



CYCLING FACT SHEET No. 18

Recumbents could be making a comeback

If you have seen someone pedalling along a road or path on something that looked a bit like a mobile rowing machine, they were almost certainly riding a recumbent bicycle.

There are several types of recumbent and these tend to be classified according to their wheelbase. The longer models generally have the pedals between the front and rear wheels while the short wheelbase models often have the pedals above and slightly forward of the front wheel.

A recumbent has some advantages over the conventional bike design. Because the rider is seated in a comfortable reclining position, pressure on the groin area is greatly reduced. This also makes the entire bike much more aerodynamic with the result that almost any rider, regardless of fitness, can easily maintain a speed of about 40 km/h on the flat.

One of the perceived disadvantages of the recumbent is their effectiveness when climbing hills. The horizontal leg position means that the rider is not able to deliver as much power to the pedals as with a conventional bike. However experienced riders learn to compensate by pushing against the seat and can negotiate all but the very steepest ascents with about the same effort as that required on a conventional bike.

Most recumbents have a smaller wheel at the front, which is necessary to prevent heel strike when making a sharp turn. As a result, they tend to have a larger turning radius and it is virtually impossible to jerk the front wheel up over kerbs or other obstacles.

Leg suck is a hazard for novice recumbent riders. This occurs when a foot comes off the pedal and touches the ground while the bike continues to run forward, which can cause ligament damage. The use of clipless pedals is recommended.

It can also be more difficult to glance backwards on a recumbent, so mirrors are essential.



Local Northbridge designer John Tolhurst believes he has overcome most of the old problems with his revolutionary Cruzbike. Unlike other recumbents, it uses full-size 26 inch rims and a unique control system that enables the rider to sit higher without the risk of heel strike. This greatly reduces the incidence of leg suck and means the bike can be used off-road. The clever compact design even allows for it to be carried on a rear car carrier. The short wheelbase Cruzbike can be bought complete or as a conversion kit that can be adapted to fit almost any hybrid or mountain bike on the market. This ability to convert a standard bicycle into a recumbent means the total cost can be kept under \$600.

Recumbent bicycles are not a new innovation, with the first patents taken out more than a hundred years ago. French inventor Charles Mochet developed a streamlined design in the 1930s that actually proved much faster than conventional bikes. Mochet's recumbents broke speed and distance world records and also won a number of professional races, before being banned by the International Cycling Union. The current world speed record for bicycles is held by a front-wheel-drive lowracer recumbent that recently exceeded 130 km/h on flat ground. Compare that to the record for a conventional upright bicycle of 82 km/h and it is easy to see why the "bent" has its fans.

This fact sheet is one of a series dealing with the use of bicycles for recreation and transport in Western Australia. The series looks at a range of cycling-related topics including ride routes, touring tips, maintenance, safety, road rules, insurance and product reviews. You can find more cycling fact sheets online at www.transport.wa.gov.au/cycling

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