TORQUE TUBE

Newsletter of Riley Motor Club Qld Inc May 2015

www.rileyqld.org.au

The Hub Rally Brisbane Contingent

Editor: Bill Short
williamshort@aapt.net.au Ph.0738867236

Next Meeting will be at the Jack Warr Shed on **14/05/2015** at 2000hrs, preceded by a cuppa at 1930hrs.

Agenda/Minutes of Riley Club General Meeting
Held on 16 April 2015

At the Jack Warr Riley Shed in Samford

1. The President Ken Lonie declared the meeting open at 2008hrs.

2. **Attendance –** as per the attendance sheet.

3. **Apologies** – Ian Henderson, David Sawtell, Greg Mehwa, Di Phillips.

4. **Minutes** of the General Meeting held on 12/03/15 were moved for adoption as a true and correct record by Bill Short and seconded by Brian Jackson. **Carried**

   Business Arising – The Treasurer advised that the Auditors Report is still not available therefore the proposed reconvening of the AGM will be deferred until the May '15 meeting or as necessary.

   The ConRod Trophy was awarded to Bill White.

   Proposed Alan Hill. Seconded Robin Hull
   .
   Carried.

   There was no business arising that was not dealt with in later business.

5. **Secretary's Report and Correspondence**

   Inwards –
   Club Magazines from: - 1 X Scotland, Crankhandle from Gold Coast, 1 X NZ, 1 X Vic

   Correspondence from: - Graham Wilson, seeking a contact on the South Side for assistance as necessary. Graham has been referred to Ray Burrows.

   New Membership Received From:
   1. John McClure. Subscription paid to Ian H but still awaiting completed membership form.
   2. Dominic Bonasia. Subscription paid by EFT.
   3. Trevor Taylor. Subscription paid in cash.
   4. Wanthalatui and Phillip Connors. Subscription paid in cash.

   Acceptance of new members moved by Mark Baldock and seconded by Sheila Hill.

   Mark Baldock is to prepare a standard membership acceptance email, which will be provided to all new members as formal notification of acceptance into the Riley Motor Club Qld Inc.

   Outwards – Nil.

   Moved the inwards correspondence be received and the outwards endorsed.

   Seconded by Rod Longden
   Carried.

6. **Treasurers Report March 2015:**

   Balance as per Bank Statement, 1 March 2015 $7412.23CR

Income

2015 Membership Fees EFT/Bpay		35.00
2015 Joining & Membership Fees		240.00
Sale of Second-hand spares		170.00
Sale of Spare parts (for transfer to Spare Parts A/c EFT/Bpay		157.00
Interest		0.94
	$	602.94

Expenditure

MBRC - Shed Outgoings EFT/Bpay		15.00
	$	15.00

Balance as per Bank Statement, 31 March 2015 **$8000.17CR**

(Presented at OGM 16 April 2015)

Accounts for payment – Nil

Accts as presented passed for payment
Moved Linden Thomson
Seconded Lynn Jackson

Moved: Linden Thomson
Seconded: Sheila Hill
Carried

7. **Report from Club Captain** – Sheila is compiling a program of club runs, which also includes combined MG/Riley runs.

   These runs will be published in Torque Tube, headed Riley Program 2015.

   Note the River and Bay meet is on Sunday 19 April, not the 22nd as previously advised.

8. **Report from Torque Tube Editor –**

   Bill Short advised that it is business as usual and more contributions are urgently required, including photos with descriptions, and anything of interest. Submission by mid 20th of the month would be appreciated and 10 pt Arial font should ideally be used.
   Bill also advised that submission in electronic media is preferred as copies of copies of copies seldom reproduce in a legible manner.

9. **Report on Jack Warr Riley Shed –**

   Bill advised that parts are being frequently sourced and that more parts will be graciously accepted.

   Bill advised that the Shed Lease with Moreton Bay Regional Council expires on 31 May 2015 and to his knowledge there is no threat to our current arrangement. Notwithstanding Bill suggested that it might be prudent to meet with the local Councillor, at a time and place suitable to him, to ensure that he is aware of our ongoing commitment and requirement for the leased premises.

   It was agreed that Bill follows this matter through and include other Club members as he thinks appropriate.

   Carried

10. **Report from Registrar –**Matthew and Sheila are working with Di to update member information and Alan Hill is now in possession of all information, which will be forwarded to Di.

Linden Thomson is also to send all current membership details to Di

Report from Spare Parts – as Ian was not in attendance Bill White discussed his summation of the sale of spare parts with particular reference to the Club Rules of Incorporation and discussions with Ian.

The salient points of Bill's summation are:
1. Payment for parts must be in advance, i.e. no credit.
2. Purchasers must be club members, however club members can purchase for non- members (what the RM Club in England does).
3. We can only sell to 2nd parties, not 3rd parties, which is what point 2 above is detailing.

Based on the above and any other considerations relevant or necessary, Ian in liaison with Linden is to provide a list of dot points relating to sale of spare parts for endorsement at a future meeting.

11. **Report from Website Coordinator –**Linden advised that he has more updates to complete which he will undertake immediately after tonight's meeting.

12. **General Business**.

The second raffle was held tonight and was won by Trevor Taylor.
Contributions of any suitable items from Club Members will be welcome on the night and will be raffled at the conclusion of the meeting.

Wendy provided a draft of the wording for the club sandwich board, and it was agreed that she proceed with the purchase of such, 900mm x 600mm in accordance with the previously supplied quote.

Wendy is working on a Hub Rally report for forwarding to Bill Short.

Bill Short is chasing a fibre glass VW Beach Buggy if anyone can help.
.
The Lonies will be away for the May, June and July meetings and Mark Baldock will be away for the June meeting.

13. Car Reports

Nil.

Next Meeting will be at the Jack Warr Shed on 14/05/2015 at 2000hrs, preceded by a cuppa at 1930hrs.

Meeting Closed: Attendees were thanked for their attendance and the meeting closed at 2140hrs

THE 2015 RILEY MOTOR CLUB QLD ELECTED COMMITTEE		
PRESIDENT:	Ken Lonie	0409 613 231 kenlonie@bigpond.com
VICE PRESIDENT:	Alan Hill	07 3289 1063 alshe@bigpond.com
SECRETARY:	Mark Baldock	07 5491 5409 norest1@bigpond.com
TREASURER:	Linden Thomson	07 3139 1524 lindenthomson@optusnet.com.au
CLUB CAPTAIN:	Sheila Hill	07 3289 1063 realsheila@bigpond.com
SPARE PARTS OFFICER:	Ian Henderson	07 5448 8317 ian.wil@hendoco.com
ASSISTANT SPARE PARTS OFFICER:	Graham Mackay	0412 071 903
REGISTRAR:	Di Phillips	0732813807 diannephillips1@optusnet.com.au
EDITOR:	Bill Short	07 3886 7236 williamshort@aapt.net.au
WEB COORDINATOR	Linden Thomson	07 3139 1524 lindenthomson@optusnet.com.au
SHED COORDINATOR	Bill White	07 3289 4282 thewhitehouse7@bigpond.com.au

EDITOR'S REPORT

Hi Readers,

The Hub Rally is over for another year and from all accounts it was very successful. Our thanks go to the organizers, without these people great events like this would not occur.

Thanks to those who have contributed to the magazine this month.

Cheers.

Bill.

The Hub Rally

Cairns, 3rd-6th April, 2015.

The Hub Rally in Far North Queensland is an annual Rally run in turns by the Mackay Club, Townsville Club and the Cairns Club. This year, Cairns hosted the Rally and Rileys were well represented. The Hills, Thomsons, Jacksons & Lonies set out from Brisbane & surrounds and travelled up to Cairns via the inland route, taking 4 days. Overnights were at Monto, Capella, Charters Towers & Yungaburra. The trip up was thoroughly enjoyable through lush green pastures with very contented fat cattle grazing and regular coffee stops. The only mishap was a shredded tyre on Pennelope, Kens Riley. Robin & Barbara Hull also drove up from Brisbane albeit a day earlier than the others.

Cairns was hot – even the locals were commenting on the high temperatures into April! Besides the weather we were given a wonderfully warm welcome especially by our Far North Queensland Rileyites, Bev & Bill Bunt, Ron & Heather Anderson & Pam & Mal Lorimer. There were 69 vehicles entered, the oldest being a 1908 Cadillac & a 1910 Hupmobile.

There were 5 Rileys entered though several Riley owners brought other vehicles to the Rally. Our Rileys performed admirably throughout the Rally and looked stunning in the Cars On Show. Our State Treasurer, Linden Thomson aka Professor Thomson won a very tricky quiz questionnaire and combined with an excellent result in the observation rally, aided by Del, Ken & Wendy, won the Overall Winner Perpetual Trophy – well done Linden. Alan Hill won the Bra Pong Competition which was hotly contested by all the entrants! (What more can I say!) and Ken & Wendy won the Hard Luck Trophy for their exploding tyre enroute to the Rally. They also had a near miss when a very handsome brahman steer attempted to charge the vehicle just south of Charters Towers. The evenings at the Rally were very pleasant, each of the 3 nights had a theme -*Tropical, *Mad Mad World & *Dress in the Era of your Car.

Sadly all good things come to an end and we bade farewell to Cairns and called in to see and admire Beverley & Bills amazing collection of immaculately restored cars, projects underway and those still to be tackled in his well equipped shed in Townsville. Ayr was our first overnight stop, couldn't resist a visit to Horseshoe Bay, out from Bowen for morning tea then onto Marlborough for our second night. After coffee in Yeppoon the next morning, Ken & Wendy headed home to Maleny while Sheila & Alan & Lyn & Brian visited 1770 & Agnes Waters where they stayed an extra night right on the ocean. All arrived safely home, 4500klms in 10-11 days, so a fair effort for our Rileys & the people!

As Sheila says, the journey is every bit as enjoyable as the rally itself. Lovely cars, wonderful travelling companions, all up an excellent experience.

Wendy Lonie

Hub Rally

1. Ken Lonie receiving the Hard Luck Trophy from the Cairns President.
2. Linden Thomson receiving the Overall winners Trophy.
3. Our zany Far North Queensland Rileyites in costume "It's a Mad Mad World"! L-R: Bev & Bill Bunt, Heather & Ron Anderson, Pam & Mal Lorimer.
4. Alan Hill won the Bra Pong prize.
5. Another line up of the FNQ Rileyites, this time in period costume.
6. At Bowen on our journey south. L-R: Brian & Lyn, Ken & Wendy, Alan &Sheila

FOR SALE








Description next page.

Riley Kestrel

Compliance 12/1967 - 1300cc.
Registered number BZS 07F (NSW).
Two-tone brown & beige - body restored by Frank Airey.
Leather interior was restored by me when I owned the car. The first time in the 1980s.

Asking $12,500 - includes Manuals and spares.

Phone Don Mayes - 9144 1401 (home)
9264 2911 (office)
0415 924 544 (mobile).

Riley Fuel Tanks for Sale.

1 off tank for model 33/9.
1 off tank for model RMC.
2 off tanks for RMB.
2 off tanks for RMH.
All tanks as is where is. Also one set of spats. All offers considered.
NB The purchaser must be a Queensland Riley club member or able to purchase via a current club member.
Please contact Bill White
Ph 0732894282
Mobile 0404604459
E mail thewhitehouse7@bigpond.com

A Discourse on Distributors by Paul Kile.

Extract from Sacramento Valley MG Car Club

Many of you who work on your own British cars have accumulated spare parts for them, possibly including some extra Lucas distributors. I happen to have an entire box of them in my garage, in various states of decrepitude. One of the apparent advantages to the Lucas distributor is that they appear to be almost all interchangeable. As long as you stay within the same number of cylinders (bumps on the distributor cam) or within either point type or electronic type, they all will fit, right? WRONG. Sure, they all have the same shaft and driving mechanism and will physically fit on the engine, but there are many detail differences that can significantly affect the performance of your car. OK, now how do we tell them apart and make sure we have the correct one for our engine?

If you look on the side of the distributor body, you will find a machined flat surface with some numbers on it. The top number is the Lucas part number, like 40897A (1966 MGB) or 40561A (1959 Morris Minor). This part number is the key to finding out which car the distributor fits. The bottom numbers show the month and year that the distributor was manufactured. Those of us that are real originality nuts have to make sure that this date is close to the production date of our cars! My research indicates that the suffix letter in the Lucas part number may not be significant, it may only indicate slight changes to the distributor during its production run.

But what are the differences in the distributors that are significant? Most of them have to do with the vacuum and centrifugal advance systems in the distributor, the systems that allow the spark to fire earlier in the cycle as we speed up the engine. First, the centrifugal advance uses two small springs and counterweights to turn the distributor cam slightly as the speed of rotation increases. Different distributors use different tension springs on the centrifugal advance, some have two equal tension springs and some have unequal springs. The distributor cam has a metal projection at the bottom that limits the total amount of movement of the cam in response to the counterweights, therefore limiting the amount of advance. The length of this metal projection can vary between distributors, from a maximum of 5 degrees advance up to around 20 degrees advance. The maximum degrees of advance for each cam is stamped onto the metal projection, you can see this if you remove the base plate from the distributor body (the plate that holds the points and condenser, or the electronic trigger).

Vacuum advance units can differ as well. Outside of the obvious difference in vacuum line connection (early distributors have a screw-on fitting, later ones have a push-on one) the vacuum advance units can differ in several ways. The total movement of the vacuum advance spring, the vacuum at start of advance, and the vacuum at full advance can all differ between different units.

If you clean the rust and corrosion off the bell-shaped end of the vacuum advance unit, you will see two sets of numbers. One is an eight digit number like "54413568", this is the Lucas part number for the advance unit. The other set of numbers has 3 numbers separated by slashes or dashes, like "5-7-4". These are the critical numbers that tell you the characteristics of the unit. The first number represents the vacuum point (in inches of mercury) at which the advance unit

begins to operate. The second number gives the vacuum point at which the unit is at its full advance. The final number gives the total advance (in crankshaft degrees) for the unit.

If you need to put in another vacuum advance unit, you should try to find one that is close to the characteristics of your original one. The same is true for your distributor cam and centrifugal advance springs. But how do you find out what parts are supposed to fit your car?

I have Lucas parts listings that cover the years 1948 through to1976, these will tell us the distributor part number, the vacuum advance part number, and part numbers for the distributor cam and springs for most popular British cars. Sometimes Haynes workshop manuals also provide the Lucas distributor part number for each car, most original workshop manuals or parts books for MG, Morris, etc. will not give the Lucas part number, only a BMC or Leyland equivalent number. I also have an interchange listing from BMC/Leyland to Lucas, but it only goes up to about 1974.
I also have an old paperback manual from Speedsport entitled "Tuning Lucas Ignition Systems". This book has listings of most Lucas distributor numbers at the back, along with advance system specifications. We can use both the Lucas parts books and this book to try to nail down what was original for your car. The only grey area concerns the distributor cam and springs. Since these parts are not stamped with their Lucas part numbers, the only way we can match them to a particular distributor is if we know that your distributor has not been modified, and we compare these parts visually. Again, if anyone has any old parts books or literature that lists part numbers and characteristics for advance springs and distributor cams, please call me. I will also be happy to verify if what you are running in your engine is the correct distributor. My number is (916) 961-3060.

Paul Kile

	
Standard 1954 Riley Pathfinder Vacuum Units DM2 Lucas Distributor Top-40419E-Vac Data 5“-12“-8˚ Bottom-421555-Vac Data 5“-12“-6˚	1956 Morris Minor 1000 Vacuum Unit 25D Lucas Distributor 54414831 Vac Data 3“-9“-8˚

Vacuum Advance information supplied by Ray Burrows who is currently converting his existing Riley Pathfinder Lucas DM2 Distributor to an electronic unit utilising existing mechanical advance of 17˚, fitting a 25D Lucas breaker plate and a rebuilt Morris Minor Vacuum unit to 5“-12“-8˚. Electronic Unit and ignition coil supplied by Hot Spark, Texas. I will endeavour to provide an article at a later date.

Riding on the storm – The Doors

The doors were not actually on the car when it arrived. They were under the car on the container floor. The hinges were all there but the door locks and catches were missing. After unloading the container and bringing the car up the driveway the doors were put aside so that attention could be focused on disassembling the body. Now, Five months later it was time to look at the doors. Before writing about their restoration, a little bit of history is in order. At first RMD doors were made from steel but their weight was so great the hinges wore quickly and the doors sagged so the Nuffield Company decided to try aluminium skins. This was all jolly fine while the timbers were solid and firm but when they began to fail their weight impacted on the aluminium skin. So back to the story……

At first glance there appeared to be enough intact timbers from the two doors to make copies for the doors. That was a happy moment. And freeing them from the door skins was not that difficult as most of the nails had corroded which also meant that there was a lot of dry rot in the timbers making them fragile. After carefully removing the timbers and setting them aside the paint on the skins was removed and the doors were examined. Both doors had stress cracks next to the quarter windows running across the top of the doors. There were also fractures next to the hinges. And on the driver's side after the door had sagged the bottom leading edge had scraped away on the outer sill as a result of the sagging door being opened and closed. This was not such a happy moment.

Stress fracture

There was also oxidation between the chrome strip fasteners and the aluminium skin so that the small bolts holding the strip in position had to be cut off with the angle grinder. The skin cleaned up well enough but whether the bolts can be unscrewed out of the fasteners is uncertain. Maybe they will need to be drilled out and rethreaded? I will come back to that later.

So the first thing to do was to TIG weld the skin to fix the stress cracks. At first my thinking was to weld a patch on the inside of the skin to reinforce it against further stress fractures. The major difficulty is that there is 60 years of grime in the cracks and these will need to be thoroughly cleaned for the aluminium weld to stick. TIG welding is a bit like body soldering. The metal has to be free from any impurities for the tinning to work. The first attempt to weld the leading edge of the bottom of the door ended in failure and all that was produced was globules of aluminium on one side of the material. Clearly a lot more cleaning was required.

Bottom Leading Edge

)

The second attempt was far more carefully thought through. The inside of the door skin around the stress fractures at the top of the doors were thoroughly cleaned with a Stanley knife, mild acid and wire brush. The doors were then flipped

upside down and placed on an aluminium base of three eighths of an inch thick and four inches by five inches. This was to absorb the heat of the TIG welding so that the thin aluminium skin would not blow away. Clamps were then used to lock the door in place on the aluminium base so that the metal on either side of the stress fracture was level, adjacent and close. The idea of a patch was discarded and the skin was welded. It worked well enough but a mound was formed over the fracture about a quarter of an inch deep. Another interesting result was that the stress fracture did not meld together. Either side, however, was strongly connected through the weld. This procedure was repeated on all the stress fractures and on the bottom leading edge of the driver's side door with the same result. Although the procedure worked I am left wondering why the fractured edges did not meld together. Was it because the aluminium was of poor quality, was the cleaning insufficient or was it because of something that this poor amateur knows nothing about? Perhaps a reader can "aluminate" me?

Weld over the stress fracture

With the confidence gained from welding the stress fracture at the quarter windows, the hinge edges were welded. Once again the weld took to either side of the stress fracture but the stress fracture itself did not meld together. So I am plain mystified as to why it is so.

The hinge edges

Making the door timbers worked out well enough. All of the pieces that survived the flood and subsequent years of deterioration were copied and the other pieces were created from previous experiences of re-timbering RMB doors. The only difference in this case was allowing for the bulges created by the repairs to the aluminium skin. Rather than grind the excess weld back the timber was grooved to accommodate the repair bulges. The timbers fitted in well without the screws but as ever I wonder about how best to screw them together from above. Originally, the doors were screwed together from the inside and I believe that the outside pieces were attached and the door skins folded over the edges.

Door timbers assembled 

You can see from the picture that the timbers were screwed together from above.

Attention was now focused on the 'B' door posts. The steel skins on the front of the posts were brought out and re-examined. It was decided to save the parts that were reusable and butt weld new pieces in where required. First the skins were sandblasted and new pieces welded in and the result etch primed and the inside surface painted in two pack black. The skins were then nailed onto the posts and the door hinges fitted. This is only an initial trial as the top hinges require slightly larger pins as the hinges showed some wear. The driver's door was then fitted and the door swung. When closing the door there was good clearance down to the bottom hinge but the hinges had sagged and flattened slightly causing the aluminium door skin to touch the 'B' post skin just prior to the closed position. As a result the door was taken off, adjustments made to the hinges and the door refitted. The doors were now ready for painting and so attention was focused on the door catches and locks.

Phil W

PS: After talking to Chris Gilbert (previously WA Riley club member, now living in Tasmania) I learned that in years gone by the inert gas used for TIG welding was made for specific applications and the special gas used for aluminium had a cleaning effect on cracks. The gas I used did not have this quality. He also told me that all RMDs had stress fractures in the doors in the same locations as my doors and that the only solution was a patch and stitches. So there you are; a stitch in time saves nine.

Door Catches and Locks

It is the small things in life that require the most attention. Riley door catches and locks are amongst them. Any Riley driver can attest to this as it is a real bother when a front opening door flies open at 65 mph. Albert arrived without either and I subsequently learned that nobody sells them. So about a month prior to writing this article, the very kind previous owner, Ross McOmish was e-mailed and asked if he would trust me with his locks and catches for a few weeks. He was happy to do so and a little time later the catches arrived in the mail. The locks came later. They are very different from RMB catches because the longer doors and greater body flex of RMDs made it easier for the doors to fly open so special catches were made to prevent this from happening. The catches in the picture show that with the door bolt in place the door cannot move up, down or twist – a remarkable and unique concept that was developed in the late 1940s for a total of five hundred cars.

Ross' passenger side door lock and catch

and Ross' passenger door lock working parts

A couple of days were taken turning the catches over in my hands as consideration was given to the method of replicating them. Drilling square holes was also 'U tubed' and two methods were illustrated using three pointed drill bits in a guide. The drill bit was fitted to a free moving orbital base that allowed the drill bit to wander within the confines of the guide. Fair dinkum, you can drill square holes with a round drill! Ross' catches were also taken to Jack Warr for his consideration and a plan of attack was discussed. He suggested using a dividing tool on a milling machine. I had neither. But I have committed to learning the use of both. What follows is a result of my not so knowledgeable attempt to replicate RMD door locks and catches.

It was resolved that the first step should involve machining the end of the catch. A solid brass rod two inches in diameter was locked into the lathe chuck. It was cut off at two inches with a parting tool and a centre hole was drilled to hold the bar firmly. The end was then cut down to a half inch in diameter 1/8th in length. A centre hole was then drilled an inch deep using a 3/16 drill bit. This was then followed with a BSF tap to accept a special bolt that holds the catch end to a brass right angled base that is screwed into the 'A' door post. The brass bar was then removed from the lathe. On the steel work bench the BSF tap was screwed into the end of the bar and one of Ross' catches placed next to it with a long BSF bolt screwed into its end. These were carefully compared for angles and it was decided that the bottom and back of the catch was at right angles to each other. That meant that the bottom of the rod was the first face to cut. So, as written in the first paragraph, without a milling machine my artistic ability was put to the test. With a scribing tool a line was marked right around the bar to correspond with the bottom of Ross' catch. This was compared several times to the original and when certain that the line was correct, the bar was strategically placed in a vice. With a thin cutting off wheel on the 4 inch grinder the bar was cut just outside the line. The bar was then relocated in the vice so that the bottom face was uppermost and the bar was filed flat to the scribed line.

Brass bar with machined end and bottom removed

Ross' catch and the newly faced brass bar were then screwed together end to end using a threaded rod. The bar and catch were then scrutinized and after some deliberation it was decided that the catch top was next to be cut. Once again Ross' catch was measured, compared and a line scribed around the bar to replicate the catch top. This was then cut with the cutting off wheel and filed down to the line.

Semi-finished catch

Next Ross' catch was re-examined and it was decided to drill the two holes that locked the bottom of the catch to the brass angled base. After further deliberation a punch was used to mark the location of the holes. The first hole was deliberately relocated 1/16th of an inch forward of the original hole so that when the square hole on the top of the catch was cut the drilled hole would be in the centre of the square. These were then drilled using a pedestal drill after the bottom of the brass rod was made level in the drill vice. The first hole was drilled right through the brass rod and the second one drilled 3/8th of an inch deep. These were then threaded with the 3/16th BSF tap.

The 'V' shaped sides of the catch were next. Once again the scribing technique was used following careful scrutiny of the original and comparing the same with the one being made. These were then cut and finished with a file. These were again scrutinized and the edges adjusted fractionally to replicate the original.

'V' shaped sides of the catches

Finally the catch square bolt hole was cut. Buying a square hole drill was too expensive to justify the making of two bolt holes so a hole was drilled using the first drilled hole through the bar as the centre point. The square was then scribed

around the hole and the corners drilled with a 1/32nd drill bit. To finish the square hole a 1/16th grinding bit in a dremmel was used to cut up to the edges of the scribed lines. Then using a dremmel cutting off wheel the front face and the safety catch aperture was cut into my new door catch. This was then filed to a smooth finish.

Completed catch

The angled base plate was then made by cutting out the shape from a steel post. The special bolts that hold the catch in place were then made from hex steel on the lathe. Once again readers can make up their minds about the success of the operation from the photographs. It took one day's work but three days of preparatory thinking to make the first catch.

Catch and angled base plate with originals

Prior to making the second catch Wendy Gilbert SMS'd and wrote that her husband Chris (WA Riley Club member and recent migrant to Tasmania) was turning 70 on 10 Feb. That meant a party at a nearby café without cake and candles and prior to that he provided some teaching about milling without a milling machine. This learning was employed on the locks and will be detailed in part 2 of the story about Albert's door locks and catches.

Door catches completed

Needless to say the second catch was a better product as a result of learning from the first experience.

Phil W

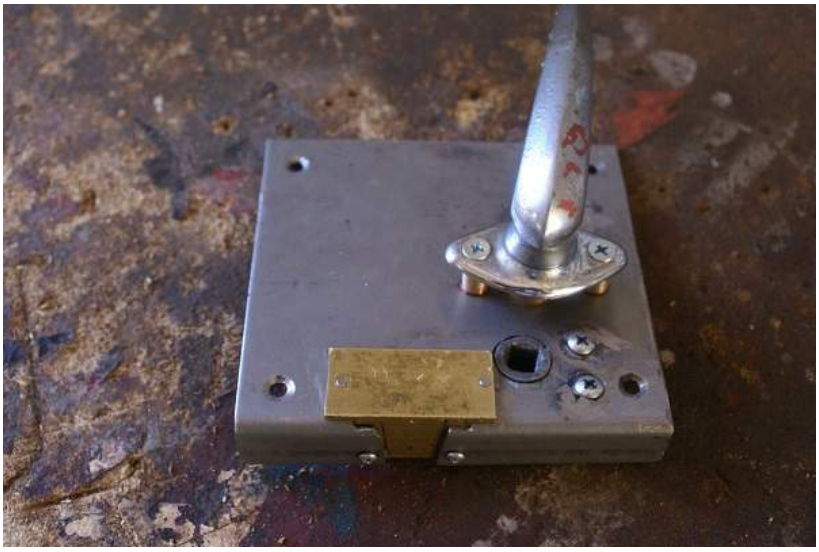
Door Locks and catches (part 2)

After a few weeks, when the catches were almost completely made, Ross' door locks arrived. Prior to their arrival the plan was to utilize modified RMB door locks but that idea died when the loaned RMD locks and catches were clearly so different. The first thing that was done was to source the materials. The brass came from George Weston and Sons at Carol Park who provided the precise amounts that were needed for the various components. Marsh and Sons spring makers were visited and a quote was given to make the two locking springs. They are flat and about three quarters of an inch long and are in the shape of women's hair slides. The quote was $100 per spring. Doubtless, the reader will understand that the job was not commissioned. The coil springs, the two exterior door handle gears and the interior handle gears were sourced from front RMB door locks. Happily, flat locking springs not too dissimilar to the RMD springs were discovered hiding in the RMB remote rear door interior door handle mechanisms.

Borrowed door locks and base plates

Component materials and RMB handle gears and springs

First the lock base was manufactured, this simply means that the shape was cut out and a single right angle bend put into one end of the material. Then, the hole locations were marked out on the lock base for the handle gears, screws and rivets. Unfortunately, marking out and drilling the positions of all the component fixing points was a mistake. The measuring tools available to this unskilled worker were insufficiently accurate to determine the precise location of all the fixing points before fitting the components. Instead, each component should have been made, the fixing holes drilled and the component fixed to the lock base. Then, the second component fixing holes should have been drilled in relation to the first component so that the next component worked in harmony with the first. As it was a fraction of a millimetre of inaccuracy was all that it took for the components to bind in their bushes. This meant that the locations of the fixing holes for the subsequent component needed to be moved by filling the original holes with weld and redrilling the holes fractions of a millimetre away from the original hole. With that leaning in place the brass component for the internal door lock was located in its place and then a centre hole was drilled for the door lock gear right through the brass component and the base plate. While the component was in place the fixing holes were drilled. Finally the base plate and the brass component were drilled to the size of the internal lock gear and the fixing holes tapped to accept fixing bolts. This stepping process was repeated for the remainder of the door lock components with reasonable success so that the working parts did not bind in their bushes.



Locks partly assembled

The second task was to make the lock components. The first parts made were the door lock bolt housings. They was cut to length, shaped and folded to the correct shape, then the door bolt was made by milling a square piece of steel to the correct dimensions and after that a four jaw independent chuck was fitted to the lathe, the work piece centred and the ends were turned to fit into coil springs sourced from the front door RMB door locks.

Door lock housing, lock bolt and spring )

The lock components received from Ross were copied without too much difficulty except for the brass receiver for the catches. They are made from brass and after milling them to shape using Chris Gilbert's advice they were screwed to the lock bases. The degree of difficulty in making them is quite high as the internal offset angles were made without the use of a mill dove tail cutter. Instead they were made with end mill cutters with the receiver set at the desired angles and finished with a file. These needed to correspond fairly exactly to the catches so that there would be minimal door movement when the car was driven. Finally, the fixing holes were drilled and threaded using a 2 mm tap.

Door Catch receivers 

The interior door lock gears were machined down with a lathe; the external door gear to fit between the brass bush and door lock base and the internal door gear to fit through the lock base. After that the levers of the door lock gears were reshaped with an angle grinder cutting disk to suit the RMD application and the external door lock was milled to accept the smaller square housing for the door handle. The idea of making brass bushes for the external door lock gear was then debated in my mind and the decision was made to make the bushes. But instead of pressing them into the plate a thread was cut into the bushes and the base plate, the thread smeared with lock tight and the bushes screwed into position. Having set the spacing's for the bush and the external door gear a parting off tool was ground to just over the width of a circlip and a groove was cut into the gear to receive the circlip and hold it in place. Finally, the brass posts which provide the fixing points for the escutcheons were made with centre holes drilled and threaded with a die so the door handles could be locked in place. These too, were fixed to the base plate by cutting a thread into their ends and into the base plate, smeared with lock tight and screwed into position. The external handles were then attached with bolts and the slight binding between door handle gear and bush was removed with the use of a knockometer to adjust the posts (Knockometers are also known in non-technical circles as a hammer).

External handle bush, gear and escutcheon mounting posts

The final step was assembling the remaining components. The brass receiver was fitted first and instead of rivets, 2mm countersunk bolts were smeared with lock tight and fitted. Next the door bolt was fitted with the door lock arms and the spring was attached. The bolt housing was then fitted over the bolt into the brass receiver at the top end and the base plate at the bottom end. This was fixed with rivets that had previously been made on the lathe. Then the outside handle components were fitted and finally the inside door handle components with its lock spring fitted with rivets. All up the task took twenty working days and three days thinking and sourcing materials. Total manufacturing cost was approximately $110 and a half million brain cells. Readers can assess the success of the project from the picture below.

Finished door locks and catches

To conclude, it needs to be said that the engineer who designed these locks was incredibly smart. For the external gear lever to work it must be a sixty fourth of an inch from the door bolt. At the right length and angle there is no binding with the door bolt and the lever will push the bolt back sufficiently so that the front edge of the bolt clears the receiver for the door to be opened. The lever also needs to be the exact width required as it sets the depth of the bolt into the door catch receiver. There is also a cut in the exterior door lever gear that the interior door lever fits into to lock the door from the inside. The interior door handle gear also needs to be a precise shape to prevent binding with the door bolt assembly and is held in its neutral position by the hair pin spring. The bolt housing also needs to be sufficiently back on the lock plate to prevent the external door lever from binding on it and to allow the bolt to recess into the housing sufficiently for the bolt to pass by the catch when opening the door. All of the clearances between components are less than five thousands of an inch. Readers, are you impressed by the Riley engineer yet? I am. Well done Riley engineer. Fantastic workmanship!

Phil Wyllie

Riley Program 2015

May	**Sunday May 3rd**	David Hack Classic. Toowoomba.
	Sunday May 3rd	Breakfast Run Combined Tinchi Tanba Run
	Thursday 14th	Club meeting at shed 7.30pm
	Sunday 17th	National Motoring Heritage Day Queens Park Ipswich
	Sunday 17th	Macleans Bridge
	Sunday 24th	Around the houses –Restoration reviews!!! Meet BP Burpengary depart 9.00 am See below for full details
June	**Sat 6th to Mon 8th**	RACQ QHMC Rally Pittsworth. Entries close May 17th.
	Thursday 11th	Club meeting at shed 7.30 pm
	Sunday 14th	Australian Teamsters Hall of fame
July	**Thursday 9th**	Club meeting at Shed 7.30pm
	Sunday 12th	RACQ Motorfest Eagle Farm
	Sunday 26th	Gymkhana Day
August	**Thursday 13th**	Club meeting at Shed 7.30pm
	Sunday 16th	Plant Nursery Breakfast Run
September	**Thursday 10th**	Club meeting at Shed 7.30pm Riley National Rally, Perth WA. Sept. 10th – 14th.
	Sunday 20th	Amberly Air Force Museum and Pub lunch
October	**Thursday 8th**	Club meeting at Shed 7.30 pm
November	**Thursday 12th**	Club meeting at Shed 7.30 pm
	Sat 14th, Sun 15th	Gold Coast Autorama
December	**Thursday 10th**	Club meeting at Shed 7.30 pm
	Sunday ???	Christmas Party

ALL DATES ARE SUBJECT TO CHANGE!!!

Sunday May 3rd Combined Tinchi Tanba Run

A combined Riley/Mg breakfast run is planned for Sun 3rd May.

The destination is at Tinchi Tanba on the lower reaches of the Pine River. Facilities include gas bbq's & toilets. Cars can start at John Scott Park, Samford or meet at Tinchi Tanba. The Samford group will meet at 0800 & depart at 0815' to arrive at 0900 .Breakfast is boy. Join us & enjoy breakfast at this beautiful spot. UBD ref page 100, B16. Inquires Trevor Taylor 0407717853,Bill White 0404604459.

Sunday May 24th Restoration Revue Day.

Meet BP Burpengary to leave at 9.00am to go to Jacksons at 22 Lorrain Av. Marcoola (38881177) for morning tea at 10.00am. Then on to Bill Shorts to view the Roadster at 5 Abelia Ct. Narrangba, (38867238) and finish at Hills at Samford to see Project Car and Rod Longs RMB. We will have a BYO meat BBQ for lunch Tea and coffee provided.

Life is hard in the top job.