



TORQUETUBE

Magazine of the Riley Motor Club Queensland, Australia Inc.

May 2022

<https://rileymotorclubqld.org.au/>



Editorial

The front page pictures a fairly big project. Humphry's scuttle and the boot floor was rusted out. When sand blasted he revealed a wound from a rear end smash that caused a big dent and splits around the fixing bolts. You can read that story in a coming edition of the South Australian Crank.

Thankyou to Mark Baldock for his story about the RMB in his life. Thank you also to Chris Reynolds who have contributed articles about an outing to the Queensland Air Museum and the goings on at the shed.

For people who consider the consequences of decisions made about fuels the article on page 11 is worth your consideration. I hope that the image is sufficiently clear for you to read it.

My own little contribution to this month's magazine is about fitting an oil filter to a Riley 9 block. Some things seem to take forever. Thank you particularly to Paul Bae and to Phil Evans for your advice about this project.

Coming soon is a story about a long time love affair between a Queensland Riley custodian and his RMB. At the moment he (the Riley) is having surgery on his transmission. The custodian is quite well but concerned.

The Editor appreciates receiving articles by the 21st of the month

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April Riley run to the Queensland Air Museum Caloundra by Chris Reynolds

The March run saw us meeting up at the Burpengary M1 Servo for morning tea and a run up to the Queensland Air Museum where we were able to park our vehicles inside the grounds, next to the large hanger.

The Queensland Air Museum has Australia's largest heritage aircraft display, and we were there for one of their engine run days. The engines that were run were all old, noisy and smoky. Some were very cantankerous and difficult to start: one stubbornly refused altogether. Riley member Mark Baldock was very frustrated that his efforts on that engine came to no avail at that time although it had run well on previous occasions.



After viewing the engine display we toured the rest of the exhibits. Highlights included the tour of the Orion reconnaissance aircraft and the Lockheed Neptune anti-submarine warfare plane. In both the working conditions were cramped and must have been very difficult for the crew. The Orion was flown into Sunshine Coast Airport about 3 years ago by the RAAF where it was dismantled by QAM volunteers before being trucked to the Caloundra Museum for reassembly. Other highlights included the F111, which is on loan from the RAAF.

The engines that were run were, in increasing order of capacity are as follows: -

Konig SD 570, 18 Kw 2 stroke 4 cylinder radial and 0.58 litre capacity, as used in many 2 stroke ultralights.

Brasov IS 28M2/80, 59Kw 4 cylinder 1.7 l capacity horizontally opposed air cooled as used in powered gliders.

Franklin 0-335, 150Kw and 5.49l capacity 6 cylinder horizontally opposed vertical engine used in various helicopters in the 40's and also modified to water cooling and fitted to the Tucker car of the late 40's.



Gypsy Major, 145Hp and 6.1 litre capacity 4 cylinder inverted in line engine as typically used in Tiger Moths.



Continental IO-550, 375Hp and 8.51 litre capacity 6 cylinder horizontally opposed as currently still used in Beechcraft Bonanza aircraft.

Gypsy Queen 380Hp and 9.2 litre capacity 6 cylinder inverted inline engine developed in the 30's as used in Dove and Heron aircraft.

Continental W670, 225Hp and 11 litre capacity 7 cylinder radial engine developed in the 30's and this one is believed to be from an M3 Stuart tank although it did have many aircraft applications.

Max Holste MH 1521 Broussard, 336Kw 16 litre 9 cylinder radial engine as used in the 50's for French reconnaissance.

Other engines that are potential runners include a Pratt and Whitney in the Wirraway, an Allison V12 from a Mustang fighter and a Lycoming in a Piper Tomahawk.

The sheer number of aircraft on display is quite staggering. A well worth while visit.

May Club Activities

Tuesday Morning 3rd: Riley Tinkerers at the Clubhouse, Samford. Restoration activities, friendship and technical advice. BYO lunch and drinks. Tea and coffee provided

Saturday 7th: Boules with the VVCQ
10.30 am at Tullamore Park, 89 McKenzie Street Dayborough followed by lunch at the Pit-stop Café. If you are coming to lunch at the Pit-stop Cafe, please email Peter Ransom at pjransom@westnet.com.au and let him know that you are coming.

Tuesday 10th 11 am. Monthly Meeting of the RMCQ at the Riley Clubhouse, 38 Showgrounds Drive, Highvale 4520, Samford Show Grounds.

The Monthly meeting will be followed by a planning meeting for the Queensland located National Rally

Tuesday Morning 10th and 17th: Riley Tinkerers at the Clubhouse, Samford. Restoration activities, friendship and technical advice. BYO lunch and drinks. Tea and coffee provided

Sunday 23rd Breakfast run. Leave from Samford at 8 AM. Details to be announced closer to the time

24th and 31st: Riley Tinkerers at the Clubhouse, Samford. Restoration activities, friendship and technical advice. BYO lunch and drinks. Tea and coffee provided

What's going on at the shed during May

Apart from the conversations, morning teas and lunches at the shed, we have been making progress on a number of fronts.

Mark has been sorting out all the sockets from the big heap of them and has now put all the BSW sizes on a spring rack on the workshop wall. Very handy compared to the mad scramble through the pile of sockets we used to endure!

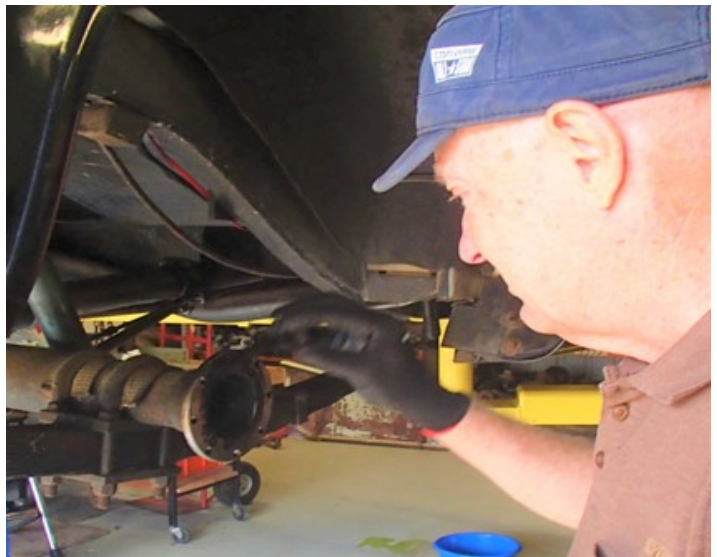
John has continued to bring us "mystery objects" to guess what they are: some from his Dodge, and the last was a "Nut Cracker", used for splitting nuts stuck on shafts (but maybe also for Macadamias?)

And we are making progress slowly on Brian Jacksons RMA.

Below: Brian's RMA on the club car hoist



We have now completed the exhaust manifold replacement and the water pump and had the engine running. No exhaust leaks, but still some water leaking, which we hope will cease after further running (as they normally do with newly replaced seals).



Above: Ian Henderson sealing the driver's side banjo

We have continued work on the car, tackling the rear axles which were leaking oil. On the passenger side the brake linings were contaminated, so the oil seal was replaced, but on the drivers side there was no contamination. But on both sides there was no gasket seal on the flange, so oil was able to seep through to the

rear of the backing plate. All has now been re-assembled on the car, with Ian Henderson doing a sterling job on refurbishing and repainting the backing plate and adjusting mechanism.



We are now awaiting the return of the petrol tank after repair and will also fit a refurbished petrol level sender unit before fitting on the car.

As indicated in last month's magazine, the car is a very good example of a low mileage RMA as the photos show, with a pristine interior and excellent exterior paintwork.



We also held the monthly General Meeting at the shed on the 12th and enjoyed a sausage sizzle after the meeting, all for the usual gold coin. Again thanks to Bill White and Katherine Collins for organising the food and running the BBQ lunch.

Below: Katherine in the foreground and Bill in the background shadows



My Life with an RMB 60S6794, 805 LTE by Mark Baldock

I purchased my first RMB, an 1948 model, in about 1968 and at the time I was studying at a university to qualify me for a career in Civil Engineering.

On weekends, I worked in an AMOCO Service Station that had a full workshop and on some Friday nights the workshop including its car hoist and full set of tools were available for my exclusive use, depending on customer require-

ments: this made a pleasant change to the dirt floor in my father's garage at home. It was an ideal situation for a 19 or 20-year-old who was interested in restoring a classic car such as a Riley.

The car when purchased had done 240,000 miles and had a run big end bearing so it was ready for a rebuild. The engine was taken out and the crankshaft and connecting rods were

taken to REPCO for assessment. The crankshaft was still within Spec and therefore remained untouched and the Babbitt big end bearings were renewed. The main bearings were in good condition and were not touched. New pistons and valves were purchased and fitted. I have often since wondered if REPCO removed the crankshaft plugs and cleaned the shaft as this was not to my knowledge a recognised necessity at the time!

The car was also repainted, new tyres were fitted, the clutch was replaced and the brakes were restored. Nearly all the work was done on my father's garage floor with the occasional luxury of a night at the service station, but after four years of restoration work the task was still not completed and I wanted a car that I could drive, so the Riley was sold and a VW project was commenced.

For those interested, the VW was a 1958 beetle purchased separately as a platform only, to which I added a 1500cc engine, complete with extractors, big valves, and a twin throat carbie. The suspension was lowered, rear camber altered, wider rims and front disc brakes fitted, all topped off with a body sourced independently. It was a great little car and was good for 150Kph or so. This may sound like an unusual choice to some readers but I always knew that someday I would get another Riley.

Some 40yrs later as circumstances changed, the urge to get another Riley finally got the better of me and I looked up the Riley Qld site on the internet and subsequently contacted Alan Hill. It was around about June, 2009 and I asked Alan if he knew of any RMB's for sale.

Below: Mark's RMB



Alan put me onto Pat and Betty Elliott whom he advised had just decided to part with their 1950 RMB. I was looking for a basically sound car that was presentable and could be slowly upgraded if necessary over time.

My first experience of restoration had cured me of a long drawn out restoration; what I wanted was a car that I could enjoy driving and that any part that required repair or restoration work could be completed in a day or two. The Elliott's car was exactly what I was looking for, so after a couple of trips to Coominya the car and a trailer load of stuff was mine. The car was a smart looking red RMB that Pat had looked after very well during his ownership and although there were things that needed to be done I was sure that it would pass a roadworthy without too much difficulty.

The trip from Coominya to the Sunshine Coast was uneventful, other than running out of petrol and having to hang my hat over the oil pressure gauge to prevent becoming too paranoid when the engine was idling. Apart from an apparent oil pressure problem the car ran very well. Amongst the spares was a second incomplete engine, gearbox, generator and assorted bits and pieces that Pat had accumulated over his 12 years or so of ownership.

I decided to fully register the vehicle and managed to find a very sympathetic safety certificate issuer who provided the certificate on the proviso that certain things were undertaken soon. This included a new exhaust system, replacement of front end bushes and new tyres.



Above: The interior with what appears to be an excellent timber steering wheel

As result I had a fully registered RMB that I could work on as the urge took me. It was the ideal outcome that I had hoped for and over the next few months all the repairs that had been asked for were completed and the car was taken back to the issuer of the safety certificate and the car received his approval.

Since that time over about 20000 miles have been completed and the car has only stopped twice. On one occasion the coil failed and that simply required a few minutes to replace, after being delivered home by an RACQ tilt truck. The other occasion was a little more serious as the headlamp switch shorted out starting a small under dash fire, but without too much difficulty the fire was extinguished a temporary fix was completed and I could continue my journey.

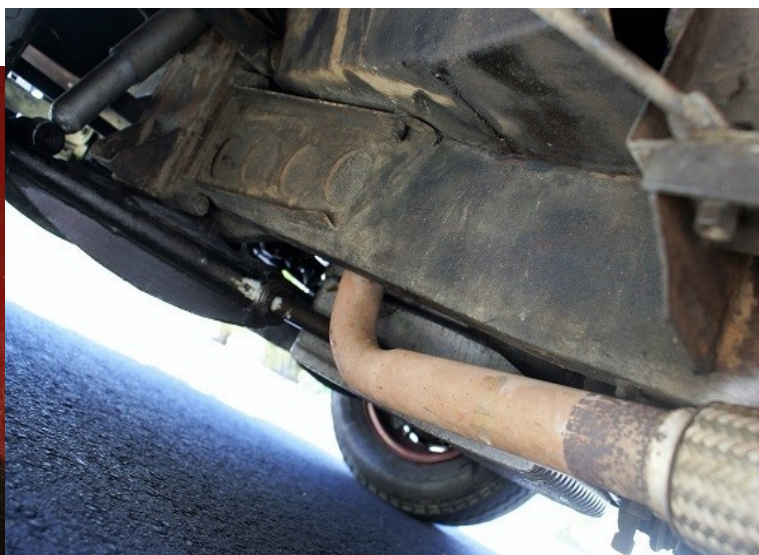
Initially as mentioned earlier, to meet the safety certificate requirements the left side wishbones were re-bushed and later the right-hand ones were replaced. Of more concern to me was the brakes. With some method to the madness of bringing the car up to scratch the first things done was getting the brakes up to scratch. This included fitting a new master cylinder kit, getting the front brake drums machined and brake linings replaced. Then the rear drums were machined, the flexible brake lines and the brake rod pins replaced and the linkages adjusted. With the important safety requirements completed attention was turned to other issues.

Prior to Pat's ownership, the engine had been substantially rebuilt. The mains had not been

touched however the big ends were replaced with Bedford Truck slipper shells and JP pistons were fitted.. The oil pressure however was a concern and I preferred to wear my hat rather than hanging it over the oil gauge. Fixing the oil pressure issue turned out to be reasonably easy. With the engine in the car the sump was removed, which revealed that the sump and engine internals were spotless, so much so that you could have eaten your dinner out of it. The oil pump was removed, disassembled and new oil pump gears were fitted and the assembly fitted back into the engine and sump and oil filter replaced. The engine was started but to my alarm there was no oil pressure. The engine was quickly stopped and the repair procedure repeated to discover that the pump gears were too short! The end gap was so great that the gears were simply not pumping the oil. Thankfully, Ken Lonie was available to machine the pump body down and when the engine was reassembled oil pressure climbed to 40-50 psi while cruising instead of the earlier running pressure approaching near zero.

Another issue was a noisy differential bearing. To resolve this and to gain a quieter driving life another diff with its torque tube was purchased from the spare parts shed and the diff and pinion bearings were replaced. While it was on the bench the wheel bearings and seals were replaced and then when the diff was swapped over the trunnion rubbers and the shackle rubbers were replaced as well. With this task successfully completed the noise was resolved and I achieved my aim of a quieter life.

Below: The oil pump



Another noise issue was the water pump so the water pump bearings and seal were replaced, the downside to this was that I could now hear other noises that could not be heard over the water pump, but it seems that rattles and squeaks are an integral part of Riley life. So, from there I turned my attention to many of the smaller things that make Riley driving more comfortable. This included replacing the windscreen rubbers. These had perished and when driving in the rain, it rained inside the car as well. This water incursion had occurred over many years. As a result, it was found that the bottom window surround timbers had rotted so these were strengthened with a light gauge galvanised steel section.

After that two Lukey mufflers were fitted, the clutch activating rod and accelerator linkages were replaced with cables, the generator was reconditioned and of course the headlamp switch was replaced. The boot lid seal rubber, boot lock and several the rubber parts including the engine mounts were replaced.

Throughout all this fiddling I had tried different engine oils and had found that Penrite HPR 40 seemed to offer the best pressure when the engine was hot, and it also allows pressure to build up quickly on cold starts. As recommended, I used Penrite 140 in the gearbox and differential. At this time the oil pressure seemed to remain within spec and the diff and gear box are relatively quiet.

These are all relatively minor tasks, particularly in comparison with major restorations recently detailed in Torquetube, however they help keep my car on the road and reliable and are well within my capabilities and resources.

A compression test suggested about 115-117 psi on a cold motor and apart from a small leak from the master cylinder when not under pressure the car was going well, and I undertook all the usual maintenance issues such as servicing and points and brake adjustments.

Alas in mid-2020 after a trip to the Club Shed the dreaded deep bearing knock could be heard and felt through the gear lever which

suggested main bearing issues to me.

Upon removing the sump quite a lot of white metal was evident and appeared to be from the rear main: time to remove and inspect the engine.

Quite independent to this problem and somewhat fortuitously I had been slowly reconditioning the spare engine that I had purchased with the car and had it to the stage where it could be fitted.

This engine was rebored .020" and fitted with good used pistons and new rings and a crankshaft machined to accept -.020" Bedford shells was obtained. Incidentally the Club has many such bearings.

The main bearings were measured and found to be within spec i.e. about .0025" diametral clearance. I had also lapped in the valves and had a cylinder head ready to go.

All other engine accessories were used from the original engine with the exception the carbies as I had another set ready to use. A new clutch plate was also fitted.

During October 2020 with the assistance of Ian and Brian and within the confines of my garage we removed the dead engine and fitted the reconditioned unit. This was a tricky operation as we only had about 50mm clearance between the top of the boom of the engine hoist and the garage ceiling.

After the engine was fitted and eventually ready to start it started after about 2 revolutions and sounded really sweet. Alas, there was no oil pressure and after a few revolutions it was switched off and the contemplation process began.

Fortunately during the assembly process I had liberally used assembly lube on all moving parts, and I had also borrowed Ken Lonie's pressure unit in order to force oil through the engine prior to its first start: I regard both of these actions as critical, and they probably saved my engine from the potentially serious damage likely to be caused by a dry start.

I removed the sump followed by the oil pump, only to find that I had fitted the base of the oil pump around the wrong way with the inlet and outlet on the same side: a silly mistake but one to watch out for because as the base is doweled one can assume it can only be fitted one way, but not so.

The sump was put back and engine run in with running in oil followed by Penrite HPR 30 and the engine has now been serviced a couple of times and has now covered about 3500km since the rebuild so hopefully all is ok. Oil pressure is about 45psi when hot at highway speeds and the compression is even at 125 psi

After reinstalling the engine I fitted sound and heat deadening material under the carpet along the firewall and the front floors which seems to have lessened the noise somewhat.

More recently and after some discussions with club members regarding the merits or otherwise of electronic distributors I decided to trial one of the Chinese units purchase some time ago as there seemed to be some reluctance in their use.

Fitting the distributor was relatively simple but does involve new plug leads that are compatible with the distributor cap and depending on the resistance of the primary circuit of the coil a new coil may be desirable.

After fitting the electronic distributor, new plugs, coil and leads the engine the engine ran really smoothly, for a while. After a couple of hundred Km a bad miss under load was evident, however this seemed to disappear once things had cooled down and I hoped for a good outcome.

This was not to be, and as the miss became worse over time, I decided it would be worth trying a different module. Dave supplied me with two other new modules and I could not even get the engine to run with either installed and in order to eliminate operator error I reinstalled the original unit and the engine once

again ran as previously with the noticeable miss.

After this experience I totally disassembled the old Lucas Points Distributor, checked the bushes and advance mechanism, replaced the points, and reinstalled it.

At the moment the car is starting well, as it always did, however perhaps not as easily as it did initially with the electronic ignition. I am not sure that I would recommend the electronic distributors the club has in stock, however someone else may have a better experience and there is always the option of purchasing a module that can be retrofitted in the original Lucas Distributor in lieu of the points and condenser.

On the subject of the engine with the run main bearing that I removed from the car, I found it to be in a very tired state with a cracked head, all Welsh plugs leaking or on their death bed, the clutch plate down to the rivets. Similarly the carbies had seen better days and I am rebuilding them at the moment.

I decided to have a go at rebuilding the engine with used parts, either originally from the engine or sourced from the shed: it is amazing what we have there that I consider serviceable.

Below: Mark during the summer 2016 outside his home in suburban Caloundra



The bores, pistons and rings were still within spec, which did not surprise me as the car never used a drop of oil or showed signs of overheating. The big end bearings, being Bedford shells were still very serviceable and as the crankshaft journals were still with spec, I reused the shells with about .0025" clearance.

The main bearings were a problem as number 3 was severely damaged and number 2 had some white metal missing. Number 1 was still ok and undamaged.

As the crankshaft was undamaged I decided to reuse bearing number 1 and then do a mix and match with used bearings from the selection in the shed for numbers 2 and 3.

My initial attempts proved futile because as soon as I placed the crankshaft into the bearings in the block and fitted and tightened the caps the crankshaft was impossible to turn, which was not entirely unexpected but non the less disappointing.

After considerable mixing and matching with the crankshaft in then tightened then removed many times and using a ss straight edge as an initial guide I eventually found bearings that had a clearance of about .003 and the shaft turned relatively easily although it is a little difficult to assess when using assembly lube which has a binding effect.

As rough as this sounds, I will be interested to see how this engine runs, if I ever need it, as all measurements were done with micrometres and double checked with Plastigauge, so here is hoping!

During the early stages of the Covid paranoia when travelling was restricted I decided to tidy up the body, particularly from the rear window back where paint was bubbling and flaking. This I did by sanding back to bare metal where required, filling, priming, and painting using aerosol cans and rubbing back between coats. The finished job is a lot better than the original condition, and although by no means perfect is compatible with the general condition of the car and is an improvement.

I have now covered about 3500km since the engine was reconditioned, and apart from issues with the electronic distributor which has now been removed it is running well and hopefully will continue to do so. I am however aware of noises from the diff which I think may be the muff coupling, but this will have to wait until I can psych myself up to remove the rear end again.

Good luck with all your projects, large or small, and I consider such work as therapy as long as it is not rushed.

Below Mark and Jan Baldock at a Riley Christmas lunch



Technical Article -

FREE ENERGY???

- by Graham Sharley



I HAVE HEARD A LOT IN RECENT TIMES ABOUT FREE ENERGY AND GREEN ENERGY; I am confused!

Politicians and psuedo academics have recently make reference to free green energy such as green hydrogen, green electric transport, green energy storage (Snowy Hydro), green solar batteries, green waste recovery etc etc. It seems that green is meant to mean: -

Economical, good value well thought out, environmentally sound, the future pathway, the way of the future. Well, Collins English dictionary defines 23 meaning of the word, green, none of which relate to the afore mentioned.

Let's untangle the facts about energy use and storage.

BATTERIES do not make electricity, but instead, store energy produced elsewhere by burning coal, natural gas, or oil or from the capture of solar energy, wind power as well as the use of nuclear power. Electric vehicles are not zero-emissions, but instead reflect the efficiency of the charging source and the cost of manufacture.

Electric vehicle batteries, typically, weigh 450kgs, have the size of a suitcase and contain 12 kgs of lithium, 25kgs of nickel, 20kgs of manganese, 14kgs of cobalt, 80 kgs of copper, 180 kgs of aluminium, plus plastic and steel. For each EV battery manufactured, you need to process 10,000 kgs of brine (for the lithium), 18,000 kgs of ore for the cobalt, 2400kgs of ore for the nickel and 10,000 kgs of ore for the copper. All told over 250,000 kgs of the earths crust for one battery.

The main problem with solar arrays is the chemicals needed to process silicates into silicon used in the panels. The manufacture of pure silicon requires processing it with hydrochloric acid, sulphuric acid, nitric acid, hydrogen fluoride, trichloroethane and acetone and a range of exotic compounds which are highly toxic. Solar panels have a life (10-20 years) and presently can not be recycled.

Windmills also have embedded costs and typically weigh 1600 tons and contain 1300 tons of concrete, 300 tons of steel, 24 tons of fibre glass and a range of rare earths. Each blade weighs 35,000 kgs and lasts 15 to 20 years and are not recyclable.

Going green may seem Utopian, but there are significant embedded costs.

Green Hydrogen has come into vogue recently and has been promoted as a great source of 'free energy'.

This technology is not new and may have applications in the future in augmenting Australia's gas industry.

ELECTRIC VEHICLE INFRASTRUCTURE

The energy utilities are not saying much at the moment regarding cost projections re the operation of EVs, but there will be costs that need to be born by the customers. It's not just the amount of electricity required, but the transmission lines and fast charging capacity that must be built at existing filling stations. Neither wind nor solar would meet the demands which casts a shadow over EVs being mainstream transportation.

EV CHARGING

In order to match the 2000 cars that a typical filling station can service in a busy 12-hour period, an EV charging station would require 600 50 watt chargers at a cost of approximately \$24million and a supply of 20 megawatts from the grid. (Enough to power 20,000 homes). Regarding charging time it can take between 30 minutes and 8 hours depending on the level of existing charge in the battery. Here is the conundrum: - if you have cars coming into a petrol station and staying for 5 minutes and EVs staying for 30 minutes or an hour there needs to be 6 times the surface area to park the cars. How would you achieve that?

The UK government is already planning for power shortages caused by the charging of thousands of EVs and is restricting the time of day when you can charge you battery. They are achieving this by installing smart meters which are programmed to switch off EV charging at peak times. Also, UK chargers will be pre-set to not function during times of peak load.

EVs IN THE NEIGHBORHOOD

A home charging system for a TESLA requires a 50amp service. The average house has a 100-amp service. On most suburban streets the electrical infrastructure would be unable to carry more than three houses each with a single TESLA.

Although the modern lithium battery is four times better than a lead acid battery, petrol holds 80 times the energy density. The lithium battery in your mobile phone weighs very little whilst the Tesla battery weighs 450Kgs. So, what do we get with an EV? More weight, more cost, less convenience and in the main the inability to tow anything.

As you can see it is no where near as clear cut as some disciples would have you think.

The author of the article above is Graham Sharley. He has tertiary quals in science, law and business management; also 9 years with RAEME, 9 years managing the Govts Energy Office and 8 years as a senior manager with SA's Attorney generals Dept. I have had an interest

in building and racing cars and boats since 1959, which is a bit like dermatitis in that it can get better or worse but never goes away. I keep myself amused by doing a bit of oil and fuel analysis. He has given permission for the article to be published.

Fitting a Morris Side Valve (SV) oil filter to a Riley 9 engine

It was much more easily said than done. The advice was that the best oil filter to fit a Riley 9 engine was a SV Morris filter housing because both inlet and outlet openings were at the rear of the housing allowing for a neater fit. Phil Evans said that he had already given all of his left-over filter housings away. The Morris wreckers in Australia had none. The Morris wreckers in the UK had none. The few Morris restorers in Australia wished me luck in finding one and finally I posted a request on the Queensland Morris enthusiasts web site. After a week a very kind SV Morris enthusiast SMS'd me and offered one at a good price. Later he told me that he probably should not have parted with it because they were becoming rare. I could not help but agree. It took a long time to find that one.



Above: The value in the Morris SV oil filter is because of its size and rear facing ports

With the SV filter housing in hand a visit was paid to the ENZED company business at Kunda Park. The bits required were explained and the two young men at the counter looked at me with puzzlement. They gave me the business card of their boss who was currently out of the office and so after returning home an email was sent to him and happily when he returned, he engaged with the project and told me that he would collect the bits together and send me an email when they were ready to collect. That took four weeks because the re-

cent heavy rain in Brisbane flooded their supplier's warehouse and they needed to do some cleaning up. But the email came, the parts were picked up and the project could begin. They included a BSP threaded tube, two threaded right-angled components, lock nuts and an end bit with an olive and locknut to fix onto the output tube from the Riley oil pump. But one thing more was needful – a BSP tap and that was purchased from a nearby tool supplier.

At home the parts were laid out on the bench and the filter housing was disassembled. It is basically of the same in construction as a post-war RM filter housing except that in the inlet port it had a circlip, spring and plug to prevent backflow of oil from the filter. The specimen I had was dry so after it was cleaned, it was put into a vice and the inlet and outlet openings were drilled out slightly to take the BSP tap that had been purchased, and a thread was cut into the inlet and outlet ports. Not quite immediately it was realized that the idea would not work. The openings were too close together for the right angled parts to be used to thread the tube into the oil pump housing. In a conversation with Paul Baee, he hinted at that.

A bracket was made to secure the housing to the base of the block and sump stud openings were picked up to fix the bracket into position.

Below: The SV oil filter housing, threaded tube, nuts and right angle bits plus a BSP 3/8 tap



Further openings were made in the bracket for the oil tubes and the bolts to fix the oil filter body to the bracket.



Above: The oil filter bracket and filter housing trial fitted

Great care was taken that the crank did not crash into any other parts that were being fitted. The locations were rechecked twice while the crank was being rotated and when satisfied that all of the neighbouring parts were getting along the locations for the ports were marked and the crank and oil pump with its feeder tubes were removed

Below: ready for radical surgery



An interesting aside is worth mentioning at this point. The engine parts are teaching me again that a more fluid approach is called for when building pre-war Rileys. In the vintage Riley 9 engine, oil delivery is via copper tubes and the ones I had were broken and distorted so they needed to be re-imagined, repaired and re-routed where they would not be bumped into by the crank or con rods. To ensure their integrity, the ends were re-soldered, and the tubes were pressure tested to 50 psi.

At that point distraction occurred with the idler gear and eccentrics (connecting arms). The eccentrics run off offset round extensions on the idler gear bush. In turn the eccentrics push and pull the pistons in the oil pump (just like con-rods). There were two idler gears and central bushes, only one fitted over the idler gear post. There were five eccentrics, one was bent, another had broken at the big end and was silver soldered together, another was worn and sloppy on the big end and the other two were ovule on the little ends. It was time for another telephone call and the advice received was to bore the little ends out and silver solder bushes into them that fitted closely over the end pins in the oil pump pistons. There were two oil pumps amongst the bits that came with the engine. The pistons are of different lengths and one has drillings to push the oil into the delivery tube. One long piston had an ovule pin, a short piston had interesting wear and the other two were in reasonable condition with no scoring and round pins. The best of all of the bits were selected for use and the bushing was set aside until the oil filter body was fitted.

After fitting the oil filter bracket to the block the oil filter base was emersed into Chemtech — Blitz aluminium cleaner and it was clean in an hour.

The threaded tube was passed through the bracket and the block was marked for drilling. Previously great care had been taken to align number two journal to pass by the right angled bits that re-routed the oil through the block to the filter. When satisfied that all of the oil gallery parts were lined up correctly the two openings in the block were carefully drilled. That is not exactly true. The block was carefully drilled but the drill was powerful and the drill bit grabbed so that it came out of my hand and

gave me a right cross to the cheek. At that stage a day had gone into carefully locating and drilling the block so no tears at this point.



With the opening made in the block, the bracket with the oil filter body was fitted, the internal oil galleries were fitted and the crank with number two con rod were fitted into the block and the crank was rotated and the moving parts rechecked for clearance.



Above: The oil tubes and crank trial fitted.

You can see from the picture above that the tolerances are tight. The right angles pieces that re-route the oil through the block need to

be set deeper into the block and the bottom edge needs to be milled to increase the clearance between them and the big end on number 2 con rod.

When this is done, the oil tube from the pump will be cut and the tubes re-routed through the right angled pieces to the filter.



Above: Oil to the pump fitted

On the outside of the block, the threaded tubes will pass from the right angled pieces through the bracket and fixed with locking nuts. A spacer corresponding to the oil gallery openings will be made to fit over the nuts and a gasket will seal the openings to the oil filter. Thank you to Paul Baee who envisaged this concept that no doubt has been complicated by my attempt to reproduce what he has successfully completed previously.



You may be wondering how the crank will be fitted when all of the oil galleries are in place and tested. So am I.

But others have done it so there must be a way.

Riley Tour of Tasmania National Rally 2023 - Booking Information

Hi All

This email is to provide some updated information for those still looking to book for the Rally in the next month or so.

1. Spirit of Tasmania. The evening sailing time for Tuesday 14th March 2023, has been moved from 7.30pm to 10.30pm. Please book the 10.30pm sailing if you are sailing on the 14th March 2023.

Accommodation:

Hobart: Riverfront Motel & Villa have advised us that they have had to increase their 2023 prices slightly due to increase costs. Prices appear to have increased by approximately \$10 over those we quoted in the booking Information. They apologised but find themselves unable to hold the rates previously advised.

Launceston: Country Club Tasmania have advised us that it is best if your bookings can be made during Office hours Mon -Friday 9am – 5pm when reservation staff are on duty. Some of our rally attendees have attempted to book outside these hours and have been told by Reception staff that certain rooms are not available when they really are being held for us.

As of yesterday there are still 20 Rooms and 10 Villas available at \$139, 5 Queens Villas @ \$159, and 10 Golf Villas at \$179 Plus some most expensive rooms and villas.

We look forward to receiving you Booking Form. If you have any questions do not hesitate to contact me.

Best Regards

Marilyn Threlfall
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