)

4 HUBS



Finally look for play in the hubs, this will be due to loose cones or worn bearings. Hold the wheel by the tyre and try to move from side to side with the bike still in the frame, is there any play?

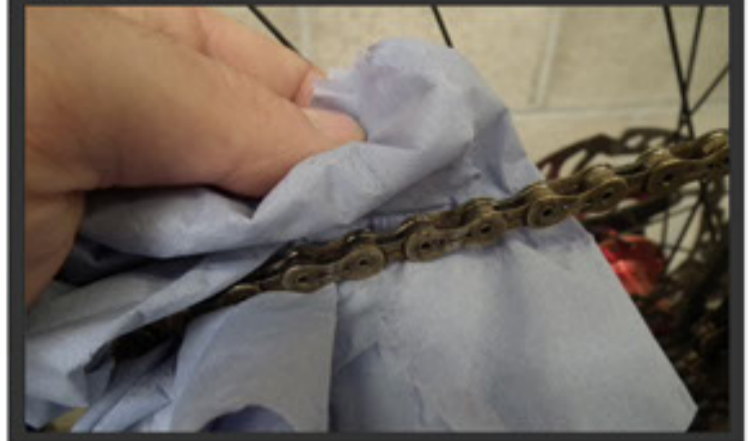
PROBLEMS: If you find any problems here you will need to have it checked over by your local bike shop.

MONTHLY CHECKS | GEARS

1 LUBRICATE



2 WIPE EXCESS

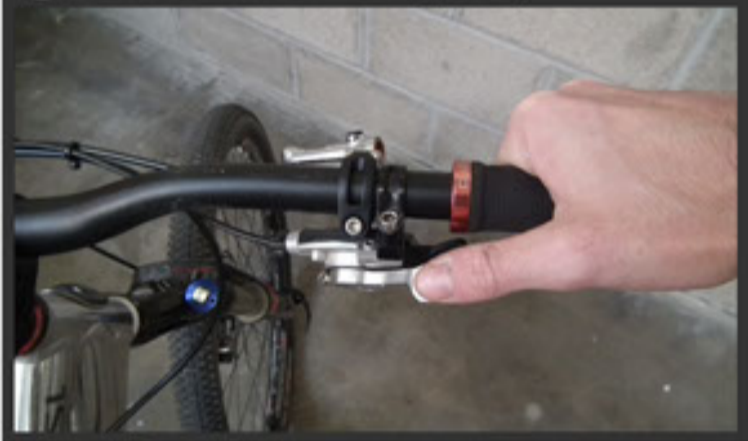


Before we can look at any gear issues, we need to make sure your chain is well lubed. This is to ensure a smooth transition between gears.

REMEMBER: Your chain should always be well lubricated.

Apply a good amount of lube to the chain as it spins ensuring you get the whole length lubricated, run through the gears a couple of times and then with a clean rag wipe off any excess.

3 SHIFT THE GEARS (MTB)



4 SHIFT THE GEARS (ROAD)



Make sure every gear can be selected and spin the pedals a few times in each gear to make sure the chain is not skipping or clicking. If there is any clicking or skipping this would indicate your gears need adjusting.

IN DEPTH: For in depth advice on setting up and adjusting gears see the "How to do it" section later in this e-book.

MONTHLY CHECKS | BRAKES

1 BRAKE TEST (MTB)



1 BRAKE TEST (ROAD)



Pull your brakes, your levers should move about half way before your brake clamps tight. This can change slightly from bike to bike and also to personal preference, but you do not want the lever to come all the way back to the bars.

Again, make sure the brakes are not rubbing on the wheels or with disc brakes that they are not rubbing against the pads.

2 CHECK FOR WEAR (DISC BRAKES)



**LOOK AT THE PAD
WHILST STILL IN
THE CALIPER**

2 CHECK FOR WEAR (RIM BRAKES)



The wear of the brake pads should also be checked at this point. Most Rim Brake type pads will have a wear line indicator. Once this line is gone, your pads need replacing.

For disc brake pads there typically is no minimum wear line. There should always be some pad visible on the pad backing plate. If there is little or no pad left then they need to be replaced, this is critical to performance.

IN DEPTH: For in depth advice on setting up and adjusting brakes see the "How to do it" section later in this e-book.

MONTHLY CHECKS | PEDALS / HEADSET

1 PEDALS AND CRANKS



Ensure your cranks and pedals are not loose by firmly holding one side of the cranks and trying to move them inwards and outwards from the bike (make sure you hold the crank arm and not the pedal). Check for movement in the bottom bracket area. Do this on both sides of your cranks as it is possible one crank might be loose and will require tightening up, check all bolts carefully. Repeat this holding the pedals checking these for play. Pedals will generally wear quicker and are often the reason for play in this area of a bike.

2 HEADSET (TOP)



To check if your headset is loose, stand over the bike and lock the front brake. Now place your spare hand just below the stem and rock the bike back and forth. Do both below the stem and just above the fork crown. If there is any play in the headset then you should be able to feel some movement in this part of the bike. Turn the front wheel 90 degrees and test again to make sure it is not the brakes you can feel moving.

If you can feel movement in the headset, you may be able to tighten it. This is done by putting more tension on the top bolt. Loosen the stem bolts and add tension to the top bolt, do the stem bolts up tight again and re check.

3 HEADSET (BOTTOM)



NOTE: If the correct parts have been tightened and there is still play, this suggests that bearings have worn out and will need replacing.

Hopefully the play has gone, if not, check with your local bike shop and let them advise you.

MONTHLY CHECKS | NUTS AND BOLTS

1 HANDLEBARS AND STEMS

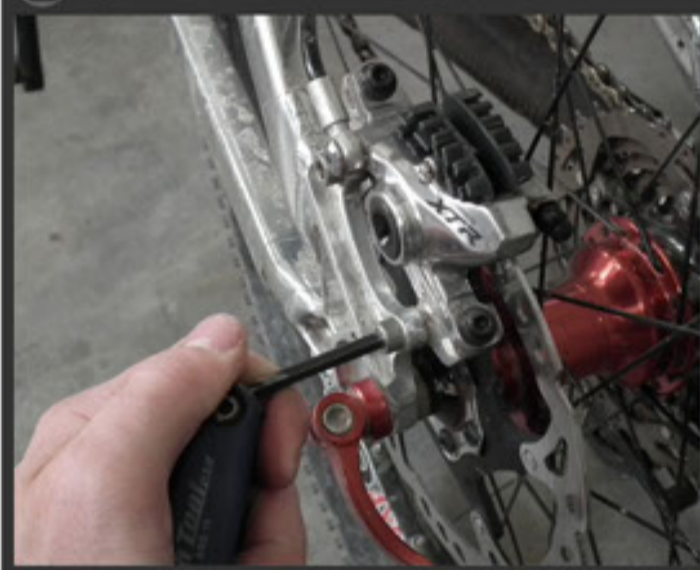


It is not uncommon for the front end of your bike to loosen up over time, particularly on new bikes.

Checking that your handlebars and stem are tight will help to avoid damage and accidents. As mentioned before, the bolts on your bike want to be tightened to a level similar to that of opening a door handle. It should not take all your strength to get them undone again.

The more you do this the more you will get to understand how tight is right!

2 OTHER NUTS AND BOLTS



Go over all your main nuts and bolts and make sure they are all sufficiently tight.

If you have a torque wrench this would be the ideal time to check any torque specific bolts are correctly tightened. Many components will have this info printed on them torque is usually measured in Nm (newton meters).

3 FRAME AND ACCESSORIES



Now is also a good time to check over your frame for any damage that could be dangerous if left unchecked. Look for any small cracks where two parts of the frame meet or any dents in the frame's tubing.

Also check any accessories attached to the bike and make sure they are working correctly. Some components may require new batteries or need minor adjustments to their positioning.

1 SHIFTER (BARREL ADJUSTER)

To check over your gears, thoroughly shift to the smallest cog on both the front and rear gears, starting on the rear gears first, shift one gear at a time until you get to the biggest cog. Your gears should shift easily between each other and should sit in each gear without skipping at all. If when changing up one gear your chain either does not go up a gear or goes up more than one gear, your cable tension will need to be adjusted.

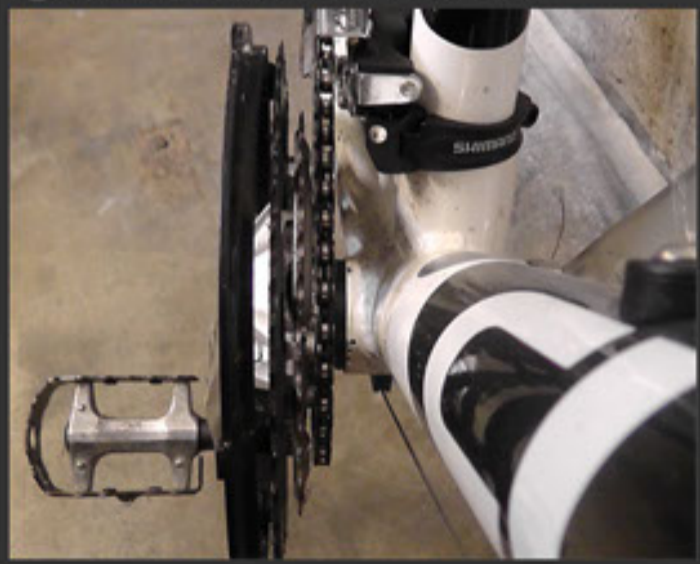
Shift to the second smallest cog and change one gear up to the next biggest, if the chain does not move then you will need to add tension to the cable.

2 DERAILLEUR (BARREL ADJUSTER)

To do this turn the adjust screw on your mech or shifter (known as a barrel adjuster) anti clockwise. This will shorten the length of the cable housing and increase tension in the inner cable.

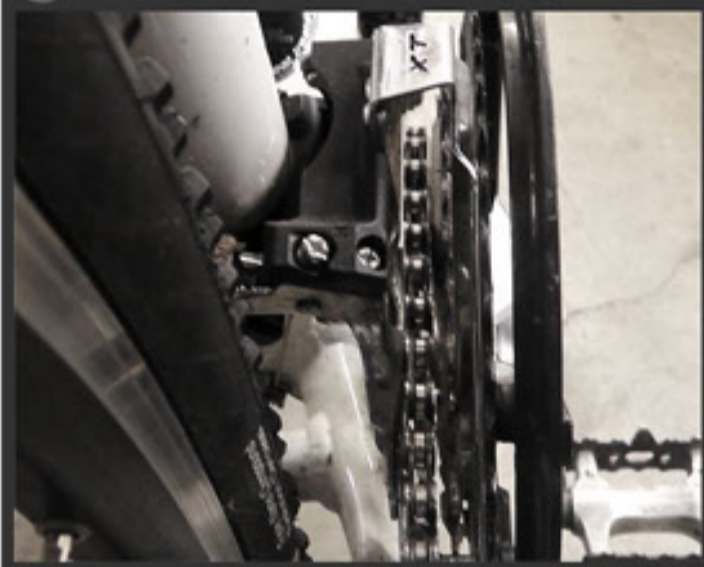
Shift back down to the second smallest cog and try again. Adjust the barrel adjuster half a turn at a time until gears change smoothly.

If when you are changing gear the chain is shifting too far then you will need to loosen off the cable tension by turning the barrel adjuster on the mech or shifter a half turn at a time till the gears shift smoothly.

3 FRONT MECH (CAGE RUB)

Now shift the rear gears into a middle gear and check your front gears. Same as before, start on the smallest gear and change gear one at a time until you are on in the biggest gear.

You can adjust the front gears in the same fashion as the rear gears by either adding or removing tension from the gear cable until the gears are shifting smoothly.

4 FRONT DERAILLEUR (RUB)

With the front gears the derailleur should not catch or rub on any of the chain rings but the chain might rub slightly on the inside of the derailleur cage when the rear gears are in either the biggest or smallest gear.

This happens in particular on road bikes or when using wide ratio cassettes.

5 CHAIN CHECK

If the chain skips or jumps once every few pedal rotations, this can indicate a stiff or frozen link. To find the stiff link spin the chain until it skips on the cog. Try to move this part of the chain, it might be very stiff or it might not move at all.

To fix this, grab the chain either side of the stiff link and flex the chain inwards and outwards very slightly. This will pry apart the chain links and loosen off the links, fixing the stiff link.

6 CABLES CHECK

Cables are often left unchecked. If the cable is frayed, damaged or un-lubricated, it will effect the way the cable performs.

Fresh cables are the cheapest and most effective way of improving shifting and braking performance.

BRAKES | TUNING V-BRAKES

If you have found that your brakes are rubbing when the wheel is spinning, or if your brake lever is pulling all the way to the bar, then your brakes will need to be adjusted.

1 V-BRAKES (CALIPER TENSION)



If your V-Brakes are rubbing then you will need to adjust the tension screws on the side of the brake callipers. These screws apply pressure to a spring within the brake and can move the brake calliper towards or away from the braking surface.

If one side of the brake is rubbing on the wheel but the other is not then you need to screw in the tension screw on the side that is rubbing, as this will increase the tension on the rubbing side and move the brake calliper away from the wheel. If the tension screw will not go in any further on the rubbing side then you

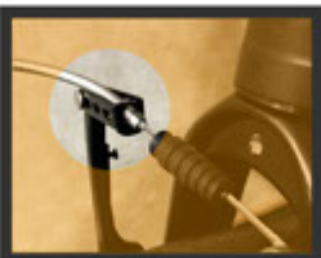
can loosen the non rubbing side slightly to even the brake tension and line up the brake callipers. Remember that after every time you adjust the tension screw you will need to pull the brake to ensure the brakes have settled into their new position. Both brake arms should pull evenly, check that the pads are straight and contacting the rim correctly.

2 V-BRAKES (CABLE TENSION)



If your V brake levers are pulling too close to the bars undo the main cable securing screw on the brake callipers and pull a small amount of cable through.

Tighten the securing bolt back up and test the pull on the brake levers, do this until the lever pulls roughly half way between fully out and the bars (or whatever feels comfortable for you). After you have tightened the cable tension, ensure the brakes are now not rubbing on the wheel. If so then the brake callipers will need to be adjusted again.



There is a quick release catch on the V brake if the wheel needs to be removed. In this case simply push the 2 caliper arms inwards towards the tyre, giving the cable enough slack to pop out of the cage highlighted in the image.

BRAKES | TUNING ROAD BRAKES

Road brakes run very close to the tyre and have less clearance on the rim than with other types of brake so they require more accurate adjustment.

Also featuring a quick release system that allows the wheel to be removed quickly and easily, it is important to make sure these levers are set into the ride position before any adjustments are made.

1 ROAD CALIPER



**QUICK RELEASE SYSTEM
(RIDE POSITION)**

It is common for these brakes to rub on either side of the rim, this is easily fixed by rotating the whole calliper on its central mounting bolt.

Simply hold the calliper and rotate it until it is centred over the wheel. If as with previous brakes, the lever can be pulled to the bar you will need to tighten the cable, getting this lever travel correct depends somewhat on personal preference, but brakes must work effectively.

Small adjustments to tension can be made with the cable adjuster on the calliper. Finally to tighten or loosen spring tension make half turn adjustments to the adjuster screw.

Spin the wheel and make sure everything is working well.

BRAKES | TUNING DISC BRAKES (PART 1)

If there is too much lever travel on your disc brakes then there may not be enough tension in the cable or the pads may need replacing.

First check the wear on the pads, if these are overly worn it is best to change them. Look into the caliper and assess how much material is left on the pads. There should be some visible on both sides.

1 CABLE DISC BRAKE (TENSION)



Undo the cable securing bolt and pull a small amount of brake cable through and then do the securing bolt back up. Test the pull on the brake lever.

If your disc brakes are rubbing then this will normally mean that your brake calliper needs to be realigned or the disc is bent.

2 CABLE DISC BRAKE (ALIGN)



There are a few ways to align a disc brake calliper but the quickest way is to undo the two main securing bolts that hold the brake calliper onto the bike, pull the brake lever tight to clamp the calliper on the brake disc and then re-tighten the main securing brake mount bolts.

This should align the brake disc centrally onto the disc. Spin the wheel to check that the disc is no longer rubbing.

If the disc is still rubbing then try this technique a few times, if there is persistent rubbing the brake calliper will need to be loosened off and aligned by eye.

HYDRAULIC: If you have hydraulic disc brakes and your brake levers are pulling all the way to the bars then your brakes are in need of a bleed or it may need new pads. Bleeding will remove any air trapped in the brake hose. This should be done by an experienced mechanic as the brake fluid used in most brakes can be hazardous.

1 DISC BRAKE (ROTOR ALIGN)

Ensure there is a gap between the disc brake rotor and both brake pads. Then tighten both securing bolts back up.

If there is intermittent rubbing on the disc brake when the wheel is being spun then this would indicate that the disc brake rotor is warped and is not running straight any more

2 STRAIGHTENING A ROTOR

To fix this, spin the wheel until you can hear the disc rotor rub on the brake pad. Stop the wheel at this point and look down through the brake calliper to see which brake pad the rotor is rubbing on.

Keep an eye on the spot where the disc rotor is not running straight and then rotate the wheel to a point where this point can be accessed with a straightening tool. In this case a straightening tool is a clean oil free adjustable spanner.

Clamp the adjustable spanner on the warped spot of the disc and gently push or pull the disc away from the direction the rotor is warped. Be very gentle and only flex the rotor a small amount before releasing the adjustable spanner and checking the straightness of the rotor. Continue to do this until your rotor is running straight again.

NOTE: Another issue with disc brakes are sticky piston's, this is when the disc brake pads do not return back to the caliper or contact the rotor evenly. There can be many reasons for this, corrosion, dirt and grime are a few examples. This can be a tricky job to repair and we advise taking your bike to your local bike shop.



THANK YOU

For further advice and tips checkout our youtube channel: [youtube.com/user/koobikes](https://www.youtube.com/user/koobikes)
We have a great selection of maintenance videos there. Alternatively you can keep up to date by signing up to our newsletter.

Regular riders should always have your bike professionally serviced once a year, the cost of this service is out weighed by how much better your bike will ride and how much longer your parts will last.

Thank you for taking the time to read our ebook, and comments are always welcome! Catch us on all the regular social networks.

Love your bike, love riding!

