ABC Check

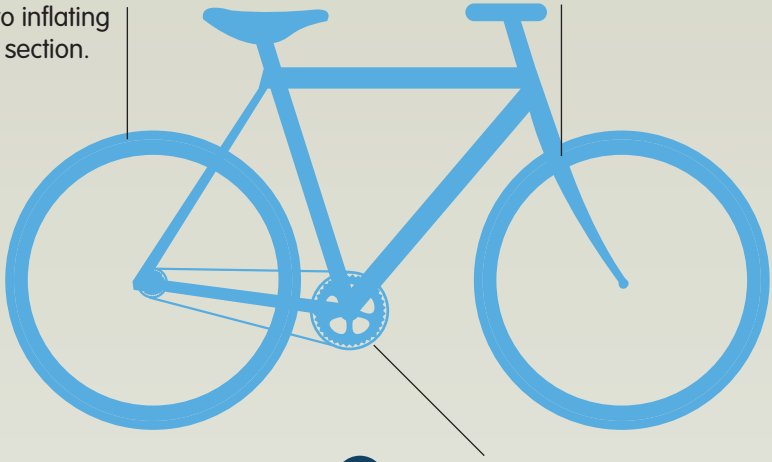
A = Air B = Brakes C = Chain

A

Air, squeeze tyres, checking that there is sufficient air, if unsure refer to inflating a tyre section.

B

Brakes, pull both brakes and rock bike forwards and backwards checking that the brakes will stop the bike, if unsure refer to brakes section.

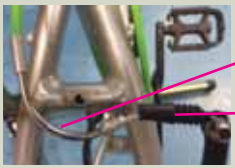


C

Chain, spin the pedals backwards to check that the chain and cogs rotate easily, apply oil to chain if it is dry, if unsure refer to cleaning and lubrication section.

Follow the ABC...

Glossary of Terms



Noodle

Rubber boot

Brake arm/calliper

Outer Cable

Inner Cable

Brake barrel adjuster

Rear Mechanism/
derailleur

Rear Mechanism/
derailleur
barrel adjuster

Cassette/rear cogs

Cranks

Chain Rings

Jockey Wheel

Jockey Wheel

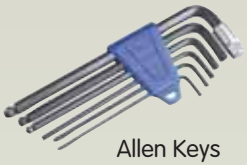
Chain

Tools

A fully equipped bicycle toolkit can be extremely expensive to purchase, however many high street stores now stock a good basic range of tools and accessories at more affordable prices.

For the basic home mechanic, just a few standard tools will keep your bike running smoothly.

Check the parts of your bike or family members bikes before buying any tools, only purchase those tools that will work with your bike(s).



Allen Keys

Puncture repair kit

Pump

Rag

Spanners

Cable cutters

Screwdrivers

Oil & lubricant

Cleaning brushes

Tyre levers

Please turn over

Maintenance **Schedule**

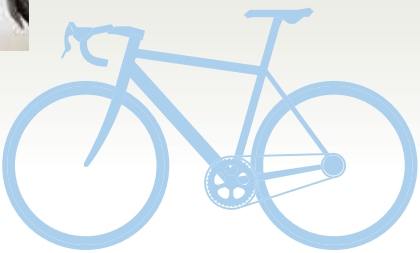
Every Ride

Check tyres
If you can squeeze them with your finger and thumb then they need pumping up.

Check brakes
Give both brake levers a squeeze to check that the brakes are working, rock the bike back and forth. Check that the brake pads (Rim only) are correctly inline with the rim and not worn out.

Check quick releases or bolts
Take hold of each wheel in turn, move from side to side to check they are tight in the frame and forks.

Check chain turns freely
Spin pedals backwards to check that the chain runs smoothly.



Cleaning

Monthly

The frequency that you use your bike can determine how often and the degree in which you clean the bike. Riding in wet and mucky conditions will mean more regular cleaning and maintenance, whereas mainly riding in dry, clean conditions can result in less frequent and shorter maintenance sessions.

Clean Bike – Using a rag, soft brushes and warm soapy water, thoroughly clean the entire bike, concentrate on moving parts and ensure the bike is lubricated afterwards.

Wheels & Tyres – Starting at the valve, spin the wheel inspecting the tyre for glass/thorns etc, also check for wear/cracks in the tyre; finally check the tyre pressure. Check that the wheel spins true, not touching the brake pads or frame, check that the spokes are tight by squeezing together.

Handlebars & Stem – Twist from side to side to check for tightness.

Saddle – Twist from side to side and up and down to check for tightness.

Frame – Inspect frame for cracks, dents and corrosion. If found do not use and seek professional assistance from a respected bike shop.

Gears – Spin pedals to go through all ranges of gears, check for positive gear selection and smooth running chain

Pedals & Cranks – Spin pedals and cranks backwards and rock from side to side to check for tightness. Pedals and cranks should spin freely but not rock side to side.

Brakes – Rock bike forwards applying front brake, rear wheel should lift, repeat process rocking bike backwards whilst applying back brake, front wheel should lift. Spin wheels and check for pads not binding, rubbing on tyres or dropping below rim.

Oiling/Lubricating

Only once your bike is clean should you lubricate the moving parts, applying oil to a dirty bike will attract more dirt and cause parts to work less efficiently and wear out quickly. Equally, not applying lubrication once you have cleaned your bike will result in poor gear shifting a noisy ride and excess wear.
Lubricant can come in mainly two forms, spray can or fluid bottle.

Wet fluid oil is used for winter conditions. Dry oil for summer conditions.

Spray Oil can be used all year round and can be easier to use.

Leave the oil to soak in for a few minutes before using a cloth or rag to wipe away excess oil.

Please turn over

Cleaning

Spending a small amount of time each month cleaning your bike will help keep your bike running smoothly, saving you money on replacement parts and allowing you to check the bike for worn parts. Specialist tools and products can make the job easier, however an equally good job can be achieved using everyday items and tools.

The most important parts of your bike to clean are the gears, chain, cogs and chainrings. For these parts a mild degreaser will save you time and provide a better result. Alternatively use warm soapy water, ensure that you rinse the bike well after cleaning as soaps and detergents contain salt which will corrode your bike.

Clean Frame

Use a wet soft brush or sponge to work the detergent and water into the dirt. Rinse through the sponge/brush and work in clean water to rinse the frame

Clean Drive Chain

Use a wet coarse brush to work the detergent and water into the dirt. Check the gaps between the cassette cogs for debris and dirt accumulated on the jockey wheels. Rinse through the brush and work in clean water to rinse the moving parts.

Clean Chain

Spray plenty of degreaser onto a cloth/paper towel and immediately cup the cloth in your hand and lightly grip chain, carefully rotate pedals backwards, passing the chain through your hand, firm enough to grip the chain and clean but light enough to allow the chain to move and not snag the cloth/paper towel. Rotate your wrist slightly to access the top and sides of the chain. Repeat as necessary. Spin chain to dispel any water/detergent.

Oil Chain

Allow chain to dry, then squirt/drip oil onto the chain above the cassette, whilst spinning pedals backwards, only apply oil for roughly 10 seconds, then continue to spin pedals.
Wipe off excess oil.

Replacing a Tyre

Whilst in the process of repairing a puncture and your wheel(s) are removed from your bike, it's worth taking a look at the condition of your tyres. If the tread is worn then it's time to think about renewing.

Check the sizing

On the side wall of the tyre you will see the size of the tyre e.g. 26' x 1.95' Make a note of this size, or take the tyre with you when purchasing a replacement.

Fitting the new tyre

Check the side wall again for the rotation/direction arrow and place one side of the tyre onto the rim with the tyre direction facing the correct way, replace the inner tube (as described in 'Fixing a puncture/Replacing an Inner Tube' Part 6). Fit the other side of the tyre and inflate to the correct pressure, psi/bar.

Fixing a Puncture
Replacing an Inner Tube

Part One

At some time or another, every bike will suffer a flat tyre; the quickest method to get you moving again is to fit a new inner tube, then fix the puncture once back home. Make a note of the size of inner tube you need and the type of valve required.

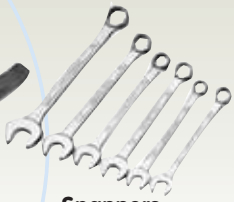
Different valves
There are mainly two types of valve,
Presta (High pressure) and Schrader (Car Type).

Tyre/Inner tube Sizing
To determine the size of the inner tube you need, look on the side of your tyre for the sizing information, this will be in the form of a number x number, such as 26 x 1.95.

Tools/equipment for the job
To replace or repair your inner tube there are some simple tools you will require.


Puncture repair kit


Tyre lever


Spanners


Pump

Please turn over

Fixing a Puncture
Replacing an Inner Tube

Part Two

By following the steps outlined below you should be able to remove your wheel, replace your inner tube and be on your way in no time; repairing your puncture at a time more convenient.

Release the brake
Press together the two brake arms/calipers and release the cable from the holder, this will allow the wheel to pass by the brake blocks.

Turn the bike upside down
If wet, avoid puddles when placing the saddle on the floor, take care with items attached to the handlebars, such as lights and bells, these will now be first to touch the floor.

Undo the wheel
If you have a quick release, pull open the lever, then whilst holding the opposite end, unwind the lever to slacken off the tension. If secured by nuts, using two spanners, one on either side (usually 15mm), loosen the nuts, one side will undo anti clockwise and the other clockwise. If removing the front wheel, once loose, lift the wheel out from the forks. If removing the rear wheel, release the tension from the rear gear mechanism and lift the wheel out'

Remove the tyre
With your wheel now removed, release any remaining air from your inner tube by either undoing the valve and pressing down (Presta) or pressing down the internal valve (Schrader). Now starting opposite the valve, insert a tyre lever under the tyre and hook the other end around a spoke, continue with the next tyre lever until the tyre is loose and can be removed from one side of the wheel.
Now remove the inner tube.

Continued on next insert

Fixing a Puncture
Replacing an Inner Tube

Part Three

As previously stated, whilst out on a ride it is best to simply fit a new inner tube and repair the puncture once home.

Inflate the inner tube

Once the tube has sufficient air in it, remove the pump, then starting at the valve, place the tube next to your cheek and ear and slowly rotate the tube, feeling for air against your cheek and an audible escape of air indicating a hole. If found, mark with a thick circle using a ball point pen, then continue to hear/feel for more holes until back at the valve. If a hole(s) can't be located, use a bowl of water and look for bubbles escaping.

Repair the puncture(s)

After locating/marking the hole(s), rub the area of and surroundng the hole(s) with the abrasive paper supplied in the kit, this may remove some of your pen marking, therefore remark the circle, ensure the circle is quite thick and just surrounds the hole(s). Select a patch to cover the size of the hole(s), apply a film of glue to the area, larger than the size of the patch, wait for one minute for the glue to go tacky, remove the patch from the backing and firmly apply the patch to the tube, pressing down and away from the centre of the patch. Leave the glue and patch to set for a few minutes before slowly inflating the tube.

Replace the inner tube

Before you replace the tube, carefully check the inside and outside of the tyre for thorns/glass etc. Remove offending items with tweezers. Insert the valve back into the rim and feed the tube back into the tyre cavity. Starting at the valve, firmly push the tyre bead back into place on the wheel rim. Use tyre levers for the last part if required. Replace the lock ring on the valve stem if there is one, inflate the tyre to the recommended pressure.

Changing/realigning Brake Blocks (V Brakes)

Release the brake

Press together the two brake arms/calipers and release the cable from the holder, this will allow a better view of the brake blocks braking surface. If the grooves in the blocks are worn down then the pads will need replacing.

Remove/replace the blocks

Usually these will be secured by an allen key; select the correct size and undo the bolt in a counter clockwise direction (left for loose/right for tight). Take note of the order of the spacers/washes when removing the old blocks, these spacers in their correct order allow for fine adjustment of the blocks, ensuring the brakes work correctly when fully installed. Place the new blocks into the slots in the brake arm and slightly tighten the bolt.

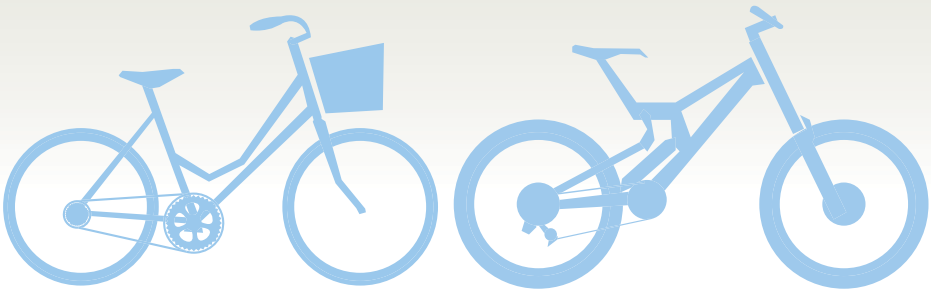
Please turn over

Changing/realigning Brake Blocks (V Brakes)

Adjust the block

Once in place on the brake arm, the block will need adjusting so that it sits (when brakes applied) squarely onto the rim surface. Hold the brake block between finger and thumb whilst tightening the allen bolt/nut. To ensure that the brakes don't squeal when applied the front of the block (brakes applied) should touch the rim slightly prior to the rest of the block (toeing in).

If necessary, adjust the cable at the cable clamp bolt to accommodate the new brake blocks. Check that the brake arms, when the brake lever is pulled, move equally to apply the brake. If not adjust with the tension screws whilst continually applying the brake until the arms pull in equally.



Replacing a Brake Cable

Part One

Replacing a brake cable (the inner wire) is a relatively straight forward job, given the correct tools and knowledge.

Release the cable

The cable will need releasing from the brake lever and the brake arm. Firstly release the brake as shown when changing a brake block, then undo the nut/allen bolt securing the cable to the right hand brake arm (the brakes will spring open). At the corresponding brake lever, line up the slots on the barrel adjuster, retaining nut and brake lever housing, now pull the inner cable out of the slot, pull the brake lever and wiggle the metal head of the cable out of its cradle within the lever. At the brake arm, pull the crimped end cap off from the other end of the cable, then pull the cable through from the lever end, keeping the noodle (curved metal sleeve) and outer casing safe as the inner cable is removed.

Replacing the cable

Wind the barrel adjuster and retaining nut all the way to the brake lever, then back them off two turns, wind the retaining nut back tight. Thread the non head end of the cable through the brake lever and out through the first outer casing. Seat the head of the inner cable into the cradle within the lever. Thread the inner cable through all of the outer casing(s) depending on front or rear and finally through the noodle and rubber boot (if in place). Whilst pushing the two brake arms together (just touching the rim), clamp the allen bolt/nut tight onto the inner cable. Let go of the brake arms, spin the wheel and check it runs freely, if rubbing, wind out the barrel adjuster until the wheel runs freely. The lever should not pull to the handlebars.

Please turn over

Replacing a Brake Cable

Part Two

Aligning Brake Arms

When you pull the brake lever, if the corresponding brake arms don't pull in to the rim equally, then the spring tension will need adjusting. Using the correct size Philips screwdriver, wind the screw at the side of the brake arm in/out whilst squeezing the corresponding brake lever. Watch the brake arms and look for the movement of the arms becoming equal. Adjust either arm depending on which arm is moving more than the other.

Trimming the Cable

Ideally, this will need to be done with specific cycle cable cutters, other cutters may work but may not provide a clean cut which could result in fraying wires. Trim the cable approximately 5cm from where it is clamped.

Install an End Cap

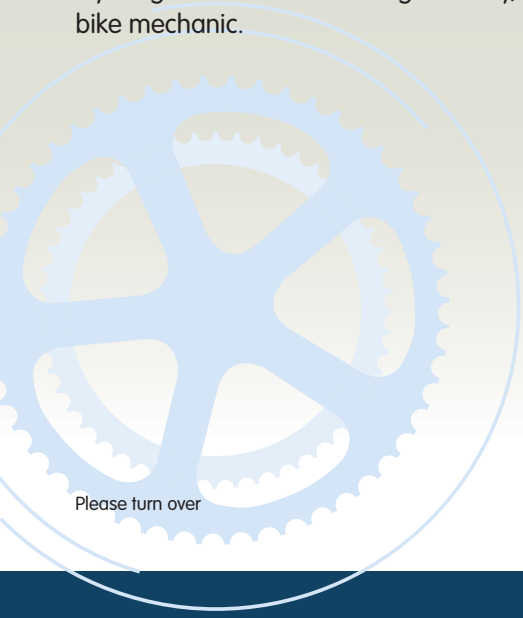
These can be obtained from a bike shop, place one over the end of the cable and with pliers or the crimping part of cable cutters, crimp the cap onto the cable, don't squeeze too firmly as you will split the cap but firmly enough to clamp the cable tightly.

Adjusting Rear Gears

There are many factors that can affect the performance of your bikes gears, dirty/worn chain, damaged/old cables, damaged old rear derailleur (Mech), worn/dirty jockey wheels, damaged/old gear shifter.

If any of the above are a factor, then your gears are never going to shift properly, however gears can sometimes simply require a slight tune up to get them working again. Before you tackle this, always clean your drivechain and gears first (see Cleaning card), any adjustments will now be far easier and accurate.
There are many adjustments you can make on a rear derailleur, overleaf we are going to explain the easiest and simplest.

If your gears still aren't shifting correctly, contact a qualified bike mechanic.



Please turn over

Adjusting Rear Gears

Select gear
Using your right hand shifter, put your chain in the smallest cog on the back wheel/hardest gear/largest number on the shifter.

Set Barrel Adjuster
Wind barrel adjuster, either at rear derailleur or shifter, fully in then one turn out.

Set Cable Tension
Depending on the clamp, use either the correct sized spanner or allen key to loosen off the clamp, a few slight turns should do this. Using pliers, pull the cable, whilst holding the cable tight, tighten up the nut/bolt again and release grip on pliers.

Check Gears
With the rear wheel off the floor, slowly shift up a gear, going up from the smallest cog. If the chain doesn't shift perfectly onto the next cog up, wind the barrel adjuster in a fraction of a turn until the chain shifts. Go through each gear in turn, both up and down the cogs, repeating the tuning process until each gear selects correctly.

Additional resources

Active Travel Sefton in conjunction with Cycling UK promote and deliver a wide range of cycling activity throughout Sefton, including Dr Bike drop in sessions and cycle maintenance courses, where our qualified mechanics can either fix your bike or provide you with the skills, knowledge and confidence to tackle the job yourself.

All of the sessions are free to attend and are delivered within Community Hubs across the borough.
For more information visit www.activetravelsefton.co.uk
or contact the active travel team.