Ride With GPS try it you will not be disappointed!

Your Shortcut to this months RWGPS Routes link

Sunday Pleasure Rides: Organiser – Helen Tetley. 0466 870 177

July 9th 2023 Meet at Drage Reserve, Briar Rd, Felixstowe at 10am. Ride to NE suburbs. Some off-road tracks, so gravel and mountain bikes are recommended. BYO lunch. Approx 40kms. *Don Mc. 0428 566 745*

July 23rd 2023 Meet at Alberton Railway Station at 10am. (Adelaide-Outer Harbour trains arrive Alberton R/S 9.30 and 10am). Thru the back streets, maybe past Pelican Pt, etc, then around the harbor. Lunch/toilet stop at Roy Marten Reserve. Home along beach pathway and Military Rd to Trimmer Pde to Torrens Rd and back to Alberton Railway Station. *Magda 0417 802 723*

Thursday Rural Rides Thursday rides are regularly 20+ riders; in hill topography that creates a challenge. To compensate each ride will have a 2nd leader so we can split into 2 comfortable groups if needed. - Sharon Moyle Thursday Ride Organiser

Jul 6th	Robyn	*0401 364 019*	10 a.m. Harvest the Fleurieu 2256 Victor H Rd	Some unsealed roads	link
Jul 13th	Peter B	*0491 705 816*	10 a.m. Woodside Pool car park	Some unsealed roads	
Jul 20th	John A	*0438 523 560*	10 a.m. Woodside Pool car park	Some unsealed roads	
Jul 27th	Ros	*0448 741 556*	10 a.m. Woodside Pool car park	Some unsealed roads	

PERFECT Ride There has been feedback that some riders would prefer rides closer to the city – **Sunday** 16th July. Start 9 AM will be from Kersbrook circumnavigating South Para Reservoir. There will be more bitumen than usual with some delightful forest tracks, back roads through the forest. Full details on the website soon, however if you would like early notification of the details send an email (peterdh65@outlook.com) and I will add you to the mailing list *Peter H 0448 364 138*

The **August Ride** will be a **3-day event** from Wallaroo. Fri Sat & Sun. There will be 3 rides – riders can choose to ride all 3, 2 or just come up for the day. Full details shortly – again drop me an email if you would like early information.

Peter intends to do the Tableland ride again in the next few months but as a fast ebike ride, if you are interested, please contact Peter and we can organise a date (open to mid-week or Sat or Sunday or as a PLEB ride)

A rare opportunity to buy at a bargain price **a beautiful blue Merida Big Seven 300 mountain bike**, size medium, in near new condition. 27.5" wheels with fantastic acceleration and nimble riding characteristics. Perfect for your next trail outing. Aluminium frame with an air suspension fork and a double chainring 10-speed Shimano Deore drivetrain for the perfect combination of comfort, control, and gear range. A slightly more upright riding position puts less strain on the lower back, improves the visibility of what lies on the trail ahead.

Merida Big Seven 300 mountain bike

Lightweight frame Size M
Shimano Deore drivetrain, 2 rings 34-50
10 cassette gears 36-11
Hydraulic Tektro brakes,
Maxxis Ikon tyres 27.5 X 2.2”
Adjustable air-suspension fork with lockout.100mm
Medium size, suit male or female rider.

$550 negotiable Contact Rosalind Miles
rosalind97miles@gmail.com

PERFECT RIDE Sunday June 18th Three riders, Bruno, Kevin and I gathered at the gardens in Eudunda for the planned 70 km ride. The gardens are on the path of the long since demolished railway line to Morgan and a spur line to Robertstown. Bruno commented that this used to be the site of a railway turntable (to rotate the engines for a return to Adelaide.

I do have a vague memory of this from my childhood in the late 1950s. I do however have a strong memory of the thriving shops on Gunn Street on the turn off the main road. These were a row of two-story shops with the shop downstairs and dwellings upstairs (I do have a vague memory of a tearoom of the top veranda of the corner shop.). In those days Eudunda was a thriving centre for the surrounding area. Several businesses had their origins in the town that later spread throughout the state most notably Eudunda Farmers established in 1896.

It was a cold and windy morning as we set off Eastwards to Deep Creek Road. Bruno told us of his history of moving to Peep Hill as a child as we rode. I will not elaborate on it here as it his story to tell but I learnt several things about the history of South Australia and Australia that I didn't know.
Deep Creek Road is a good ride. It starts off as a well-made country gravel road and then deteriorates (improves?!) to a rocky track. In the past there were many washaways with deep holes between the rocks making it quite a challenge to negotiate. On this ride these had been filled in (not sure if naturally or by maintenance work). This makes for an exhilarating downhill ride over the rocks when on a dual suspension mountain bike but much more caution required on a standard bike.

We crossed the main road onto Stock Route Road – a wide stock route that runs all the way to the Murray. This used to be a delightful track but has now changed to a well-made gravel road (at least the section we rode). There is a motor bike track that runs through the area amongst the scrub on either side of the track – the motor bike riders in this area seem to be responsible in sticking to the track and not destroying the whole area as seen in other areas. As we turned onto Sutherlands Road and then Quongdon Road the breeze started to pick up. Didn't give it much thought as it wasn't too bad. In the distance piles of gravel could be seen along one of the side roads (Mallee Road?) – indicating that this road was being upgraded. The locals probably look upon this as their council rates being put to good use to give better all-weather access to their propertied but PERFECT riders see it as another good riding track destroyed. At Neales Flat we passed the local church - another landmark from Bruno's childhood. On Brownlow Road the wind became serious, but we kept on.

The climb up Smith Road became daunting with the head wind. – not to bad for Bruno and myself on our e-bikes but pretty tough for Kevin. Two views eastward out over the plains on the way up were a good reward. On reaching the top we were exposed to the full velocity of the wind, the temperature dropped, and the clouds became very black. It felt like we were about to bit hit with some very heavy rain. We continued on along Tablelands Road to the shelter of the stone walls at the Kingscourt complex entry. At lunch we witnessed a farmer skilfully driving along a small flock of sheep. The sheep were kept at a constant walk with the Land Rover moving side to side to gently keep the sheep in the right direction with a minimum of fuss. At lunch we discussed being well behind schedule with more headwinds to come and a strong chance of rain so decided to head straight back to Eudunda and enjoy the downhill.

We were going to hold the compulsory debrief in the Eudunda bakery but as it was closed, we had to adjourn to the local hotel. Reviewing the stats for the ride showed we covered 43 km with 520 metres of climbing. The temperature started at a cold 11 degrees and dropped to a chilly 8 degrees for much of the ride.

Thank you, Peter Harrison for the Article.

The pictures were not taken on the day they are from the web, hence blue sky.

Ride With GPS try it you will not be disappointed!

Alert⚠ Don't meddle with e-bike Li-ion batteries they can be an explosive fire hazard. Battery fires are extremely rare when you consider your laptop, drill, toothbrush, head torch, phone even watch use Li-ion batteries. Cheap eBay no-brand batteries and backyard repairs - please don't with your e-Bike batteries. Batteries are safe because they are equipped with quality Battery Management Systems (BMS), circuit boards that protect against overcharge, over-discharge, overcurrent, temperature cut-off protection, and other safety features. Fires are often due to damaged equipment or improperly connected or bypassed BMS. Safe storage temperatures from 0°C to 40°C, perfect 15°C. Safe charging temperatures are similar but slightly different, ranging from 0°C to 45°C. While those are safe ambient air temperatures, the internal temperature of a lithium-ion battery is safe at ranges from -20°C to 60°C. The BMS should shut down and not exceed a Maximum of 55°C. An expert recommended not to leave your battery on a charger for longer than necessary to fully charge it, as an extra safety layer. He suggested to charge a Li-ion battery with a simple cut-out timer. Consider where and when you recharge your e-Bike. Always use the original charger provided by the e-Bike battery manufacturer; albeit if you are prepared to train on how to use an advanced charger AU$425 read Cycle Satiator.

E.g., Amazon timer 1,2,4,6,8,10 hours, $22

Bicycle Automatic transmission systems… Shimano have started with E-bike Specific Internal Geared Hub.

The NEXUS INTER-5E is an internal geared hub that was designed for the unique demands of e-bike riding. Built to withstand much higher pedalling/motor forces while shifting, accepts three times heavier torque than previous Shimano Hub gear series. The compromise to give the geared hub strength to handle torque is only 5 speeds and an underwhelming 263% gear range in 27% steps. New firmware has been released by Shimano to make automatic gear shifting possible for e-bikes with SHIMANO STEPS components (DU-E6001 and DU-E6010). Fully automatic shifting is available with nexus geared hub when coupled with Shimano mid motors EP801 and EP6 and Nexus-5E Di2 (SG-C6060) sealed hub drive units. The system automatically shifts to a favourite gear for an easy start after stopping for a traffic light and shifts into the optimum gear according to riding conditions. The Nexus-5E hub with Di2 electronic shifting capability now takes gear shifting a step further by automatically selecting the best gear based on a rider's cadence and speed.

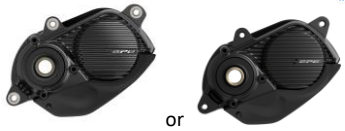
Especially useful in urban areas where stop-and-go riding are frequently repeated. Automatic shifting, which shifts to the optimum gear based on the rider's cadence, climbing and speed, also recognizes the manual shift operation by the learning function and automatically fine-tunes future automatic shift timing to the rider's preference, it is a more comfortable ride.

But WAIT There is more – Shimano Automatic shifting for eBikes with derailleurs.

Firstly, you need a Shimano group set that supports the tried and tested Di2 motorised gear changing system (this removes the need for manual pull-cable shifting and introduces accurate moving on receipt of electronic pulse of the rear derailleur and chain across the rear cassette cogs). Now couple that with the EP801 motor, an update of the Shimano EP8 drive, the new entry-level EP6 motor both with an integrated automatic function for the electronic shift groups XT Di2 and the new CUES Di2.

The motors are equipped with sensors that know your Speed, Cadence, Torque, Power, Gradient, GPS. More than enough data that with intelligent analysis and filtering (end-user capacity to amend) the system engages the right gear at speeds you can't emulate manually. When you stop for traffic lights the system will select a lower gear to start you on your way. The Technical description is considerably more complex than can be explained in one page. E.g., Controller Area Network (CAN) communication consists of two electrical wires called CAN-Low and CAN-High. The information within each e-bike Di2 system is transmitted in binary to each Electronic Control Unit. The wired CAN bus can be emulated by a wireless system but is often considered more robust in harsh environments.

+PLUS+

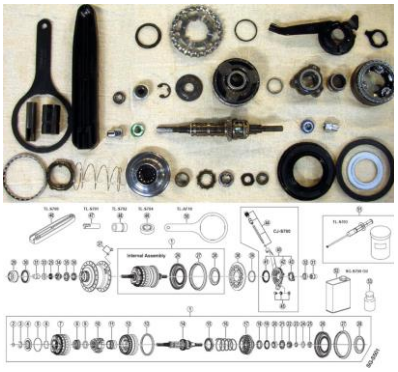


or

SHIMANO DU-EP801 SHIMANO DU-EP600

EP801 motor update, new EP6 eMTB motor and new XT Di2 electronic e-bike shifting with automatic function (ebike-mtb.com) <link for more detail.

To this day, many motoring enthusiasts resist automatic transmissions in our motor cars, we used all kinds of reasons why we needed manual control of our gears, but we now have accepted that concentrating on steering and slowing or stopping is far more important than having 3 pedals and levers to control the engine power. With E-Bikes that concentration on where our wheels are facing and stopping is considerably more important to vulnerable bicycle riders. I focused on Shimano, but SRAM and others will be announcing Automatic bicycle transmissions in the future, and we will be going down the road literally with an Automatic Transmission. **But** which is better: manual vs automatic vs. CVT? Manual is cheapest and DIY maintainable; Auto or CVT… we will have to wait till all are tried and tested.



Shimano 8 speed Hub gearbox parts

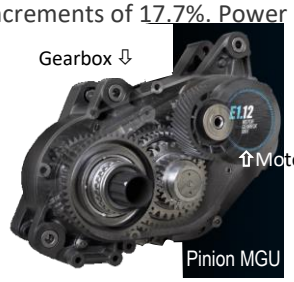
Alert⚠ We have a skills gap. All these fantastic Automatic Transmissions, hub drives, gearboxes, complex motors, create a challenge of technology and skills training to repair our bicycles that is not keeping pace with technology supplied by manufacturers. DIY maintenance of a bike with Gear Clusters, rim brakes, chains, tubes was a delight to accomplish, and the same for kick scooters and Skateboards. Now we probably can fix punctures, pump up tyres, clean, lubricate, change cassettes and other mechanical issues; but repairing a hub drive, gearbox, hub or mid motor is pure faith that the retailer has trained mechanics to repair and lubricate.

But WAIT There is MUCH MORE… *somebody just leapfrogged the competition with a radical innovation*:

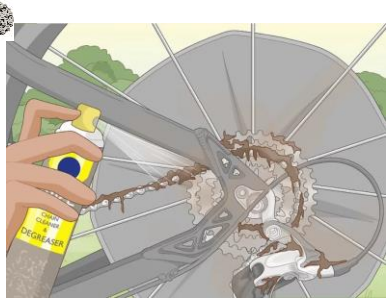
Pinion MGU E1.9 and MGU E1.12 motor/gearbox units – Is this the end of conventional derailleurs? does it solve everything?

First ride review of the Pinion MGU E1.9 and MGU E1.12 motor/gearbox units (ebike-mtb.com) <link and read it is a potential future.

Vulnerable derailleur systems, clunky gear shifts, oil polluting messy broken chains… eBikes undoubtedly place increased strain on the drivetrain, resulting in decreased shifting performance, a high susceptibility to breakdowns, and short maintenance intervals. This could be a thing of the past with the **belt-driven** Pinion MGU. (MGU = Motor Gearbox Unit): an encapsulated unit that houses the gearbox and motor and shifts electronically, thus completely replacing an external derailleur or geared hub. Available with 9 gears 568% gear range, with 24% increments between gears or 12 gears 600% gear range with gearing increments of 17.7%. Power source is 85 Nm driving through a clean long life carbon belt. Maintenance is an oil change at 10,000km. The MGU shifts through the gears electronically. The shifter is modelled on a conventional trigger, and connected by a wire, but instead of pushing a lever to shift, you just press a button. The buttons are rubberised and provide good haptic feedback. AND the system can be provided with fully automatic shifting, so you focus on the road or trail ahead. Everything so technically advanced has a downside and we don't know the price yet, and the weight at 4100gms is about 800gms more than mid-motor 2400gm plus derailleur system 900gm. A frame special to mount the unit will be required, no retrofit is available.



Basic Bicycle Maintenance A ir B rakes C hain



1 **CLEAN YOUR BICYCLE**: not just for appearances, How to Clean a Bike: 12 Steps<link

Water source: a bucket or garden hose. A jet wash/pressure washer can be used, it's best not to point it directly at bearing or suspension seals or electric motors. **E-Bike Caution:** your battery and motor are safely sealed, and you shouldn't worry about water getting in them. However, you still shouldn't use any form of high-pressure hose when cleaning an e-bike. Doing so might let water penetrate through the bike's closures and compromise its electric components.

Work stand. Optional, and helpful but lifting 24-26kg e-Bike isn't easy on your own.
Brushes. Several brands offer a 'bike wash brush kit' with brushes for the various applications, but if you don't have those, a couple of toothbrushes and an old dustpan brush will suffice. Don't use the same brush on the chain to clean the frame or Rims.
Chain cleaning device or a specific stiff-bristled toothbrush if you don't have one.
Degreaser for chain and derailleur**, Bike wash fluid** (preferably environmentally sound) **Lube,** for bearings and chain after cleaning.
Paper towel or rags different rag for frame wheels and brakes.
If you have a chain cleaning device, use it to clean the chain. If not, you'll simply have to apply the degreaser and use a brush. You'll need the brush for the cassette and derailleur(s) in any case. Make sure you have a specific brush for your chain, and don't use it on any other part of the bike, particularly the brakes – contaminating your braking surface with chain filth will ruin performance and may force you to replace brake pads. Clean your jockey wheels.

2 **LUBRICATE YOUR BICYCLE:**

Properly cleaned bike parts and lubrication contributes to good performance. Lubrication protects moving parts from excessive wear caused by friction and helps keep rust and corrosion at bay. Don't Over-lubricate… excess lubricant will attract dirt and other abrasive particles carefully wipe away excess before riding. All you need to lubricate is the moving parts, where metal pieces move against one another. Use a light, synthetic formulated bike lubricant and not any old junk that you find in your garage. Oil that is too thin will dissipate quickly and not hold; oil that is too thick will gum up and attract lots of dirt.
Be careful standard WD40 is a degreaser not a chain lubricant albeit there are WD40 chain lubricants, read label.
Where not to lubricate: Disc brakes and rotors, rims and caliper brake shoes and your Carbon Belt.

- **Your chain** is your bike's primary moving part and the one that needs the most love and frequent lubrication. If you ride in dusty or muddy conditions, you should clean your chain regularly. Choose a wet lube if you are biking in wet weather or for longer duration of lubes, choose a dry lube if you live in an arid climate. Wet lube isn't necessary if you're riding in dry weather conditions, and it attracts more dirt than dry lube. Dry lube will keep your chain cleaner, but you'll need to reapply it often, usually about every 160 km riding.

Pros and Cons Wet Lube *(was called Oil)*

- ✓ Superior protection from rust and corrosion
- ✓ Effective in wet and muddy environments
- ✓ Long lasting protection
- ✓ More Lubrication in each bottle - Cheaper
- × Attracts more dirt and debris.
- × Requires more maintenance.
- × Can be messy to deal with

Pros and Cons Dry Lube *(was called Wax)*

- ✓ Does not attract dirt or gunk up.
- ✓ Can be reapplied without cleaning.
- ✓ Less messy compared to Wet Lube
- ✓ Easier to maintain.
- × Does not last as long as wet lube.
- × Washes off easily.
- × Not as much "lube" per bottle -Dearer

Wet lubes mainly composed of synthetic esters and anti-corrosive additives that have high water resistance capability, which makes the lube perfect for wet conditions and gives the chain drive long-lasting protection from rust and wear. Behaves like but definitely not oil.
Dry lubes contain graphite and molybdenum-disulfide that work at temperatures higher than those in which oil-or liquid-based lubricants operate. Friction-reducing additives such as Teflon (PTFE) are also often used for better results. They behave like wax.

- **Your front derailleur and rear derailleur** are what moves the chain between gears when you shift. These assemblies are made up of several small moving parts, including two small pulley wheels. You want to keep these clean and lubricated so they don't bind up or become rigid. Shift the gears while you turn the pedals so you can see how the derailleurs operate, and then apply lubricant to any moving parts, including the pivot points of the assemblies.
- **Brake and Derailleur Cables** control the operation of your brakes and allow you to shift gears. If they get rusty or seize up from lack of lubrication, you will not be able to stop properly or change gears smoothly, if at all. Check them frequently, especially if you ride in dusty or wet conditions, and re-lubricate as needed with a few drops of oil.
- **Brake and shifter levers** are Located on your handlebars, these levers are crucial for braking and changing gears. Apply drops of oil to the moving points of the levers and the barrel adjusters to keep them functioning properly. Then wipe away any excess oil to keep from attracting dust.
- **On the rim brake assemblies** put a drop of oil on any moving parts that you see. If you have trouble recognizing these pivot points, you can squeeze the brake levers, watching closely and see where they move. Anywhere these metal parts move against each other is a good place to lubricate. Be very careful not to get any oil on your brake pads. That will make it more difficult to stop quickly.
- **Pedals,** put a few drops of oil on the part where your pedal meets the crank arm. Again, focus on getting the oil on the moving part that rotates around the spindle, which screws into the crank arm.
- **Wheel Bearings,** yes you can annually repack the two wheels ball races but be careful don't lose those tiny ball Bearings refer to How to Grease Bicycle Wheel Bearings: 5 Steps. Don't cheat remove the old grease clean the race, check the ball races are in sound

smooth condition, then apply new grease and carefully replace all the ball bearings, retightening the cones carefully, make sure the wheel spins freely, silently albeit without movement or slop on the axel. If it spins rough don't ride refer to your bicycle mechanic.

3 CHECK TYRE PRESSURES (weekly not weakly)

①. What is the role of air pressure in tyres?

Tyres are filled with air in order to achieve several effects. Air Lowers weight and absorbs road irregularities (bumps, holes etc.) with enough rigidity and firmness to allow good control and steering.
An inflated tyre carrying no load, the height of the tyre is about the same as its width. I.e., When there's no load pushing it against the ground, it stays at full height, the air pressure inside keeps it stretched to its full profile.
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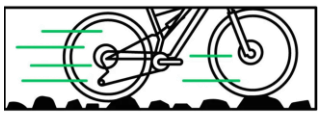
②. What is the optimal tyre pressure?


Too little


Too much


Just right

Optimal tyre pressure is the one that allows the tyre to carry the weight without deforming too much, but so that the tyre is not too hard, making the ride harsh, and traction poor.
Your tyre deforms in place it contacts the surface, when it is loaded. This means it will vary with the rider weight This also enables it to comply with terrain irregularities, making the ride comfortable and grip better.

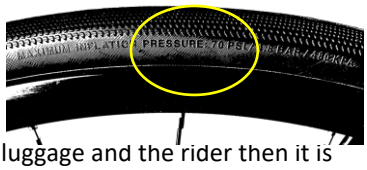
③. What does the optimal tyre pressure depend on?

It depends on two things:

- **The total volume of the tyre**
  The bigger the air volume (larger wheel or wider tyre), the lower the pressure required.
- **Weight carried by the tyre**
  The bigger the weight carried by the tyre, the higher the pressure is required.

A typical example is a road tyre with dimensions 622-23 (23 mm wide) that is inflated to pressures over 100PSI. On the other hand, a tyre with the same diameter, but 47 mm wide (622-47) is inflated to pressures below 60PSI – for the same weight carried.

④. To what pressure should I inflate my bicycle tyres?



Bicycle tyres usually have the maximum allowed pressure they can take written on their sidewalls. If the optimal tyre pressure, to carry your loaded bicycle exceeds the tyres maximum allowed pressure, you should look for wider tyres, or higher quality ones of the same width.

⑤. **Rear tyre:** Both front and rear tyres should be inflated to be firm. When the bike is loaded with luggage and the rider then it is measured how much the rear tyre is compressed compared to its height when the bike is completely unloaded. That droop can be measured visually – at 15%. I.e., the tyre should just slightly "bulge" at the ground contact. If it doesn't deform at all, the pressure is too high. If it deforms too much, the pressure is too low. The pressure at which there is a 15% sag depends on the load and tyre width. When you achieve visual 15% sag the pressure is measured is the optimal rear tyre pressure**.**

⑥. **Front tyre:** After the optimal rear tyre pressure is determined, adjust the front tyre pressure. In case of hard braking, or hitting a kerb, the front tyre takes the same load as the rear tyre, at least temporarily. That is why the front tyre shouldn't be much softer than the rear tyre**.** Still, for most riding conditions, the rear tyre takes generally more load. On bikes, when a rider is leaned all the way forward, load distribution of front – to rear wheel is about 45% – 55%. For recreational bikes, where the rider sits almost upright, weight distribution is about 30% front – 70% rear. The front tyre can be a bit less inflated than the rear tyre, never more inflated.

⑦. **Bicycle tyre pressure recommendations table** Bike Tyre Pressure - How Much Air You Need Chart) (bikepush.com) basic and comprehensive - Complete Bike Tyre Pressure Guide: Get the Correct PSI Every Time (bikexchange.com)
All of which will be different for 20" to 29" wheels.

⑦①**Pressure higher than optimal**

- **Traction will be reduced**, that includes braking and cornering, even on high-quality paved roads.
- The ride will become significantly **less comfortable** – since the tyres will not dampen road irregularities.
- The energy put into pedalling will partially be wasted on small bouncing up and down. On descents, speed will remain roughly the same but caution on corners.
- On extremely flat, good-quality pavement, speed will slightly increase compared to optimal pressure. **Especially if tyres are of poor quality** (bicycle tyre sidewall quality).

Inflating the rear tyre to pressure more than 5% over the optimal hardly makes any sense. As well as inflating the front tyre even 1% higher than the optimal pressure for the rear.

⑦②**Pressure lower than optimal**

- For the same effort, the bicycle will go slower. This goes for both climbs, flats and descents.
- On rough roads (very bad pavement, off-road, mud, sand, snow etc.), the ride will be a bit more comfortable. If your tyres are fat enough to avoid pinch flats (snakebites), running a bit lower pressure is a good idea for bad roads.
- Your tyres grip on rough roads (as well as climbing speed) will be a bit better (and faster).

However, on rough roads with wide tyres, there is a limit to how low it makes sense to go. Going too low increases the risk of pinch flats, speed loss is higher even on rough roads, while there's hardly any improvement in comfort or grip.

YOUR TYRE IS FLAT YOU HAVE A PUNCTURE: 

You can fix it at home or on a ride. You should always carry the capacity to repair a puncture on a ride. A spare tube even if you are tubeless and a tube/tyre repair kit with tyre levers, adhesive, patches, sleeve (for glass or rock tyre cut), and a Pump (add a tubeless plugger for the big hole in your tubeless tyre that is too large for Tubeless sealant). You need to remove the wheel from the frame so, ensure you have appropriate tools, your bicycle may have a thru-axle needing a hex Allen Key to remove the wheel (often 8mm).

If you have sealant in that tubeless tyre, have you refilled it! Sealant lasts 6 months, it is easy to replace. The sealant dries out as a function of absolute time elapsed, not distance ridden. 5 Minute Tubeless Tyre Sealant Overhaul! - YouTube watch the video but a tip they forgot only ever replace the same sealant. The two sealant types are latex based and latex free. Essentially if you started with Stans, stick with Stans (pun intended to remind you). Best Tubeless Sealant for MTB, Gravel, and Road Bike.

4 CHECK BRAKES – *Rim brakes Yes DIY… Disc brakes Maybe DIY, please be careful!*

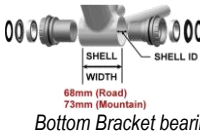
Cable Rim Brakes: Do your brakes stop your bicycle without squealing? If your bike has rim brakes, it's safer to keep an eye on the pad life and replacing them before they're worn out. Replace worn pads, take original to bike shop. Do check you haven't worn that rim too thin. How to Adjust Bike Brakes: 11 Steps (with Pictures) - wikiHow includes how to stop that annoying brake rubbing.
Hydraulic disc brake: Though hydraulic disc brakes have fewer maintenance routines, maintaining them can be quite an arduous task. For cyclists on a tight budget, hydraulic disc brakes for their bikes may not be an option because of the difference in the price. The hydraulic version is more expensive to maintain compared to the mechanical rim brakes. Don't wait till you hear metal on metal screeching you are already in danger of brake failure and likely to need pads and maybe a rotor replacement. One of the benefits of having hydraulic disc brakes is the fact that the callipers adjust the pads automatically during wear and tear which also can be their Achilles Heel because the wear is automatically compensated for. Essentially it is better to have your hydraulic disc brakes professionally serviced they really are life savers. But if you feel confident in your skills and intend a DIY pad replacement … How To Take Care Of Hydraulic Disc Brakes And Avoid Problems or How to Replace Bike Disc Brake Pads: Sram and Shimano
Brake Cables, check all your cables are running smoothly not sticky, slack, or frayed. If your cables are not recent plastic lined housing, you can lubricate the inner cable How to Lubricate Brake and Shift Cables. If your cables are slack tighten at the brake or shifter end. If cables are impeded by fraying or simply sticking replace them, it isn't expensive nor difficult How to replace your bike's brake and gear cables. Review your hydraulic brake hoses are not pinched, impeded or leaking… if damaged do get your hoses replaced ASAP. It is possible to DIY but your safety is at stake and the system needs bleeding to remove air bubbles; essentially unless you are a competent amateur bicycle mechanic take it to your professional bike servicing shop.

5 ADJUSTING BICYCLE GEAR SHIFTING – *Maybe DIY but you need a bike stand or a car bike beak to elevate the bike wheels and patience.*

This is a frustrating, fiddly task that you can do, but you will need to have a bike stand and have the gear cables smoothly operating with no slack, and a lot of patience. How to Properly Adjust Bicycle Shifting - YouTube

6 BOTTOM BRACKET BEARING AND HEADSET BEARINGS:

The bottom bracket on a bicycle connects the crankset (chainset) to the bicycle and allows the crankset to rotate freely. It contains a spindle to which the crankset attaches, and the bearings that allow the spindle and crankset to rotate. The challenge is to identify the type of bearing used in the bracket as there are many cup & cone, cartridge, external, Hollotech, Giga-X-Pipe, Ultra-Torque, press fits and others plus variation of diameter, widths, and threads. Park tools have a video that tries to assist you to identify what you are servicing, or if it is sealed and hence no service required.



Bottom Bracket bearing


Headset bearing.

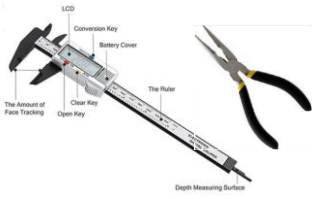
Postscript, if you have a mid-mount motor eBike you won't have a bottom bracket bearing, that is built into your motor.
Headset is usually either cup & cone, or ball bearings enclosed in a cage or retainer, which you can clean and grease or a sealed cartridge bearing. Reassemble Headset in the same order as you disassembled. **TIP use a torque driver** don't over-tighten bolts.


Basic bike tool set $70.


The best $1600 (no needle nose pliers 😊)


Torque Wrench Sets Amazon $25-$89.


Chain tools $20


Vernier Caliper 150mm $25

A sample of the tools you may like to have, you can do a lot with a multi tool, adjustable wrench, and pliers; but to do a good job on your bicycle you will need some special tools e.g., a cassette removal socket, a chain whip, thin cone wrench, open-end spanners, etc.

If you are unsure or need to know how to fix it, Go To: Park Tool Repair Help: List of all Repair Videos