



How soon will this be nostalgically "the way we were" Penny Farthing to Safety Bike introduced 1885, took till 1899 to dominate. Pedal to Pedelec and E-devices maybe five more years till they dominate.

Private eScooters and personal electric transport. Legal soon in SA 15kph on footpath 25 kph on urban 50kph road and cycleways - age 16 riders

Micro.Evs. soon in SA. Two or three seat tandem and side-by-side electric urban commuters. Some Solar home chargeable with swappable suitcase batteries

Hi all, please be advised I will be responsible for the assembly of the SARCC newsletter **for just one more month**. As I transition to my focus on the board of BikeSA our Peak Body to advance cycling strategy in SA. SARCC needs of a volunteer to take on the role of newsletter creator – your involvement will be greatly appreciated. SARCC have five excellent communication channels – SARCC website, Monthly Newsletter, Facebook, Email, and Club meetings – in addition to your face-to-face interactions on rides. Our ride and tour participants may shift to a more modern visual narrative through photographs, shared almost instantly on Facebook, complete with descriptive captions. Given the efficient online presence that SARCC maintains, it might be feasible to transition to a Quarterly Newsletter. If any member is interested in taking on the role of SARCC Newsletter editor, I encourage you to contact the SARCC Executive Committee. Thank you. **Eric**

It is the generous efforts of all the ride leaders, coordinators and executives who make SARCC rides and tours so enjoyable.

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

7th July 2024 **North Haven** 10 a.m. Meet at [The Sailmaster Tavern, North Haven](#). Le Fevre Peninsular and West Lakes with Beach route back to start. Ride suits all bikes. Some tight sections. 41km. Lunch at Duck Pond.. *Sven H. 0410 271 717*  <Link

21st July 2024 **City, Darlington, Glenelg Loop** 10 a.m. Meet at [Victoria Square](#).

More details to follow. *Carolyn W. 0427 797 476*

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. Organiser *Di Beltrame 0424 957 532*

Jul 4 th	Sven	0410 271 717	10 a.m. Above Belair Railway Stn, 48 Sheoak Rd	Some unsealed roads 40km	
Jul 11 th	Di	0424 957 532	10 a.m. Woodside Pool car park	Some unsealed roads	
Jul 18 th	Trevor	0401 717 031	10 a.m. Woodside Pool car park .	Some unsealed roads	
Jul 25 th	Paul	0427 537 836	10a.m. Woodside Pool car park	Potentially some unsealed roads	

PERFECT ride JULY 14th TBA Meet at [Marrabel](#) for 9am start. 70 km ride northwest over the range to the Gilbert River, crossing back over the range to Steelton. Follow Tothill Creek to Webb Gap. Julia creek back to Marrabel. No facilities on the ride = bring lunch, water and spares etc. Please advise if you are attending. Leader: *Peter H. 0448 364 138*

SARCC Flinders Melrose Burra Tour

Ride Organisers: Kevin Dronfield, Sven Holm

14 Registered Interested Riders as at 29th May 2024 Accommodation to be arranged individually by trip participants. We recommend cabins be booked promptly to ensure availability. Persons who may wish to share cabins should contact Sven (Mob 0410 271 717, holm0160@gmail.com) for contact details of others who may wish to share cabins.

Bikes: This trip is not suitable for road bikes. Suggest Gravel and/or Mountain Bikes. Riders are responsible to maintain their equipment.

Rides: All rides are optional and where possible will depart the Base accommodation. Helpful if riders have their RWGPS working and have rides downloaded to their navigation devices.

Date	Description	Base Accommodation	Powered & Unpowered Sites	Cabins
7 th Sept 2024	Arrive Angorichina Village (490km ex GPO Adelaide)	Angorichina Village Ph 86484842 Email: ango1@westnet.com.au	Yes	Yes
8 th -11 th Sept 2024	Ride Days Angorichina			
12 th Sept 2024	Transition to Melrose (220km ex Angorichina Village)	Melrose Caravan and Tourist Park (See Website) Ph 86662060	Yes	Yes
13 th -16 th Sept 2024	Ride Days Melrose			
17 th Sept 2024	Transition to Burra (140 km ex Melrose)	Burra Caravan Park & Paxton Cottages Adjacent to Caravan Park (See Website) Ph 0488513101	Yes	Yes
18 th -20 th Sept	Ride Days Burra			
21 st Sept 2024	Short Ride & Travel End of Trip	(160km to GPO Adelaide) home		

Ride With GPS  try it you will not be disappointed!

Tuesday 23rd July 2024 SARCC Annual General Meeting

The AGM date is Tuesday 23rd July at 7.30pm at the Cumby.

This is a **preliminary notice** to remind all members that the AGM has been brought forward to July (previous years were November) An agenda and notice of meeting will be emailed by SARCC's Secretary giving time date and place of the meeting. We will be calling for nominations for all members of the Executive Committee.

SARCC seven executive roles: President, Vice President, Secretary, Treasurer, Ride Coordinator, and Two Members

There will be a talk after the AGM on cycling in Italy (Ron Battista) and possible European rides in 2025 (Marianne) and an outline of the next two years Projects – we want your contribution.

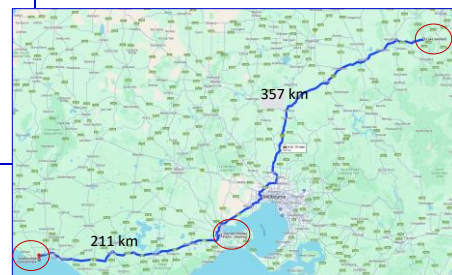
SARCC Beechworth Geelong Pt Fairy Tour Ride Organiser: Sven Holm, & TBA

Accommodation to be arranged individually by trip participants. We recommend cabins be booked promptly to ensure availability. Persons who may wish to share cabins should contact Sven (Mob 0410271717, holm0160@gmail.com) for contact details of others who may wish to share cabins.

Bikes: This trip is not suitable for road bikes. Suggest Gravel and/or Mountain Bikes. Riders are responsible to maintain their equipment.

Rides: All rides are optional and where possible will depart the Base accommodation. Helpful if riders have their RWGPS working and have rides downloaded to their navigation devices.

Detail	Day	Date	Ride Description	Suggested Accomodation
Arrive Beechworth	Sat	16-Nov-24	Travel Day	Beechworth Lake Sambell Caravan Park
Ride day	Sun	17-Nov-24	Yacka Epic 50	Ph 03 57281421 (6 Nights) (Holds on cabins at no cost made, Quote SARCC when booking)
Ride day	Mon	18-Nov-24	Eldorado Beechworth Loop 58	
Ride day	Tue	19-Nov-24	Magic Forest Ride 57	
Ride day	Wed	20-Nov-24	Wodonga Hume 74	
Ride day	Thu	21-Nov-24	Woolshed Waterfall Loop 56	
Drive to Geelong	Fri	22-Nov-24	Travel Day	Tasman Holiday Parks
Ride day	Sat	23-Nov-24	Barwon Heads Torquay	75 Barrabool Road Belmont Geelong Ph 03 5243 5505 (5 Nights)
Ride day	Sun	24-Nov-24	Geelong Burbs	
Ride day	Mon	25-Nov-24	Barwon Queenscliff	
Ride day	Tue	26-Nov-24	Pt Nepean (Note A)	
Drive to Pt Fairy	Wed	27-Nov-24	Travel Day	Southcombe Caravan Park
Ride day	Thu	28-Nov-24	Portland Bridgewater	James Street Port Fairy Ph 03 55682677 (3 Nights)
Ride day	Fri	29-Nov-24	Port Fairy Rail Trail	
Drive to Home	Sat	30-Nov-24	Travel Day	



[Lake Sambell, Beechworth to Geelong to Southcombe Caravan Park](#) <link map & zoom

Note A: Queenscliff, Sorrento Ferry Fare \$32 Return, Bikes are Free

SARCC Subscriptions for Year Ending 30th June 2025 are due & payable by 1st July 2024.

Subscriptions have been held at **\$30** and payment can be made via:

EFT to SARCC Westpac Acct BSB 035048 Acct No. 301670.

Please quote your name in the reference area.

Please ensure you complete the reference details so we can allocate members payments received correctly.

If you wish to pay by cash or cheque, please take your funds to a Westpac branch and make the deposit to the account details quoted above. Our largest expense is Insurance, and it is due early in the year so prompt attention to subs will be appreciated.

We have now received the minimum order quantity required for a run of Jerseys to be made
ARE you interested we need to know soon please?

Maybe your old kangaroo jersey has had its day.

Maybe you like the new design.

Contact SARCC Treasurer Sven

holm0160@gmail.com

[Fill out the order form](#)

**You have until 15th July 2024
to order your Jersey or Socks**



Cost? (\$78.90 for long sleeve & \$72.90 for short sleeve)

Lightweight mesh knit fabric is designed for optimal moisture transfer and fast drying. The special weave keeps you extra cool and provides a textured finish.

Size? Blackchrome have a fitting service: [Unit 2 / 171 Grange Road, BEVERLEY SA 5009](#) (08) 8244 5500 Mon – Fri: 9:00am – 5:00pm.

It is the **sportive style** and say you are from **SARCC**.



SARCC CLUB SOCKS cost \$11 TO \$20

Blue looks great and Orange matches the jersey.
If Orange, the logo & SARCC will need stronger contrast.

Members, please email Kevin kev.d@live.com.au

We need your expression of interest and opinion or contribution on the sock design and colours.



SARCC PERFECT ride June 16th, 2024, from Balaklava

I should not have had the heater on in the car on the way to Balaklava. It made the inevitable exit from the car into the bracing Balaklava early morning air much more excruciating than necessary.

Five of us managed to brave the cold and early rise. Kevin D leading with Kevin B, Peter B, Sven H and Roger P providing moral support.

Heading northwest out of Balaklava on Golf Course Road we made good time into the small hamlet of Whitwarta with it's ten or so residences and went straight through and out the other side to continue our westward journey.

Not far out of the town we crested a small rise (with a total ascent of less than 200 metres on the ride all of the rises were small) to be greeted by an unexpected lake shimmering in the morning sun. It turns out that this was Diamond Lake, a transient salt lake whose banks are still currently mined for gypsum. The road passed through the lake, although only the north side contained any water, and headed relentlessly westward.

We took a slight diversion off of Beaufort Road to cross the active main northern rail line in order to explore the site of the Goyder Station. There was no evidence of any station to be seen which a few riders mentioned reminded them of the previous month's PERFECT ride where we visited South Hummocks Station to find a similar absence of any signs of a structure.



The surprising Diamond Lake.

Turning on to Beaufort Cemetery Road we came across ... you guessed it ... Beaufort Cemetery. It had been plonked in the middle of a paddock, so we braved the intricacies of rural gate latching to go and have a look at what turned out to be a very small cemetery that seemed to have a quite short period of use. This was probably due to the paddock being infested with caltrop (three cornered jacks) which eventually caused a prolonged stoppage to fix a puncture a few kilometres down the road.



Jack Brabham at the 1955 Port Wakefield Grand Prix. We found a similar scene except there was no track, no car and no Jack (except the three cornered variety).

As we headed into Port Wakefield for lunch we passed by the site of the 1955 Australian Grand Prix. As with our recent experience with railway stations there was absolutely no indication of the track's existence. Once again, the leader was informed of the developing pattern of notable sites with nothing notable to see.

Lunch was had on the wharf at Port Wakefield amid a lively and irreverent discussion on a wide range of topics. The return to Balaklava was intended to be a fairly straightforward affair along the Copper Trail.

While navigating the rather overgrown, rough and stony trail we were stopped by the furious horn blowing of a car on the adjacent main road (Balaklava Road).

One of our group had left their bike toolkit at the lunch stop and they had tracked us down to return it!



Port Wakefield wharf and lunch stop.

This country kindness was repeated when we suffered yet another puncture a few kilometres from the ride finish in Balaklava. Having elected to push the bike until other riders returned with a car, we were astounded to see a car with trailer pull over in front of us offering to transport bike and rider into Balaklava! We declined the gracious offer, but these events confirmed our suspicions that country folk really are the kindest people. The traditional debrief was held at the Royal Hotel in Balaklava. It was a perfect day for a PERFECT ride. Plenty of sites to see and unseen, plenty of banter and completely devoid of hills! Hope to see you at the July PERFECT ride.

Kevin D.

Half-ton electric bike poses latest threat to London pedestrians <link (thanks to Ron Battista)


The cargo bike grew from these to  This!



do try the link above and read.

There are many solutions to the concerns expressed in the article above, but the reality is the alternatives are much more threatening:

		
Weight 500kg loaded, max speed 25kph smooth small low frontal area Accident 25kph risk of severe injury 5%	Weight 3880kg loaded, speed 50kph urban – this example is electric. smooth blunt frontal area Accident 50kph risk of death 90%.	Weight 2725kg loaded, speed 50kph urban blunt frontal areas (bull bar) Accident 50kph risk of death 90%.
Designed to ride on cycleways. Australian minimum standard Cyclelane/way used by most councils is too narrow at 2.5M a move to 4.0M means the loss of some free car parking	I deliberately depicted heavy trucks and a bull bared 4X4 as these are the villainous nemesis of cyclists, albeit being hit by a Mini at 50kph is potentially fatal. These vehicles are not driven in the Cycle-lane/way but all too regularly drive, park, and cross the lane at road speed. There is an estimated 10 per cent probability of being killed if struck at 30 km/h, rises to over 90 percent at 50 km/h.	



A possible closure date for Australian Retired Persons Association SA Inc. trading as Retire Active SA has been scoped for March 2025. However, this is contingent on a majority member vote to disband Retire Active SA at an upcoming [Special General Meeting to be held on Wednesday 10 July 2024 at 10.15am at Pilgrim Church Hall, 12 Flinders Street, Adelaide](#). The RASA cycling group are rescheduling to start a regular Wednesday ride 10th July from the Church Hall, attending the meeting then departing on their Ride. Many of SARCC members are also RASA members and we encourage your attendance. SARCC are welcoming all RASA members to join SARCC at a standard subscription of \$30 for the year to 30 June 2025. SARCC will insure and create a Wednesday Ride Group with the same structure and organiser of RASA group i.e., SARCC wish to assist to transition the RASA cycling group with minimal disruption. While it is possible to delay transfer to SARCC till March 2025 that creates problems for RASA members who due on their fee anniversaries may drop out from RASA membership (some already have). Not be financial members of RASA, voids the RASA insurance of these individuals. SARCC cannot, will not, compensate those who are unfortunate to have paid RASA subscription up past July 2024 – it's only the cost of 4 large coffees to cover SARCCs annual fee. Subscribing to SARCC in July will grant access to RideWithGPS and to be insured by SARCC public liability & Officers cover plus make a smooth transition for communication with Web Sites and incidental issues.

If the closure motion is passed at the Retire Active SA Special General Meeting, (that is highly likely) it will be beneficial for all RASA Cycling Group to click on the [SARCC membership form](#) and pay their annual subscriptions in July 2024.

State Government has introduced legislation to parliament that will permit e-scooters on public roads & paths.

The Statutes Amendment (Personal Mobility Devices) Bill 2024 will allow privately-owned e-scooters and other personal mobility devices to be ridden on roads and in other public areas. On passage of the Bill, there will be no requirement to register a personal mobility device or for the rider to hold a licence.



The Government proposes to take a broad access approach, permitting use on footpaths and pedestrian infrastructure, as well as in bike lanes and on roads where the default speed limit is a maximum of 50km/h. It is proposed that **a speed limit of 25km/h** will apply on roads, bike lanes and separated paths and a lower speed limit of no more than **15km/h on footpaths** and shared paths with pedestrians.

These will be imposed by regulation, which will be consulted on before implementation. Other proposed regulations will enshrine safety requirements including the use of a helmet at all times, that PMDs cannot be used under the influence of alcohol or drugs and that riders **must be aged 16** and older to ride PMDs unsupervised.

The State Government will consider research and consultation with industry experts and stakeholders when finalising the regulations. The use of privately-owned personal mobility devices will remain prohibited on public roads and paths in South Australia until the Bill has successfully passed Parliament and the framework implemented.

Currently e-scooters are only permitted for use under trial conditions, with trials operating within Adelaide's CBD and North Adelaide, the City of Norwood, Payneham and St Peters, and along the coastal park path in the City of Charles Sturt in partnerships between local councils and commercial e-scooter fleet operators.

DRIVES & GEARS

The development of the chain drive helped make the bicycle that we know today possible. The chain drive eliminated the need to have the cyclist directly above the wheel, as in penny farthing. Instead, the cyclist could be positioned between the two wheels for better balance. With the advent of gears, the cyclist could also pedal more efficiently. Riders enjoyed increased speed and easier riding up steep grades. Since the derailleur we have evolved rear hub internal gears and in the last 2 decades gears integrated in the bottom bracket (pedal crank).



Early Drives: Leonardo Da Vinci is credited with developing the idea of the chain and cog in the 15th century. However, it took nearly 400 years for the idea to become a practical aspect of bicycle design. For a chain drive to be effective it needs to transmit power efficiently from the rider's legs to the back wheel. It also must be designed so that pedalling resistance is within a comfortable range for the cyclist. The development of stronger materials and other technological and engineering advances made this possible. By the 1880s, the chain drive was commonplace on the safety bicycle.

The Benefits of Gears: A chain drive alone (without gears) is effective on flat surfaces and going downhill. However, when it comes to headwinds, hill climbing, and even starting on a bicycle without gears--the cyclist must stand on his pedals and strain while pedalling at a very low rate. Gears allow the cyclist to pedal at a comfortable and efficient rate while traveling either uphill or downhill or with a headwind or a tailwind. On the Penny Farthing, the pedals were attached directly to the wheel. One turn of the pedals equalled one turn of the wheel. Gears allow the cyclist to change that ratio. For steep hills, we choose a gear that lets us turn the pedals many times to turn the wheel just once; on flats or downhill, we might choose a gear that turns the wheel many times for each turn of the pedals.

Count your teeth: Simply count the number of teeth in front chain ring and then the number of teeth in one of the rear chain cogs. Example, the front chain ring has 50 teeth and the rear cog has 25. "That means every time I pedal around once on the front chain ring, the chain goes around 50 teeth. That means a 25-tooth (rear) cog goes around twice therefore rotating the rear wheel twice." This would provide a ratio of 2-to-1. If the rear cog had 11 teeth, the ratio would be closer to 4.55-to-1 and so on.

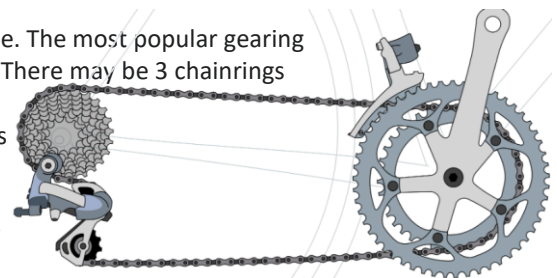
If you need to get fussy then calculate:

[Wheel Circumference](#) x [crank cadence](#) (average 60rpm) x ([Crank Chain Ring ÷ cassette gear](#)) x 60 min per hour ÷ 1000meters to kms
E.G., 2.190metres x 60 x (50 ÷ 11 = 4.55) x 60 ÷ 1000 = 35.8kmh or 2.190metres x 60 x (34 ÷ 36 = 0.944) x 60 ÷ 1000 = 7.4kmh

Mechanisms: So, what is the Mechanics of the gears.

We started with a rear wheel with a gear both sides of the wheel which you could turn the wheel around to have climbing gears or road speed, that required rear frame horizontal slots so you could tighten the chain. Prior to 1937 this was the only permitted form of gear changing on the Tour de France. Competitors could have 2 sprockets on each side of the rear wheel, but still had to stop to manually move the chain from one sprocket to the other and adjust the position of the rear wheel so as to maintain the correct chain tension. There are four main types of gear change mechanisms: ① derailleurs, ② internal hub gears, ③ crank gearboxes, ④ bottom bracket or axle geared. All systems have [advantages](#) and [disadvantages](#), and which is preferable depends on the particular circumstances. Derailleur mechanisms can only be used with chain drive transmissions, so bicycles with belt drive or shaft drive transmissions must either be single speed or use hub gears or crank gear boxes. The bottom bracket ([schlumpf](#)) and ([classified](#)) two speed rear hub are essentially developed to remove the need for 2 or 3 crank ring gears. Other 'one-by' (single crank ring) systems rely on huge 10 – 52 tooth rear cassettes with long arm derailleurs.

① **External gearing** is so called because all the sprockets involved are readily visible. The most popular gearing systems made by Shimano. SRAM, Campagnolo, Suntour with wide range options. There may be 3 chainrings attached to the crankset and pedals, and typically between 5 and 12 sprockets making up the cogset attached to the rear wheel. Modern front and rear derailleurs typically consist of a moveable chain-guide that is operated remotely by a cable attached to a shifter mounted on the down tube, handlebar stem, or handlebar. A shifter may be a single lever, or a pair of levers, or a twist grip; some shifters may be incorporated with brake levers into a single unit. When a rider operates the shifter while pedalling, the change in cable tension moves the chain-guide from side to side, "derailing" the chain onto different sprockets. The rear derailleur also has spring-mounted jockey wheels which take up any slack in the chain.



Most hybrid, touring, mountain, and racing bicycles are equipped with both front and rear derailleurs. There are a few gear ratios which have a straight chain path, but most of the gear ratios will have the chain running at an angle. The use of two derailleurs generally results in some near duplicate gear ratios, the number of distinct gear ratios is near two-thirds of the number of total gear ratios. The style is commonly found on mountain, hybrid, and touring bicycles with three chainrings. The relative step on the chainrings (say 25% to 35%) is typically around twice the relative step on the rear cassette (say 15%), e.g. chainrings 28-38-48 and rear cassette 12-14-16-18-21-24-28. Advantages of this arrangement include:

- A wide range of gears may be available suitable for touring and for off-road riding.
- There is seldom a need to change front and rear derailleurs simultaneously, so it is generally more suitable for casual cyclists.
- One disadvantage is that the overlapping gear ranges result in a lot of duplication or near-duplication of gear ratios.

The two-chain ring style is commonly found on road or gravel bicycles. The relative step on the chainrings (say 32%) is typically around three or four times the relative step on the cogset (say 8% or 10%), e.g. chainrings 50-34 and close-range cogsets 12-13-14-15-16-17-19-21 or 12-13-15-17-19-21-23-25. This arrangement provides much more scope for adjusting the gear ratio to maintain a constant pedalling speed, but any change of chainring must be accompanied by a simultaneous change of 3 or 4 sprockets on the cogset if the goal is to switch to the next higher or lower gear ratio.

② **Internal hub gearing** is so called because all the gears involved are hidden within a wheel hub. The most popular gearing systems made by Shimano, Sturmey Archer, SRAM, Rohloff, NuVinci, Kindernay with wide range options. Hub gears work using internal planetary, or epicyclic, gearing which alters the speed of the hub casing and wheel relative to the speed of the drive sprocket. They have just a single chainring and a single rear sprocket, almost always with a straight chain path between the two. Hub gears are available with between 2 and 14 speeds; weight and price tend to increase with the number of gears. All the advertised speeds are available as distinct gear ratios controlled by a single shifter. Hub gearing is often used for bicycles intended for city-riding and commuting. Hub gearing also supports the use of long-life clean carbon belt drive.

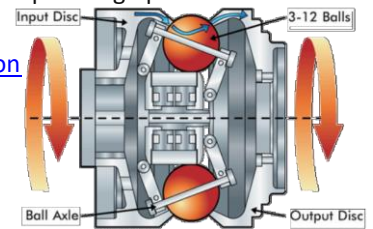


②.1 There are several attempts to combine Hub and external gears. The SRAM DualDrive system uses a standard 8 or 9-speed cogset mounted on a three-speed internally geared hub, offering a similar gear range to a bicycle with a cogset and triple chainrings.

When it comes to choosing between hub gears and derailleur, there are some trade-offs to consider. Derailleur gears are lighter, cheaper, more mechanically efficient, but require more frequent adjustment and may struggle in severe weather. They allow for easier DIY maintenance and replacement. They're better for high-performance riding that demands wide gear ranges and minimal weight, and close ratios. Recently one-by systems (i.e., single crank chain ring) and rear cassettes with 10-52 gears long cage derailleurs on 29" with semi fat tyres and 700 with 38mm tyres MTB and gravel bicycles have become popular along with electromechanical push button shifters replacing cabled shifters.

On the other hand, internally geared hubs are reliable, low maintenance, durable, and long-lasting. They allow you to shift while stopped and shift multiple gears at once. They are sealed to prevent contamination from dirt and debris. They cost and weigh more, add friction, and are very hard to repair. They're ideal for urban riding when reliability and shifting at a stop are high priorities. Hub gears also allow for clean belt-drive bikes.

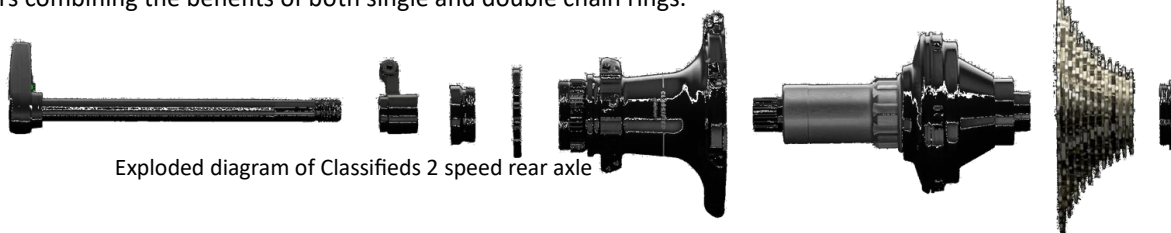
②.2 But Wait There is More: The [Enviolo CVT](#) rear hub [continuously variable planetary \(CVP\) Transmission](#) The Trekking hub is designed to offer performance for longer rides, smoother curves which riders will come across on countryside roads or other versatile environments. *Ratio range 380% (0.5 – 1.9) Max torque 85Nm, weight 2.450 kg, Brake options 6-bolt Disc.* Stepless Automatic or manual shifting are both available. Albeit a narrow range and not a light transmission it is more than adequate for a Commuting Bike.



③ **gearbox bicycle** Current systems have gears incorporated in the crankset or bottom bracket. Patents for such systems appeared as early as 1890. Pinion GmbH introduced in 2010 an 18 speed gearbox model, offering an evenly spaced 636% range. This gearbox is actuated by traditional twist shifter and uses two cables for gear changing. The Pinion system is well suited for mountain bicycles due to its wide range and low gravity center suitable for full-suspension bikes, but it is still somewhat heavier than derailleur-based drivetrain. [Pinion](#), [Intradrive](#), [Effigear](#),



④ **bottom bracket or rear axle geared:** The [Schlumpf Mountain Drive and Speed Drive](#) have been available since 2001. Some systems offer direct drive plus one of three variants (reduction 1:2.5, increase 1.65:1, and increase 2.5:1). Changing gears is accomplished by using your foot to tap a button protruding on each side of the [bottom bracket](#) spindle. The effect is that of having a bicycle with twin chainrings with a massive difference in sizes. [Classified](#) Powershift Technology is a wireless rear axle shifting system that allows you to shift gears instantly and under full load. The Powershift hub offers unrivalled shift quality, high gearing range and small steps in between gears combining the benefits of both single and double chain rings.



Others:

- Gearboxes with motor combined are already being fitted to bikes [Pinion MGU \(motor gearbox unit\)](#)
- [Continuously variable transmissions](#) are a relatively new development in bicycles (though not a new idea). Mechanisms like the [NuVinci](#) gearing system use balls connected to two disks by static friction - changing the point of contact changes the gear ratio.
- Automatic transmissions have been demonstrated and marketed for both derailleur and hub gear mechanisms, often accompanied by a warning to disengage auto-shifting if standing on the pedals. These have met with limited market success.
- Electronic shifting bicycle gears are a type of gear system that uses electric signals and motors to change gears, instead of mechanical levers and cables. They offer several advantages over mechanical gears, such as smoother, faster, and more consistent shifting, as well as less maintenance and customization options. Some of the main brands that offer electronic shifting bicycle gears are Shimano, Campagnolo, and SRAM

