HUFF
Head Up and Feet First

OzHPV can be found at www.ozhpv.org.au, or contacted by mail at OzHPV Inc, c/o 3 Prendergast Street, Curtin ACT 2605

July 2017 Volume 20 Issue 2 - Number 90

From The Editor

Hi and welcome to Huff for July.
This edition has been slightly delayed – the committee has been planning for the OzHPV Challenge in Bendigo at the same time Huff was being compiled – but hopefully the wait is worth it. In this issue, we announce the results of the Easter Speed trials near Geelong, and details of the December OzHPV Challenge. Tim Marquardt shows the tech behind a record-breaking quad, Pete Heal and Dome Deli went on the OzHPV 20th Anniversary ride, Rob Schueler reports on Adelaide Recumbent Riders, and I report on the WeCycle group and some old school DIY. Happy Reading and we hope to see you at the Couta Bike festival in October or OzHPV Challenge in December! Steve Nurse

Spotted!

There has been an outbreak of these Obikes in my neighbouring, flat, inner city suburb of Richmond. They are a new arrival and are competing with Melbourne's other large bikeshare scheme, the Blue Bikes. Also in Melbourne, Monash University student Derek Gurban made a prototype cargo bike-truck intended for developing countries, and I was surprised to see it in the foyer at Uni one day. Hopefully there will be more about Derek's truck in the next issue of Huff, meanwhile a short video about the quad is here https://www.youtube.com/watch?v=NF_rQmiA2uY

Canberra Mob - OzHPV 20th Birthday Ride, Pete Heal with Dome Deli

On Sunday 14th May, OzHPV members from Canberra got together for a social ride around Lake Burley Griffin followed by a picnic lunch to celebrate the 20th Birthday of OzHPV as an incorporated association. Several interstate members came to town to join the fun and there was a great lunch spread..

Being Mother's Day interrupted some of our plans, although Duncan did bring his Mum along on the front of a lovely tandem and she seemed to have a very enjoyable time.

Looking around the representative recumbents on the day, long time member, Chris Curtis remarked there were no mesh seats or home-built bikes.

After a picnic lunch sheltering from heavy rain the group rode to The National Museum of Australia and took in the "Freewheeling Exhibition" one more time. Our visit was recorded on the museum's website, here is the link http://www.nma.gov.au/about_us/news/articles/recumbent-riders-visit-museum

Dome Deli is a new but very enthusiastic OzHPV member and Huff spotted some pictures of the 20th Anniversary ride he'd posted on OzHPV facebook. These were 360 degree camera images and I asked him about the technology from https://www.giroptic.com:

I got the Giroptic 360cam about a year ago on Kickstarter after a 2 year wait. At the time was the first camera of its type that stitched together images from its 3 separate lenses without post processing through extra software. Now there are quite a few on the market that offer better quality pics and video. Support from Giroptic is non existant, they themselves have bought out a new camera that mounts directly onto smartphones.

There have been many dissatisfied customers that had issues with their cameras, I guess I was one of the lucky ones as mine has been faultless. You can see the stitch lines between camera images in the pics and videos, and quality of pics and videos is poor and grainy in low light, but when the sun's out and its nice and bright its quite good. It's easy to use with just a 2 button interface which controls on/off/record/modes and it runs on GoPro 3 batteries which are cheap & easy to buy. It stores pics/videos on a micro SD card and its easy to upload pics to facebook/youtube either via computer usb cable or directly to your smartphone via wifi.

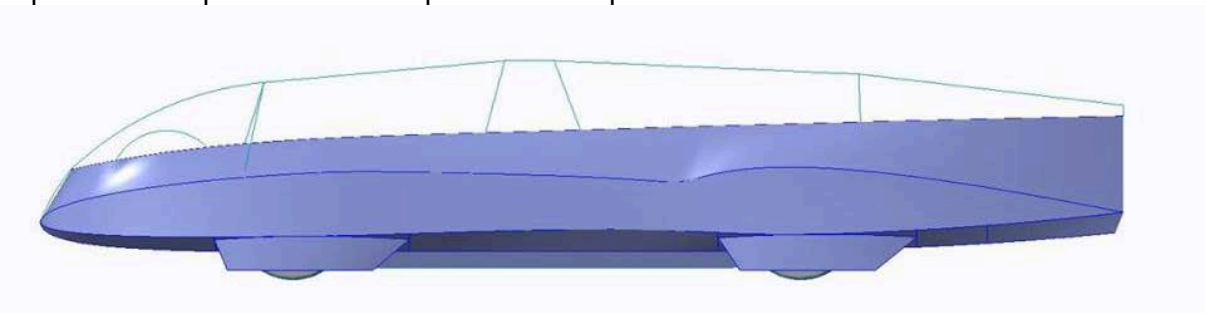
One video from May 14 is the Dairy Farmer's Hill Descent
https://www.youtube.com/watch?v=cI_igq6YCo4&feature=youtu.be

24 Hour Tandem Quad Record by Tim Marquardt

The tale of our November 2016 24 hour tandem world record was one of “what might have been”, but in this case, in a good way.

Firstly, here are the bare facts: Jeff Nielsen, pilot & Tim Marquardt, stoker, rode the Trisled Twinhawk to claim a new tandem distance world record of 1015km on March 11/12 this year at the Edithvale Velodrome. This beat the previous record of 909km by Guy Martin & Jason Miles, set in 2015 in a side by side tandem made by Miles Kingsbury. The Twinhawk is a 4 wheel back to back tandem, with separate drives for each rider. This enabled each rider to select their own gear. However, in practise both were in top gear (80-13) for about 95% of the time. The other benefit was that it allowed each rider to have a wee without the other having to stop pedalling.

The chassis was designed & welded by Ben Goodall, whilst the corflute fairing was designed & assembled by Jono Keane, who designed the fairing in 3d cad, and then exported a computer file with 2d profiles of the pieces to be cut to a laser cutter.



The resulting pieces were then taped together & attached to the chassis with cable ties, which is the same as another of Jono’s designs, the Trisled Tomahawk. The overall chassis design was also based on a Tomahawk, therefore having a fully integrated roll cage & windscreen hoop. This adds weight, but gives the non structural fairing something to give it rigidity.

Rather than describe the drive layout, have a look at the photo below. Forward is to the right. If you look at the rear drive, you’ll notice the chain sits on the rear of the chain ring, effectively reversing the direction, allowing me to pedal forwards.

The wheels were stock Trisled 20”, with tubeless Schwalbe One Pro 28mm tyres, which ran faultlessly. Apparently these are the fastest tyres you can get. So, happy to have them on our rig. For future riding, likely to be at Casey Fields, we’ll probably go to a bigger diameter tyre & remove the side covering, as the steering lock is very limited currently.
In terms of the build, Ben welded 90% of the chassis in a night (about 7 weeks before the attempt), and then fitted the majority of the components to make sure we both fitted & could ride it. Which, we could.

Then Jono measured the chassis, designed a fairing, & exported a file of body parts to the laser cutter. Which we then glued together to make the fairing:

We taped & cable tied it to the chassis, added some windscreens, some vinyl, a few stickers, a stiffening panel. This was 2 nights prior!

Firstly, when attempting a 24hr ride, you might rightly assume it was necessary to ride the intended vehicle for many hours before making the attempt. Making sure boom length, air flow, seat pads, neck rest, hand holds, bottle cages were all comfortable, correctly placed & working correctly. Sitting in a workshop & testing these things is a start, but it really needs time. Time we simply ran out of!

I reckon we had 80 minutes total time in the quad before we started the 242xWR attempt. Not a good start. In fact, only 20 of those minutes were with the fairing on !
But, a day out, we had a finished quad; a very long quad…

Then there was the weather. Saturday loomed as a nightmare: 29 degrees! We had the Twinhawk setup with a single vent, split between a windscreen, & the balance split between Jeff & me. How would we cope with so much heat & relatively little cooling? We coped with the weather as it was relatively excellent, with little wind or sun, pretty much ideal conditions really.

How would the tubeless tyre setup cope with the bumpy velodrome surface? It worked faultlessly; it was checked at each stop, but held pressure happily.

How would I cope with 24 hours going backwards? I was happy going backwards (Jeff lasted 5 minutes going backwards in testing before he started to feel ill!). In fact, I

think it made my ride slightly easier, but required more mental effort: nothing else to concentrate on.

How would we each cope with the other rider? We coped well with each other, as we spent the first hours getting to know our relative efforts, and thereafter, Jeff let me know if I slacked off. We mostly listened to our iphones, but spent periods chatting away. Early morning Jeff asked me to talk more, as he was getting sleepy. We had our heads very close to each other, so speaking was easy. But, most importantly, we trusted that each of us was working as hard as the other.

In terms of nutrition, I did the entire ride drinking only Hammer Nutrition (part Perpeteum, part Heed) totalling about 21 bottles. Jeff drank several different types of drink, as well as a few sandwiches & an egg & bacon sandwich for a treat. We re-fuelled from a trike roughly every 2 hours, and dropped the empties near pits for re-filling.

We were supported during the attempt by a large number of Trisled team members, who mixed & transferred our fuel, checked the Twinhawk at pitstops, assisted with backup timing.

We also had the pleasure of company on track during the ride, with Morgan Hayes attempting a record for the hour on a cargo bike & Ned Volk attempting 1hr, 6hr, 12 hr & 100 mile unfaired trike world records (see this link) on the Mini TT chassis. From my position, it looked like Ned spent most of his time on the phone! I found out later that Jeff also spent a fair bit of time texting; ah the youth who can multitask. I suspect Jeff liked having other vehicles on the track as it gave him more to think about.

What went wrong? Not a whole hell of a lot really. Both of us had body pains: Jeff had some pretty sore knees, which he treated with an incredibly strong chinese linament. I had foot pain for about 20 hours, which was annoying rather than debilitating. The pain stopped shortly after we finished, but I felt like I had bruised feet for about a week afterwards. Overall, it was less painful than I expected.

So, we did it. We added about 106km to the old record, we had fun doing it & we had a great crew helping us. Thanks again to Ben & Jono for the awesome Twinhawk, Alison, Bryce & Bronte and to all those who helped & came along & supported us on the day. Below is a picture of my crew as I'm about to jump in for the last 3 hours. We'd just broken the existing record, that's why I'm smiling. Internally I would have been happy to stop!


Lastly, there is a very large recumbent quad sitting in our factory. Anyone want to buy or ride her. Let us know: tim@trisled.com.au

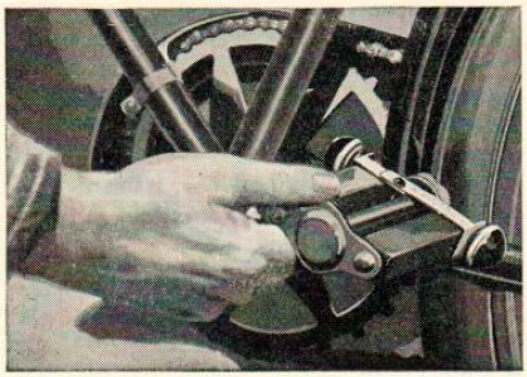
500 Projects Part 1

One of my latest book acquisitions is called The Boy Mechanic and it is subtitled 500 projects for the young home craftsman. The array of projects is quite amazing and goes from taxidermy at home ("mounting the fish you catch") to sundials to an aero driven ice boat powered by a motorcycle engine. This book was published in 1952 but lists several previous issues going back to 1913.

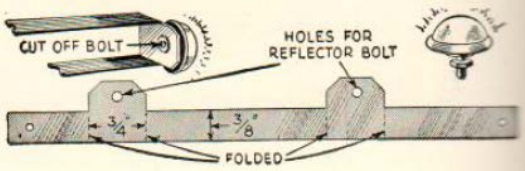
These were simpler times when amusements were not just bought but often made at home from material left lying around, and some things we take for granted like the pedal reflectors shown below were not in everyday production. Versions of the book are available online, here is one link, https://openlibrary.org/books/OL24149871M/The_boy_mechanic

Anyway, several of the projects in the book are human powered vehicle related and a few of the simpler ones are on the following pages. 2 larger projects from the book will be in the next issue of Huff.

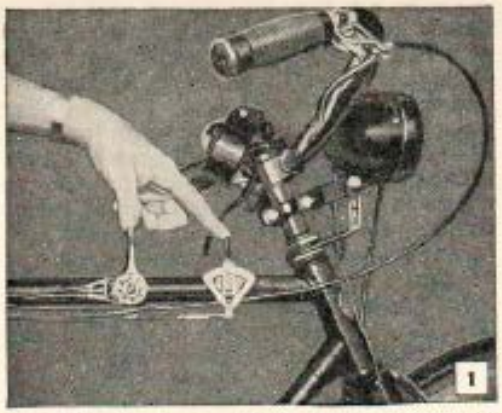
Red Reflectors on Bicycle Pedals Attract Motorists' Attention



Reflectors on the pedals will increase your safety considerably. They move with the pedals, thus attracting attention better than the stationary reflector on the seat or rear fender, or even a rear taillight. The reflectors are mounted on a strip of heavy sheet metal cut to the shape shown. The strip fits completely around the pedal.

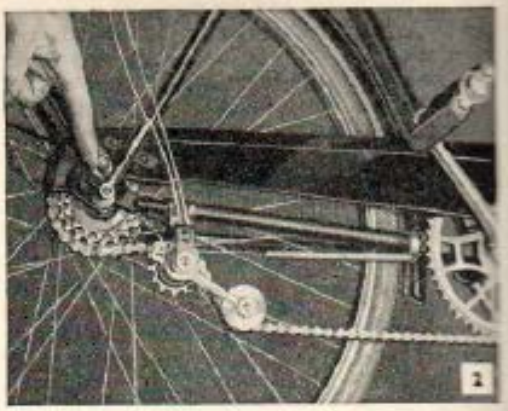


9 SPEEDS FORWARD



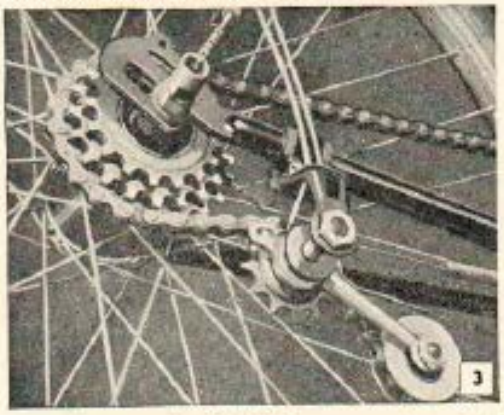
Sprocket ratio is selected by dual control levers which operate cables leading to shifts on rear wheel

This view shows the sprocket shift in low-gear position. Note that the chain is on the inside sprocket

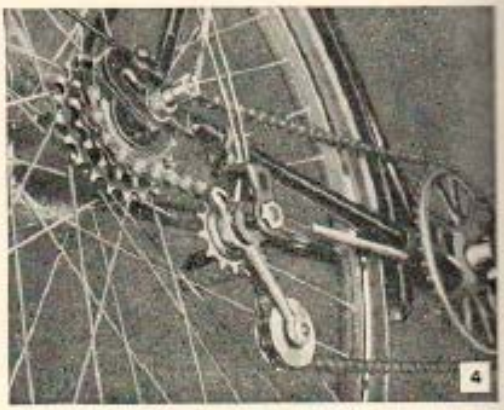


Combining both 3-speed shifts gives nine speeds. The shifting requires no momentary pause in pedaling

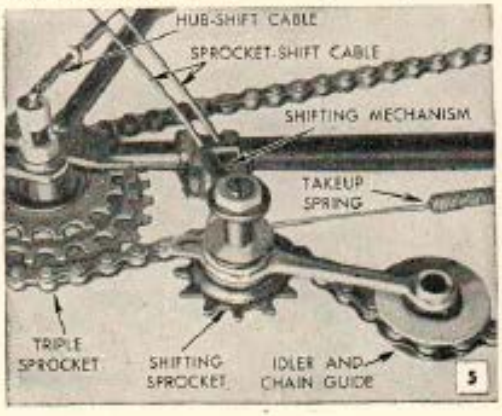
Here, the shift sprocket is shown in high-gear position. Note that the chain is on the outside sprocket

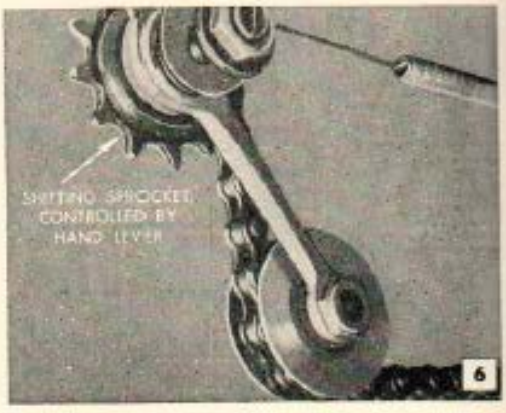


Below, close-up view identifying component parts of mechanism. The shifting sprocket and takeup idler which are integral clamp directly to bicycle frame



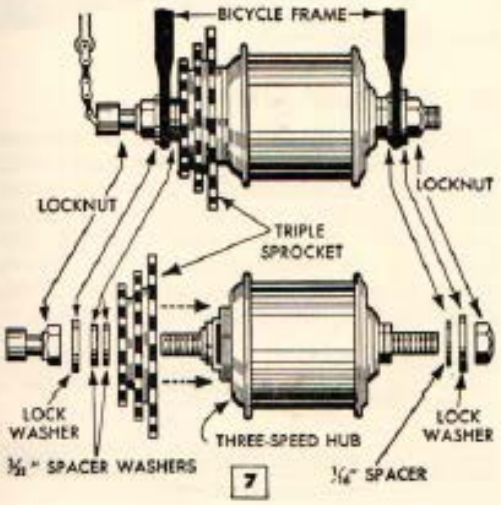
Below, shifting sprocket, operated by cable, travels sideways to throw chain from one sprocket to another. The idler takes up slack in chain when shifting





for your bicycle

WHEN your bike is fitted with a 9-speed "transmission," that steep grade ahead becomes level ground and on a straightaway you can really make speed. A standard replacement kit, pictured in Figs. 1 to 6, can be installed on any bike to provide a total of nine forward speeds ranging from a very slow low gear to an extremely fast high gear. Installation consists of removing the coaster brake and replacing it with double hand brakes, a three-speed hub, a triple-sprocket unit and a chain "derailer." By means of flexible cables, the rider can throw the chain from one sprocket to another as he pedals along. The cables are operated by levers clamped to the crossbar, Fig. 1, enabling the rider to select the best "gear" combination for any road condition. If the bike is already equipped with hand brakes and a three-speed hub, all you have to do is replace the single sprocket on the hub shift with the three-sprocket assembly. The latter is available in different diameters, 16, 18 and 24-tooth sprockets being recommended. The triple-sprocket shift affords two additional speeds to each one of the three speeds provided by the hub shift. Fig. 7 shows assembly of the two 3-speed shifts and how they are mounted in the bicycle frame, the spokes, tire and chain being omitted for clarity. Elimination of some of the spacer washers and the use of a longer hub axle may be necessary.



Quick Adjustment for Bike Seat Made From Valve Wheel

When several people of different heights use the same bicycle, it is necessary to adjust the seat to suit the height of each person. If a sill-cock-handle wheel is welded to the adjustment nut of the seat post, lowering or raising the seat will be an easier task; you won't have to search for a particular wrench, and the likelihood of skinned knuckles is avoided.

Bicycle Seat Protected From Rain

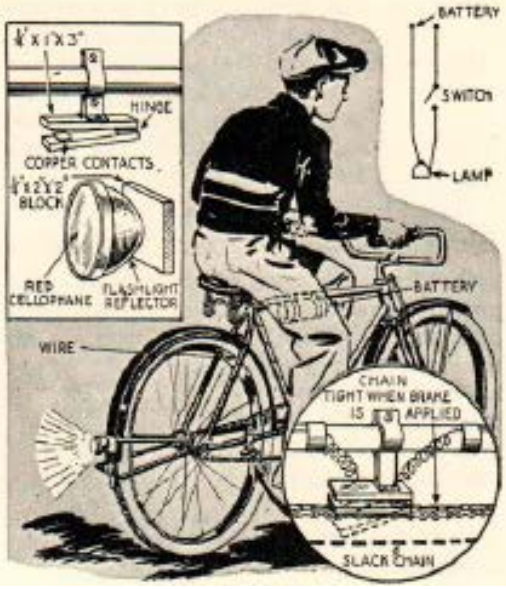
When it is necessary to park a bicycle out in the open during rainy weather, the seat can be kept dry by covering it with a waterproof bag or plastic bowl cover. A sheet of any waterproof material, such as plastic or rubber, is made into a suitable seat cover simply by fitting it with a drawstring. Dust the cover lightly with talcum powder to keep it soft and pliable for future use.

Broom Clamp Supports Bicycle Against Side of House

Instead of leaning your bicycle against the house where it may fall and become damaged, attach a broom clamp to the siding or corner board so it will grip one of the handlebars when the bicycle is in an upright position. It takes only a light jerk to release the handlebar from the clamp.

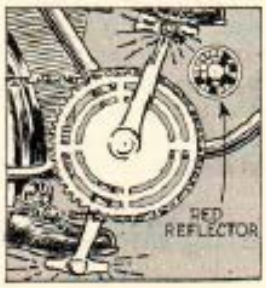
Stoplight Switch on Bicycle Operated by Chain

The safety added to a bicycle by using a stoplight, especially if you ride on heavily crowded streets or highways at night, makes it well worthwhile to install this simple one, which flashes when the brake is applied. The light consists of a flashlight reflector fitted with a red Cellophane lens and attached to a block, which is in turn fastened to the rear fender of the bicycle. The light is wired to a dry cell as shown in the diagram, a switch being cut into one side of the circuit. The switch consists of two blocks hinged together at one end with a copper contact on each facing surface near the other end, wires from the lamp and dry cell being attached to the contacts. This assembly is fastened to the bicycle frame with a bracket. The switch is located so that its underside just clears the lower chain, or slack side when pedaling forward. In this position, the switch contacts will be closed when the slack side of the chain tightens as the brake is applied.



Reflectors on Bicycle Pedals

Most bicycles have red reflectors on the fender to reflect the lights of a car approaching from the rear and warn the driver, but few riders take the precaution of warning a motorist who might approach them from the side. This can be done quite easily, however, by attaching red-glass reflectors to the ends of the pedals. The type backed by metal are easily soldered to the pedals, and are noticeable because they rotate with the pedals.



Rubber Straps on Bicycle Basket Keep Books From Bouncing Out

When carrying books or other small objects in the basket of your bicycle they can be kept from bouncing out by use of a couple of straps cut from an old inner tube. These are fastened to the bottom of the basket so that they can be stretched over the article carried.

Adelaide Recumbent Riders (ARR!) by Rob Schueler

Adelaide Recumbent Riders had their humble beginnings with an Adelaide hills man by the name of Ray Galvin became a recumbent trike dealer under the name of "Rays Trikes" in July 2012.

He got his first two trikes July 2012 one for his wife Prue and one for himself. He started doing rides with good mate called Grant on Fridays after work. Then Grant had his bike stolen and started to use Prue's trike! Then he bought his own and the rest is history. This year will see him passing 100 trikes sales.

Adelaide Recumbent Riders is a group of likeminded people who take a more laid back approach to cycling. As Ray sold more recumbent trikes the group grew larger. Rides (events) grew from telephone invites to Facebook invites and most rides organised these days have between 8 to 14 riders. The group has access to many wonderful well maintained cycle share tracks in and around Adelaide as well as the South Coast and the Barrossa Valley.

We are always happy to help people when they stop us and enquire about recumbent riding. Our rides are always relaxing and enjoyable with an occasional stop for a coffee or pastry from a local bakery. Some of our members even ride two wheel recumbents.
One of our regular rides even has a chocolate factory nearby which has become a regular stop for many of our members. One enjoyable group ride in the Adelaide Hills can be viewed here....https://www.youtube.com/watch?v=3aFIpjIW50w&t=80s

Some of our members travel to Canberra to attend events with OzHPV and also have travelled to places like Mildura and even Perth WA with their recumbent trikes to enjoy the company of other trike riders interstate. Five of our members participated in the fund raising "Big Red Ride" in March this year and plan to get a larger group together for next year's event.

With the name of the group being abbreviated to ARR which is Pirate talk for "G'day" many members fly a pirate flag to announce their membership in the group. Our motto of "You're Never Too Old and It's Never Too Late" is all about having fun and socialising.

A recent visit from Dome Deli and his sister turned into an enjoyable afternoon ride from Adelaide to the Beach where we had some refreshments before heading back to the city. A video was made of part of the ride and can be viewed here...
https://www.youtube.com/watch?v=BunKW5VmNLs

If you live in South Australia and ride a recumbent bike or trike then do yourself a favour. Join the Adelaide Recumbent Riders group on Facebook.
https://www.facebook.com/groups/1536252520007893/

WeCycle Melbourne by Steve Nurse

Wecycle started in 2015 after Gayle Ilievski and Craig Jackson completed a Community Leaders in Sustainability Program run by the city of Darebin in inner Melbourne. They started pretty small and began fixing bikes in their backyards to give away to refugees and those who need them (one recent donation was of 7 bikes with locks, lights and helmets to the Box Hill Migrant Information Centre), and ended up donating 50 bikes in 2016. Contacts from the sustainability program and an article in the Preston Leader newspaper were useful in sourcing bikes to be repaired and donated.

In May 2016, Wecycle was offered premises rent-free, in the form of a disused Greek Women's Community Centre. The small building in Batman Park had been broken into and graffitied a few times and it was thought that any occupancy was better than none and would prevent further vandalism. Wecycle had to change a bit before it could take up its Batman Park residence. It became incorporated, so it could take out insurance for its volunteers and set up a website and Facebook account to stay in touch and spruik for volunteers and more bike donations.

I joined Wecycle on a friend's recommendation – in fact I started by donating a load carrying bike made as a side-project during my recent university studies. It was fun getting it up there – I was able to carry a fold-up bike in the carry box, lock up the load bike as per

Gayle's instructions, and return home on the folding bike. Since then I have attended 3 or 4 sessions as a volunteer repairer.

As well as holding sessions where volunteers repair cycles, Wecycle trains volunteers in repair techniques and have plans to get secure on site storage in the form of shipping containers at the Darebin transfer station (nice words for tip!) and on site at their Batman park home.

For me, wecycle is a good place to meet people and hear about different local organisations and events. One volunteer, George, is a national Unicycle champion, and Gayle is happy to publicise events like the OzHPV challenge. Wecycle can be contacted through their web http://www.wecycle-melbourne.com/ or facebook https://www.facebook.com/wecyclemelbourne/ pages.

Easter Record Attempts @ Ford Proving Ground, Lara Victoria, Steve Nurse, Tin Corbett, Photo Paul Riggs

Glen Lacey starts his record breaking run

OzHPV speed Trials were held at the Ford Proving Ground in Lara over Easter with several attempts on Australian and World Recumbent Racing Association records taking place, and Macquarie and Monash Universities testing and tweaking their speedbikes on the closed track. The trials are now taking place regularly at otherwise quiet times at the huge Ford Lara facility, and its only through good cooperation between Ford and OzHPV that the events can take place at all. Easter has slightly cooler weather and it is when longer distance records are more likely to be set, while sprint records are more likely to be set in early November when its warmer.

At this event William Reid was providing assistance with timing and equipment. After years of helping on Pedal Prix events he has acquired enough transponders, computer and power generation equipment to carry out the accurate timing of the longer events.

Glen Lacey's 1 hour unfaired over 50 trike record has now been ratified by the WRRA and can be seen online at http://www.recumbents.com/wrra/records.asp and Tim Marquardt, Ned Volk, and Jack Marshall are all claiming Australian records. Other competitors Gareth Hanks, Rachel Swain, Tori Barnes and Kyle Lierich riding for Macquarie made record attempts and gained valuable experience on the track. Details of all timed runs can be seen at this link.

Ned Volk crashed 14 hours into his 24 hour record attempt and needed medical attention. Fortunately he faired better than his Phantom Mini-T trike in the crash, its racing days may be over. Big thanks to OzHPV officials Rob Leviston, Tim Marquardt, Jon Pendlebury, William Ried and Tim Corbett for making the event possible.

Ride Groups and Coming Events

Geelong Recumbent Riders: Meets first Saturday each month at the criterium track, Barwon Heads Road, Belmont, Geelong. Notifications via OzHPV facebook (https://www.facebook.com/groups/OzHPV/)

Adelaide Recumbent Riders next ride is July 16, details via ARR facebook (https://www.facebook.com/groups/1536252520007893/)

NSW Recumbent Riders next ride is July 8 for World Recubent Day, details via NSWRR facebook (https://www.facebook.com/groups/519493954898058/?fref=nf)
Perth Recumbent Riders can be reached via their facebook page, https:/www.facebook.com/groups/498654353665784/

Brisbane Recumbent Riders next ride is July 23, details via facebook https://www.facebook.com/groups/986598251399938/

Canberra HPV Mob can be be reached via their facebook page, https://www.facebook.com/groups/256191544754773/

Coota Bike Festival (http://www.cootabikefestival.com.au/schedule.html), Cootamundra New South Wales An OzHPV rally is being planned to coincide with this festival on the weekend of October 28 and 29, 2017.

Venues have been booked for the **OzHPV Challenge in Bendigo Vic** on December 8, 9 and 10. The complete entry form will be available shortly. Planned events include social riding on December 8, track racing on December 9 and challenging Hill Climb and Road Race Events on December 10. Catered Accommodation is available at the Koolamurt Scout Camp in Spring Gully, Bendigo, about 4k from the centre of Bendigo and near the venues for Sunday Racing.