



# Riley Restorer

**A magazine for Riley restoration enthusiasts  
in Australia    December 2022**



*Paul Bae's very rare Silver Streak*

## Editorial

Time flies when you are having fun. A container has been purchased for my spare parts and it has been sited in front of the bottom garage, work has been done on the '47 RMB whilst dodging the rain, and a brief visit has been made to Sydney to buy another restoration project. Excitingly, work has also been done to incorporate the *Riley Restorer* club. Page 4 provides details about membership applications. We need your financial partnership to incorporate, support the production of the magazine and manufacture spare parts in cooperation with the NSW club.

You may have experienced similar trouble as I have. Ever since the bottom garage was built it

has been shrinking to the point where I am tripping over Riley bits but that problem has been solved (maybe temporarily) and the container that was purchased has been filled with loose Riley bits.

While in Sydney Paul Bae's current restoration was visited and the front page shows the amazing development of the project. Brought home was an early 1949 RMB and helpful Riley 9 bits. These will complete the mechanical restoration of Harold, a Mk 3.

In this edition of *Riley Restorer* apart from an update on the Silver streak you will find stories about rust and stress fracture repairs, SU carburettor repairs, an RMA restoration and SV shackle pins having their first meeting with their suspension springs.

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

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## *Riley Values—lending or giving Riley bits to other enthusiasts*

One of the things that I really value about the Riley clubs internationally is the value of giving surplus bits or lending parts off a Riley for copying. The Broken Hill rally will never be forgotten not just for the amazing vistas and camaraderie but for a few mishaps that Edward, the Riley roadster experienced. One of them may sound trivial. A naughty wheel nut loosened and rolled away. Whilst at a scenic look out Keith Morrison spied the lonely stud and pointed it out. He then gave me one of his spare wheel nuts. I will never forget that.

On another day the equalizing mechanism for the Mark 4 brakes abandoned the Riley. It was the result of either a lack of Loctite or rough roads but of course my western NSW friends would never accept rough roads as a cause. Several Riley friends stopped to give a hand. Rob Rusco was outstanding. He helped take a wheel off and loosen the cable allowing Edward to continue to our destination. While there one NSW member found some fencing wire, detached it from a fence and gave it to me to do a road side repair. Upon my return home I purchased another mechanism and when I wrote about it, Matthew French asked me why I didn't ask him first and he would have given one to me. Such is the care offered and given by the vast majority of Riley enthusiasts. On other occasions, tools have been loaned, parts given and help offered. I really appreciate the people in the Riley community.

The occasion for this short article is that a few weeks ago Jim Runsiman telephoned and said he was requesting the loan or purchase of a spare trafficator cancellation part for his 1936 12/4. There are no 12/4 spares in my garage so the mechanism was taken out of the Falcon. It was simply a matter of undoing a few nuts, taking the steering wheel off with the advance and retard tube and taking out the mechanism. I couldn't see that there would be any differences between the Blue Streak and the Falcon mechanism the Blue Streak was checked by shifting the steering wheel mechanism back and the cancelling mechanism was missing.

**Below: Pictures sent by Jim of the missing part.**



At first, I couldn't see where the picture sent by Jim was fitted into the assembly. So I waited for his telephone call to find out. Since Percy never past by a chance to revise mechanisms (not always for the better as this mechanism seems much better and less problematic than the post war mechanism) the mechanism in my Riley may not be the same as in his Falcon. If his part is not the same as the part in My Falcon, maybe another Riley enthusiast could lend Jim the bit to copy?

No need for another lender. Jim phoned back. The reason for not finding the part in the Big 4 was because it was not there. Some earlier enthusiast had taken it out, perhaps to fit it in another Riley. The part was in the 12/4 and after it was removed the part was sent to Jim for copying. The hidden value in the loan is that Jim said that he will make two copies and send the original and a copy back to me. A win win scenario.

# *Riley Restorer Club of Australia*

This is my application to join the Riley Restorer Club of Australia.

Name.....Signature.....Date .....

Name of spouse/partner .....

Address

.....

Email

.....

Mobile telephone number .....

and

home number.....

Upon receiving your application, a membership form, a constitution and a memorandum of understanding (MOU) will be sent to you. Please fill in the membership form, tick the box indicating that you have read and accept the constitution and MOU and return it to the secretary, Philip Wyllie, 74 Treehaven Way, Maleny 4552 Queensland.

Upon ticking the box indicating that you accept and understand the constitution and MOU and by sending the form back you will receive a membership card with a membership number.

The annual membership fee is \$20. This will include your spouse/partner if you indicate the person wishes to be a co-member with you.

The club is currently applying for incorporation. If secured this will allow Queensland members to drive their Riley on concessional club plates.

In the February edition of *Riley Restorer* there will be an advertisement about the first of the new parts that have been manufactured.

Details of your Riley (s)

Year..... Model .....

Chassis ..... Engine number .....

Body type..... Colour .....

Current registration .....

When Incorporated do you want concessional registration? .....

Known history include previous custodians.....

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## Silver Streak update (Riley V8) by Paul Bae



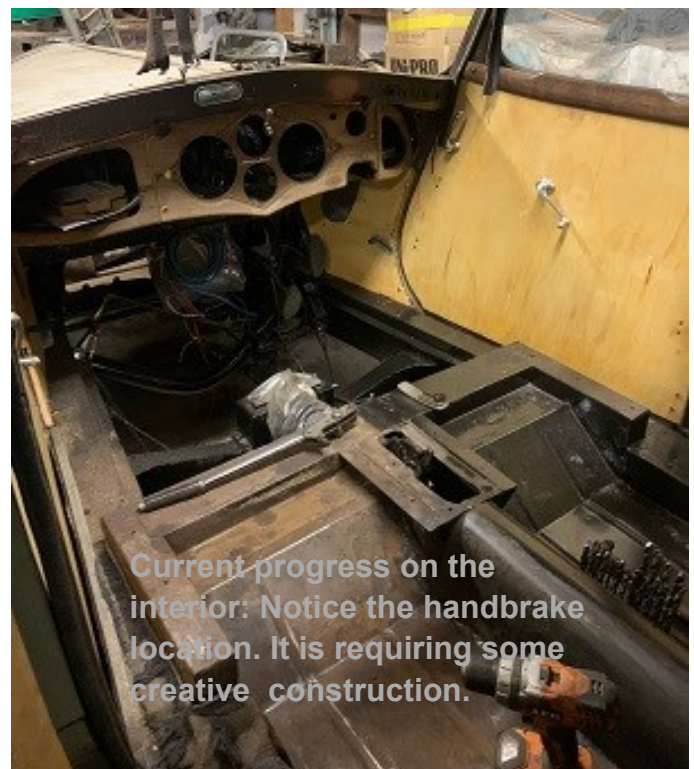
### **Above: A picture taken a few weeks ago of Silver Streak**

In November 2018 an introductory story was told about Paul Bae's restoration of an 8/90 Adelphi. Later in September 2020 the story was continued with an account about the engine build. The power plant in the eight ninety is basically two Riley nine engines melded together at approximately a 30-degree angle to make an eight-cylinder Riley engine. It was fitted into a big 4 chassis with an Adelphi body. This 1937 Riley, engine number 8A-211 and chassis 87A-211 is one of perhaps only 25 ever made and is possibly only one of two that were exported to Australia. Three others 8-cylinder Adelphi's exist in the UK.

Briefly the known history of this Silver Streak is that Neil Brandt, a Queensland Riley enthusiast, was in possession of an 8/90 engine in the 90s, the remains of one of the 8/90s exported to Australia. When he died, the engine was sold out of the estate and purchased by Stephen Figgis, a member of the NSW Riley Motor Club. The second 8/90 was sold by Tom Cox Motor Co Ltd of Cambridge to a Royal Navy officer who came out to Brisbane in 1939. He kept it for some time and then sold it to a Dr Kroll, who sold it to a Dr Foote and then it came into the hands of Jack Downing, the

Queensland Riley Agent. It was 1944 and the Riley had done 33,000 miles. According to the April 2018 edition of "The Automobile" magazine the car sat in a shed for over 30 years with the body rotting away. The magazine article then goes on to say that the engine had been filled with diesel to preserve it. In the 1950s Linden Thompson photographed it while it was in Ipswich. During the 1970's the 8/90 was seen by Russell Sinclair and he took the time to take photographs and copies of these images are now in the possession of Paul Baée.

In 1977 it came into the possession of Jim Cahill in Victoria. By that time the car was in very poor condition. It was then sold to Ian McDowell and sold back to Jim Cahill in 1982. During this period, the engine and pre-selector gearbox were taken out of the vehicle and work was done on the Zenith carburetors and the pre-selector received new seals. After the engine and gearbox were refitted the engine was fired up and it ran. The trail then leads to Noel Wyatt who purchased it to prevent it from being turned into a special. By that time many of the body parts had disappeared. It was then sold to David Snell on the proviso that he restored it to its original form. Sadly, David died before commencing the work and he left it in his will to Paul Baée. It came into his possession in 2009 and he has stored it in his garage for the past eight years.



**Current progress on the interior: Notice the handbrake location. It is requiring some creative construction.**

The 8-cylinder Riley was first introduced in October 1935 and the manufacturer advertised that it was available with an Adelphi or Kestrel body, although as far as Riley historians know, no Kestrel bodied vehicles ever existed. The engine has two down draft Zenith carburetors, one on either side of the engine and each supplying fuel to the four cylinders (two on each side of the engine) that it is fitted to. The rockers were mounted on the head. The crankshaft has three main bearings. There are three cam shafts: one for the inlet valves and the two on either side of the engine for the outlet valves. The engine is gear-timed and so is the water pump. The transmission, much larger than those fitted to the 12/4s, is a Wilson preselector gearbox.

In September 2020 the major problem in completing the build was working out how the lower parts of the body fitted together as much of what was there originally had rotted away. The solution came with a shipment of parts from South Africa. Amongst the many parts was a complete Adelphi body. In December 2021 the container arrived at Port Adelaide Warf and Phil Evans steam cleaned the parts before they were inspected by authorities for contaminants and then he had the container moved to his country retreat on the Fleureo Peninsular. The editor of the *Riley Restorer* became involved at this point. It started perhaps three years previously when he was asked if he would transport all of the Blue streak parts to Sydney. The best of the parts would remain there and what was left over could be taken to Maleny. From the perspective of the Silver Streak project (pre-war Riley V8) all of the parts needed to complete the project would become available and there was sufficient Blue streak Adelphi (pre-war big 4) parts left over to complete the second project in Maleny. The deal agreed to was that the body in his garage

would go to Maleny Queensland and the more intact body on the big four chassis would remain in Sydney.

The journey was undertaken in February 2022. A visit to Phil Evan's country retreat was completed and the car trailer backed up to the container. The Blue streak parts were loaded and the trip back to Hornsby was uneventful and we arrived at Hornsby late in the evening. Next day, the Silver streak was taken out of the garage, the V8 chassis drawn forward, engine and floor pan moved and the body was carried out from its position in the garage. Various parts including rear and side windows, jacking handle, doors, trim examples and lots of other parts were brought out. Later all of the parts were examined and divided as equally as they could be. The front and rear lawn were littered with Riley bits and thankfully the Sydney weather was kind. The car trailer was then backed into Paul's driveway and the Adelphi body lifted off the chassis, loaded onto a box trailer and dragged back to the garage. On the second day the floor pan that had been in the garage was fitted onto the chassis that was on the trailer. The Adelphi body that had been in Paul's garage was then lifted (with some difficulty) over the floor pan and rested in place. The parts were then loaded under and around the Riley and it was secured in place with tie downs. By the end of day two all of the parts were either on the trailer or in the garage.

**Below: A picture of Cliff Goodman's Blue Streak project. On Paul Bae's project the bottom of the 'B' pillar was missing**

**and the connecting points between the body and the chassis was largely missing at the 'A' pillars.**



The work on the Silver streak had in the meantime continued with the restoration of the radiator. The radiator in these pre-war Adelphi's are similar (but different) to the post-war RMs in that the radiator is separate from the grill. The grill is bolted to the radiator and the radiator itself is mounted on rubber mounts. The construction is something between the honeycomb makeup of the Riley 9s and the RM squares. Sadly, with this particular radiator, the core and bottom tank had rotted out. Previously, holes in the bottom tank had been filled with silastic and this may have hastened the decline of the radiator as many silastics have acidic content. The vehicle may also have lived near to the sea. In the end the bottom tank, the radiator core and the mounts needed replacing. Fortunately, people in the Auto restoration business were able to put Paul into contact with a vintage radiator specialist and when it returned to Paul's garage it looked the same as if did when it was new, but built with modern materials and of modern construction. In the future it will also be possible to fit an electric fan to cool the radiator just as is the case in many RMs.

**Below: The Silver Streak radiator not when the picture was taken but now restored**



The engine heads had 18 mm diameter spark plug threads except for the front drivers' side head and this had a bung fitted into it making the spark plug thread 14 mm. When the bung was removed it was discovered that there was a porosity hole behind it. To solve the problem, it was decided to re-machine the offending spark plug thread and fit a sealing bung to it. Bungs were also made for the other spark plug openings so that they would all accommodate 10 mm, long reach spark plugs. Such plugs were thought necessary as the original 18 mm plugs only reached halfway down the plug tube requiring the fuel air mixture to travel up the tube from the combustion chamber to combust. The only difference in the look from the original plugs is that the plugs will be of a narrower hexagon. Filling the hole with a weld was considered but the head would have required heating and there was no confidence that a weld fix would work because the location of the hole into the water jacket was half way down the spark plug opening.

Some months ago an advertisement appeared in the Riley Register offering a V engine, valuable spare parts and another gearbox. Out of all of the engine parts there might be a sufficient number of heads to make up two good ones for the Silver streak. So the offer was taken up and the engine with its accessories purchased.

The 8/90 Adelphi engine has multiple gaskets each having its own unique shape. For example, the inlet manifolds each require 8 different gaskets. To get the gaskets, it was decided to have gasket dies made. The dies consist of a rubber base with a sharp cutting edge that runs around the outside edge and around the inside openings. These are then fitted to a machine that stamps out the gasket shape. In his role as spare parts officer for the NSW club Paul has had dies made for many Riley applications and so the idea of having a die made was not as big a drama as it is for the Riley Restorer editor. The unique thing about these dies is that the gaskets that come from them are unique to the only three or four V8 Riley engines that currently exist in the world.

Of particular interest to the editor is the rocker cover gasket. It has a complex shape and is only useful for these unique Riley V8 Adelphi's. The head gasket is yet to be made. So, the sanity of the NSW spare parts officer may be in question.

It took a whole day to clean and repair the sump. It had an incredible 4 inches of oily sediment in the bottom. Like the 12/4s it has a sender unit fitted to the side of the sump that measures the amount of oil that is in the sump. It was likely to have had water in it at some time. The sulphur accumulated from the old oil also had its effect. The protective mesh that is fitted to all Rileys was rotted out. Paul found a person who sold a mesh material, so a new protective mesh was made. A new sender unit, mesh and a clean ready to use sump and gasket is now ready for fitting.

The oil pump was in reasonable order and BMW oil filters in series have been fitted into the oil filter canister.



There are two water pumps fitted to the Adelphi V 8s. They are driven from the exhaust cams and once again they look similar to the 12/4s, but their shape and internal arrangement are unique. A drive dog runs from the front of the exhaust cams into the water pumps. They are sealed from the engine oil with 3-inch diameter carbon rings. The impellers live inside the pumps and are driven by the cam shafts. There is a nut that fixes the mechanism together at the front of the pump with a copper washer to seal the water in the units. To disassemble them 3/16<sup>th</sup> of an inch holes were drilled into the impellers and a tool was made to hold the drive dog and via this method it was possible to disassemble the units. The inlet

opening for the water were both rotted out. The internal mechanism on one of them was rotted out. Both of the units had cracks, and both required Speedy seals to line the drive shaft. The seals in both pumps were worn to unusual sizes. To meet this challenge, Paul found a company that sold graphite, and this was machined to produce the two seals required. New aluminium tubes were welded to the units to receive the water hoses.



**Adjacent: the oil filter and above the water pumps.**

The valves and collets are the same as the Riley 9s and the double springs are the same as the 12/4s and these are on their way from the Riley Register. The pistons are the same as the Riley 9s, but these won't be requested until a liner is fitted to one of the bores and the sizes of the bores are confirmed. The crank looks good. The cams are visiting Clive cams so that the cam lobes can be cleaned, and the profiles reground. The cam followers are keeping them company and will come back with new faces.



In the meantime, Paul discussed the uniqueness's of his Adelphi with Cliff Goodman, a long time Riley enthusiast and Big four custodian in Western Australia. Cliff's brake lever is the same as that in the Silver streak but the ratchet is not. Something unique needed to be designed to suit this Riley. Colin Clifford also has an Adelphi V8 in England. Once again, many components are different from the one in Sydney. Cliff's steering box was made by the Bishop company and the steering box in Sydney is a Burman box. You would think that they would be the same, but they are not. It can only be concluded that they were made individually, and parts were purchased by the Riley company as they were required from different suppliers.

cal parts under the bonnet have been installed.



Various cracks in the aluminium skin have been identified and once the Riley is drivable it will go to a aluminium welding specialist.



The clutch used in the 8/90 is a type 3 which is the same as the 12/4. As the original covers are made of diecast a new cover machined from aluminium was purchased from the Western Australian club. For those of an inquiring mind, the clutch is deemed to be sufficient as the V8 has a power output of 90 BHP while the 12/4s has an output of 70 BHP.

Currently, the body from South Africa has been fitted to the chassis. At the front end, the bonnet, head lamps, side lamps, mudguards and new radiator have been trial fitted to the point where the bonnet is a good fit and the electri-

Much of the boot, the interior and the engine bay have been cleaned and painted. The sun door has been fitted and slides easily in its tracks. The boot door and the cockpit doors have been fitted and close nicely.



#### **Above : The sun roof with its sliders**

Earlier in this article mention was made about an advertisement in the Riley Record offering a Riley V8 engine for sale with Wilson preselector transmission. The transmission was not required but the engine parts were purchased with the hope of getting rare parts that are in good condition and particularly intact heads. Of the original 4 heads obtained with the Riley only one was immediately serviceable, 2 were nearly good enough but a second is required to complete the engine build. It is hoped that the two that came with the English block would provide the second head. The engine purchased out of England has a block 4 cranks, 4 sumps, water pump bits and timing parts. It is missing a flywheel and rocker covers but apart from that, a second engine could be built.

The original half shafts were in poor condition so a local company was engaged to make a second pair and since these were being made some others were made for Blue streak enthusiasts. The half shafts are basically the same as RMB half shafts but are an inch shorter while the studs are larger. These have already been installed and have made a snug fit.



**Above: On the left is an RMB half shaft and on the right is an Adelphi half shaft.**

Although the dash board was complete, the dash top piece was missing. A model was made up and it was reproduced in Northern Queensland Beech. It has a similar grain pattern to the existing English timber but the timber in the Riley had darkened over its years of service. The new part will need to sit in the sun for a few months to match the original timbers.

**Below: The Dash top completed and sitting on a Blue gum outdoor table**



## Stress fractures and rust repairs

Until 2010, my experience of Rileys was limited to what only I have done. Such is the life of a vagabond. But certain things seem universal. On unrestored Rileys, the battery box floor is always rusted out. Sometimes there are attempts to repair the rust but usually they not very successful. Many times, although not as severely, the tool box is rusted out. There are holes drilled or cut out under the dash to fit non original parts. There are stress fractures at the fire wall at the top of the driver's side foot well. In the tub there are usually some stress fractures around the support locations and maybe the lip on the tub that the boot lid sits against is rusted out. The spare wheel door is usually dinged or rusted in a few strategic points but it is not difficult to repair on a bench. On the Riley being worked on at the moment most of these things are the case with the exception of the tub boot lip. It was amazingly intact. Nevertheless, on this Riley there are some mysteries as well as the expected.



**Above: The battery box floor is on the right**

Both the battery box floor and the tool box floor

were rusted out. It is always easier to replace these sections when the scuttle is disassembled. The 'K' panel on the driver's side is bolted to the floor of the tool box so it is far easier to replace this when the scuttle is apart. The welding is also less visible if the floors are welded from underneath. The stress fractures around the top of the footwell are easier to weld when the scuttle is lying on a table. But the stress fractures under the floor of the tub are impossible to reach unless the tub is standing on its end. These were all welded above and below the tub floor and the brackets that were fitted in the factory to stiffen the support under the boot floor were welded from underneath.



**Above: Tub floor welded from underneath as well as above**

But what about the fractures in the external sides of the tub near to the bumper bar brackets? It could be imagined that if the Riley was in a rear end crash, the metal could be split but there is no evidence of a crash on both sides of the tub. In just the same way the sides were gathered together and the metal was stitched back together and then welded along the length of the split. Oxy-acetylene and soft wire were used to match the steel properties of the Riley body and the wire was used as a filler where there were drilled openings but the mystery remains, why are there splits at the rear bottom sides of the tub?



**Above: The drivers side tub skin and below the passenger side tub skin**

All of the splits and rusted out floor have now been welded. Afterwards the tub and the scuttle were painted to seal the metal against rust. Readers of the last *Riley Restorer* magazine will recall that the timbers were all remade, sealed and ready to be fitted. Over the next three weeks they will be fitted and the roof will go on to stiffen the construction ready for paint, roof vinyl and interior restoration. In the meantime the instruments are in Sydney for restoration and all of the gaskets for the engine have been purchased.

**Below: pictured are other commonly found splits behind the rear passenger seat**



### *Separating seized SU carburettor components*

The first attempt to separate the SU bell from the piston occurred 20 years ago. The bell with the stuck piston was fitted upside down into a timber frame and penetrating oil was poured into the opening and left to soak. It was checked after a few weeks but there was no result. So, it was left for a few months, again with no result. After that I tried fitting the neck into a lathe chuck, spinning it slowly and applying heat. After a few minutes there was still no result so more heat was applied and then the bell moved, and the bell was taken off the piston leaving the bell housing sleeve on the piston. I comforted myself with the thought that Edison has a few failures before he invented

the incandescent light globe, so I tried again and eventually there were some successes but more dismal failures. So, on a recent trip to Sydney a pair of stuck carburettors were taken with me to see how the NSW restoration guru (Paul Bae) separated them.

Surprisingly he used the same method as was used in my garage but with greater effect. So permit me to share the difference between his 100% success rate and my success rate (I am not putting a percentage rate on it). In the first instance he closed the teeth of a small 3 jawed chuck on the neck of the carburettor bell. The piston base was fitted into his lathe chuck and tightened to get a grip on it but not so hard that it damaged it.

The lathe was spun at a low speed. Heat from a LPG torch was then applied to the body of the bell housing as it spun in the lathe, but not so much that it retained its grip on the piston. The small chuck was used to pull the bell housing from the piston. It came off surprisingly easily but it wasn't beginner's luck. It just wasn't that attached to the piston.



The same treatment was used on the second carburettor while the first bell housing cooled. The second attempt at separating the parts was different. This time the bell didn't come off. Eventually, it became too hot and the balance of expansion between the brass and the aluminium was overcome by the heat. The carburettor was removed from the lathe and set aside on the bench to cool. The difference between my previous attempts and this one was knowing the right point where the aluminium expansion was greater than the brass expansion prior to the brass becoming hot to the point where the brass expanded with the aluminium. When the parts cooled they were lubricated through the top as well as from the bottom of the bell housing. The second attempt was made with more care to hit the different

expansion rates. Periodically the lathe was stopped and the three jaw chuck was pulled while twisting it. After four or five heatings, the lathe was stopped, the bell housing was pulled away while twisting it and the bell housing loosened slightly. The housing was then taken out of the lathe, the 3 jaw chuck removed and with a soft drift the piston was carefully knock in maybe an eighth of an inch and the top and bottom of the piston was lubricated again.

The 3 jaw chuck was again attached to the neck of the ball housing, the piston replaced into the lathe chuck and the heating procedure repeated. This time the expansion of the bell housing was sufficient and the slight movement of the piston away from the oxidized particles allowed the bell housing to come away unscathed. So the trick is in being aware of the different expansion rates, care not to force the separation of the parts and taking the time to get the parts apart without damaging them. Clean up is simply the use of very fine emery paper and polishing the residue off the bell without taking too much off the inside wall of the bell. If too much is taken off, the potential for vacuum is lost and when the engine is accelerated the piston with the needle won't rise.





Make yourself known, show your club ID or magazine when in the shop.

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*For Sale*

**RILEY 9 BROOKLANDS SPECIAL**



This vehicle was built and owned by long-term South Australian Riley Club member the late Bill Gallagher who was a volunteer at Birdwood Motor Museum. After much deliberation, downsizing and now lack of space, the family is wishing to sell. The vehicle is complete and running with current registration. Included in the sale are several boxes of assorted spare parts. With

some minor cosmetic changes this car will really look and drive to its full potential. Some photos are included but for a closer look contact Michael on 0407393192. Selling price is negotiable at around \$17,000 making it excellent value for anyone who has yearned to own a Riley Brooklands.



**AUTOMOTIVE & INDUSTRIAL PAINTS**



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**Above: The progress on the RMA restoration is apparent. The engine runs, transmission is good. The timber frame completed and the body fitted**

A few years ago the Riley pictured visited my workshop. His custodians, a father and son team, asked if I could help out and make a timber frame and fit it as they did not have all of the tools necessary to do that part of the project. I was happy to give it a go so I took a few weeks off from my current project, the Riley 9 Mk 3, and made up the parts, framed the Riley and returned the result to the custodians. Well, life can get busy. COVID 19 was doing its thing and the primary custodian was busy in his employment as a medical specialist and his son returned to university. So, the Riley sat in the garage. Happily, for the custodians they lived only a few hundred meters from the sea and the family loved to swim and enjoy the seaside lifestyle. Unfortunately for the Riley, the salt air was not so good and with the distractions of life, painting didn't happen, and he began to return to the elements – dust to dust, ashes to ashes – that sort of thing. The primary custodian was then offered employment in Sydney and the garage needed to be emptied. Would I take the project on and complete it? Anyone who knows me is aware that I am passionate about getting Rileys onto the road and keeping them there, so I agreed to organise the finishing of the project. It was not that far off completion after all. The engine ran. The body was all together. The upholstery was in good condition.

Maybe a friend could do the instruments and I could just put the parts together?

After picking the Riley up, a detailed study of what needed to be done was conducted. The father son team had done a fairly thorough job. The front and rear suspension was good. All of the shackle, trunnion and front suspension bushes were replaced with new ones. The chassis had been cleaned and painted. The engine had been attended to as well as the gearbox and both were in serviceable condition. But there were a number of subtle issues that needed to be addressed. There was surface rust not only on the body panels but also where the paint was a little thin. There were hidden areas where there was exposed steel and these were beginning to rust.

**Below: Surface rust on the window surround**





There were hidden areas where there was exposed steel and these were beginning to rust.



**Above: This is under the front passenger side quarter panel.**

The paint used to cover the differential and rear wheel backing plates was petroleum sensitive and had already begun to deteriorate. The dust covers on the rear backing plates had not been replaced. The rear brake shoes were worn out. The differential seals were leaking. There were a few rust holes at the bottom of the tub adjacent to the rear doors. The universal joints looked alright but there was enough wear to fail a road worthy inspection.



**Above: Surface rust on the drive shaft and wobbly universal joints.**

In short there was lots of little things to do prior to beginning the build and taken one at a time they were not a big deal. So, this short article is about the small things that need to be addressed before beginning to fit out a Riley.

The first thing done was cleaning off the paint on the differential and backing plates. KBS rust seal is what is used in my garage on differential parts and the chassis. It can be painted on; it is self-levelling and dries hard and is unaffected by petroleum. The truth is that if you get it on your hands and it dries, it has to wear off. You can't remove it with any product. Like all of these materials the list of dangers on the can is quite extensive, but it is used because it works. While in the painting mode, the foot well was taken out of the Riley, cleaned and treated for surface rust and repainted. While it was out the drive shaft was removed and the universal joints replaced. The universal joints can be purchased at any car parts shop and that is where new universal joints were purchased for the drive shaft. The part number is K5-L4R (Hardie Spicer). The drive shaft has since been returned to the Riley and the foot well assembly has been replaced into its position.

While on a recent trip to Sydney, a visit was paid to the NSW club's second-hand parts store and a thermostat housing, water pump parts and later a top radiator hose were procured. The only draw back with the thermostat housing was that it was attached to a head. Not having the right tools it had to be taken home for disassembly with the promise to return the head at some time in the future.

Some while ago a story was written about assembling a water pump. Ian Henderson did the work and I took pictures and wrote up the story. This story has been reproduced in an electronic book called the *restorer's companion*. It costs only \$20 and all of the funds obtained go into a fund to make new parts. You can get the book by emailing the editor of the *Riley Restorer* magazine It is recommended reading.

The only comment that I might make here is that if you ever assemble a water pump make sure you look after all of the washers and replace them in the restored pump in their correct place or it will leak.

One of my favourite shops is Kawana Brake and clutch. There is a mature aged man there with an encyclopaedic memory of old brake parts and it is just as likely that he has them on the shelf. The brake shoes were taken there for the pads to be replaced. He did the job and

they are now waiting to be replaced on the Riley, but before that the diff seals need to be replaced

d. How do you know when to replace your brake shoes? When the copper rivets become



shiny.

The front brakes were checked and were found to be in good condition. Even the wheel cylinders had been serviced.

The next task is to prepare the body for paint. There is lots of surface rust but that won't be hard to remove.



**Above: a few bits to replace**

I am a little concerned about the possibility of contaminants or rust hiding under the primer but I guess that doing a little digging will resolve that mystery.

### *Christmas in Maleny*



**Adjacent: Christmas is a special time in the year and look what came from the Spring Master this Christmas.**

A little late for assembly prior to Christmas but they will go great with the shackle pins and then the chassis will grow into a Riley.

