Rolls-Royce Owners' Club of Australia Library

A Pre and Post Rally - "Dawn Patrol"

by Lloyd Missen (NSW), 1998

Part Three

I just wonder how many readers I have left, still concerned or eager to learn how one of 'the breed' really performed on this somewhat extended Dawn Patrol. It is hard to give a meaningful account without talk of bits and pieces. Unless you are a bits and pieces person it probably sounds pretty boooooring. However I did warn you in Part 1 and it doesn't get any better, except that some variety creeps in as to which bits and pieces, there being more than one villain in the plot if you like.

First, we must resolve the question of overheating. Did I hear someone mumble *unlikely*? If I did, I would remind those doubting Dawn/Mk VI/Silver Wraith owners that a good Australian, like a good Swede NEVER GIVES UP!

Naturally, I sought answers to the yet unexplained behaviour of *Helga* from experienced members referred to me at the Federal Rally in Fremantle. Two pieces of information received from different sources seem worth recording as after six years in the club I had not heard either previously stated viz.: -

1. Glycol added to the cooling water in these models when manufactured, to prevent freezing in the sub-zero conditions likely in European winters, was often not considered a necessary addition by Australian owners. Glycol, however, also acts as a corrosion inhibitor and some Australian vehicles of this vintage, without such protection, experienced a build-up of corrosion products over the years to the extent that pressure hose treatment has been necessary in certain cases to break up the hard caked iron oxide sediment, particularly around cylinders in the block.
2. Improvement in performance has been experienced by soldering up the hole in the steam valve and stretching the spring to raise the cooling system pressure to between 6 and 8 lb/sq in.

My response to 1. was that it made a lot of sense and perhaps I had not released *all* the corrosion products in the block, and head, despite the work I had done to date. Hence on the only free day before the Rally I gave *Helga* a 45-minute run with a Tectaloy product *Muckowt*® added to the cooling system and then put the car on the hoist in Neil Mc

Lean's garage and drained the 18 pints of coolant into a large container for examination. It contained a small amount of red iron oxide sediment demonstrating that the system was not entirely clean. I purchased two more 500 ml bottles of *Muckowt* to experiment with further when time permitted, as tomorrow began seven days of almost continuous planned Rally and Post Rally Tour activities where we admired the workmanship of recent restorations and enjoyed the camaraderie and cars of our colleagues in the west.

When the fun of this well-planned Federal event and farewells to friends finally concluded we found ourselves on our own as we headed south to Albany before turning east for the long run home. Well, we thought we were. In Albany we met the Hiscox's, whom we knew were taking a similar route, but also the Morehouse's and Wolstenholme party taking in more of the 'west' before 'shipping' there cars back east. Thus, more frivolity and meals together. It was like the Overlander starting all over.

Back to the serious business. I tried two experiments on *Helga* on the run to Albany, the second of which had an unexpected although not surprising result. Not surprising because I had not abided by my own philosophy: 'believe nothing of what you hear, nothing of what you read, only 10 percent of what you see, TEST IT YOURSELF'.

The first was to add another bottle of 'Muckowt' and to leave it in for six hours running but not more than the total recommended time.

The second related to 2. above. My initial reaction to this recommendation of pressurising the cooling system was twofold. Pressurising, as I understood it, was introduced on more modern cars for a variety of reasons: eg to reduce cavitation, to raise the boiling point and thus permit higher engine operating temperatures giving better lubrication and significant wear reduction, etc. Unless cavitation at the pump was a factor, I could not see how pressurising would reduce overheating.

Secondly, the Dawn is not designed for high pressure operation. I was fearful that the resultant forces on the very large surface areas of the header tank would cause trouble. However, having said that, I decided to block up the hole in the valve but *not* stretch the spring and see what happens on the last 100 mile run into Albany. It may reduce water loss through the overflow I thought, and not stretching the spring should mean less than 6 to 8 lb/sq in if the above information is correct.

John Manley, a W.A. member, born and raised in Albany and, it seemed, father to most of the motoring trade in this picturesque town was very helpful. First he had a hoist and I had *Helga* up in the air within minutes of arriving, in fact before John and his wife Gwenda arrived back from the Post Rally. I needed to drop the coolant into a container to see if 'Muckowt' had released more sediment and also to examine the three universal joints in the tail shaft. I had started to hear 'universal noise' just before Fremantle. Sure enough, two journals in two universals had started to turn in their tailshaft housings. However, on examining the front end of the car from underneath I noticed water at the base of the

radiator and on the opposite side to the overflow! The raised cooling system pressure, by blocking the steam valve, had shown up a leak.

Imagine a Dawn/MkVI/Silver Wraith chassis with an ultra-light open body and throaty exhaust. Presto!, you have John Manley's W.O. Bentley Replica. Bet you can't imagine the exhilaration when at the helm!

John had arrived by then and directed me to A1 Radiators where the proprietor Steve, a good friend of Johns, and I pressurised the system to 5 lb/sq in and searched for leaks. And thus, after almost 6000 kms and twenty days on the road we finally found the reason for thirsty *Helga*, a fault in the brand-new core. Water was spraying from the two outermost tubes in the rear row just below the top plate of the new core, ie, the bottom plate of the header tank. I was cross with myself for not having done this earlier, having considered it many times during the last twenty days, but rejecting the need in a new core.

Steve suggested a sealant like 'Bars Leak', John said he had some 'Irontite' but I was not happy. "This is a new core, the radiator has to come out for a full examination and the two cracked tubes soldered" I said and extracted my toolbox from the boot and started to undo the relevant bolts, nuts and screws which I felt I could now do blindfolded. Steve assisted exclaiming *"This is the first car I have worked on where you have to undo the mudguards to remove the radiator"*.

No further faults were discovered. The reason for two cracks, and why they were not found by the Repairer in Sydney who pressure tested the radiator after mounting the tanks on the new core, cannot be explained.

It was now Saturday midmorning, Steve had other customers and an afternoon engagement, and I would not have the radiator back in the car by midday without his help. Being a 45-year NRMA Member and with *Helga* on 'Gold Plus' we took advantage of their offer of free accommodation and hire car, a brand new bright red Mitsubishi Magna, for the weekend. Shirley was in her element; she now had her own 'wheels' and free to explore while I took the opportunity to do a few jobs 'under the bonnet' before reinstalling the radiator.

I unplugged the hole in the steam valve and fitted an expansion tank connected to the overflow to completely eliminate further water loss. I also replaced the thermostat as the leaks in the radiator explained the water loss, but not the overheating.

The thermostat fitted was a large beautifully machined expensive unit in cast stainless steel designed for the Cloud, reportedly the correct replacement for the 'non fail safe' unit originally fitted to the Dawn/Mk VI. It was the former of the two, 78° and 88°C, versions available. Although I had tested it out of the car more than once, I was still not sure that the by-pass 'gate' was not jamming in its guide channels, as the wear marks were quite pronounced. I purchased the largest diameter, lowest temperature (77°C), Tridon thermostat and ground off the outer edge to be a neat fit in the recess in the thermostat housing and put a cork in the by-pass, as Tridon along with most thermostats are not made with a 'gate' to close the by-pass when the thermostat opens.

Finally, John drove me to World Bearing Supplies where I purchased three universals, made in USA and with the correct part number for $13.60 each. How can they make them for that? He then introduced me to Kevin the proprietor of yet another nearby garage where, after reinstalling the radiator with Steve's help on Monday morning, I put the Dawn on Kevin's hoist and removed the tailshaft and with his help replaced all three universals although only two needed attention. It was necessary to lightly centre pop the tailshaft housings where the journals were turning and apply Loctite which we let set overnight.

After a final meal together with the Wolstenholme party, the only Overlanders left in Albany, we said our final farewells but not before John gave me yet another look at the switchboard in his Spirit. Have you ever looked at John's switchboard? --- BEE--UTIFUL !!!

It was Tuesday afternoon before all jobs were completed and we were heading east, now really on our own. No overheating. The water temperature sat on 83° all day with no water loss. The speed was high but not the ambient air temperature. However, another 'villain' due to strike, gave us a taste of what to expect over the next few days, as when we stopped at a motel at the small town of Ravensthorp for the evening, *Helga* stalled. She had not done that before. No tell-tale petrol pump tick so I crawled under her tapped the pumps and away they went. We parked, had a meal and retired for the night.

The petrol pumps are easily removed from under the chassis. To prevent emptying the fuel tank onto yourself, the siphon must be broken by removing the fuel filter cover.

We were now in a pretty desolate part of the country and keen to avoid roadside repairs away from civilization I removed the petrol pumps on the grass outside the Motel for test and inspection before we set off. Both sides ran perfectly but the points were more pitted than expected, as I had refurbished the pumps not all that long ago, including a satisfactory 500 volt DC megger test on each capacitor. The capacitors are across the points to assist the operation of the coil by accelerating the collapse of the magnetic field when the points open, and to minimise arcing and subsequent pitting at the faces of the points. I was therefore surprised at the degree of pitting. I cleaned both sets of points and both pumps worked perfectly before and after reinstallation in the car. We set off hoping to make Norseman that evening.

The run by the Pink Lake then along the coast, with the ocean a strange emerald green as we approached Esperance, was delightful. We stopped to admire the view and *Helga* stalled, and again a little later when we pulled up in Esperance itself. Each time the pumps took some coaxing before they actually began pumping fluid again into the carburettor. Fortunately, this was easy to observe, but only because I had replaced the normal copper fuel line and union at the carburettor with a see-through fuel filter and rubber fuel line with push-on fitting and clip at the carburettor fuel bowl. The latter could be removed in a few seconds. Usually when I did this the pumps delivered a stream of fluid, but sometimes bubbles indicating a possible vapour lock.

Access to the fuel filter is via two inspection plates at the rear of the boot secured to the boot and tyre compartment floors. A torch is needed.

I checked the delivery fuel filter accessed through the floor of the boot for blockage and also the short copper fuel lines either side of the pumps and was left somewhat nonplussed at what was actually going on. The only place for a vapour lock I reasoned, was the valve chamber between the two pumps. Temperatures had been in the high thirties, and I reasoned that vapour lock developed in this chamber only after we stopped because of lack of cooling air past the pumps with the car stationary, but with radiant heat from the very hot earth still present.

"Trust me!" I said to Shirley, "we will be OK as long as we don't stop". Like a good wife she did, without a murmur, and we set off with no chance of making Norseman but hopefully Salmon Gums the only hint of civilisation after leaving Esperance, some 100 km away. We knew we would not arrive before nightfall and the last hour would be in darkness with no moon, something we had advised the Overlanders **not** to do because of the chance of striking a kangaroo with disastrous results to both car and roo.

We made Salmon Gums. The last hour in the forecast blackness was exciting, especially when three roo heads passed close by my window. We were lucky in *Helga* not stopping on the road, as my theorising was only correct up to a point, two more factors in of the equation were still missing, yet to be discovered.

Accommodation was in the one and only pub and we spent a pleasant evening in company with four young lads from the 'East', a recent geology graduate teamed with three labourers/truck drivers who had just discovered the money to be made prospecting for a mining company in the 'West'. They had been averaging 100 holes a day at $10/hole and were over the moon, particularly the labourers.

We passed through Norseman 200 km away next morning. *Helga* stalled as we stopped for petrol but with difficulty, we coaxed her pumps to life and set off for Balladonia Roadhouse another 200 km further on. Here we booked into the Motel extracted *Helga*'s pumps, even though both were working perfectly at that moment, and stripped them completely in comfort with our room table and chair set up on the veranda, although still hot in the afternoon sun. Exactly what was going on, what was I missing?

I felt that the toggle action may not have been set correctly and separated each diaphragm from its coil body and valve chamber. First unscrewing it completely from the contacts/toggle assembly so that it could be examined for holes then reinserting it and adjusting the toggle action for correct and positive 'throw over'. The procedure is to unscrew the diaphragm stem until the first toggle 'throw over', on pressing the diaphragm, then unscrew a further 2/3 of a turn before replacing the screws between coil body and valve chamber. After again refacing the contacts (points) and resetting the contact stops I applied 12 volts to each pump in turn. Back in the car and with the rubber fuel line disconnected and aiming at outer space, each side was capable of delivering a healthy stream of fuel out of the engine bay. Finally, coupled to the carburettor each side appeared healthy.

This operation being performed in good light on the Motel veranda attracted a few concerned onlookers from the arriving travellers. Quite a sight they were, they each stood there with mouths open, and brow wrinkled. Not wanting to harm our marque's image I told them the pumps were not made by Rolls Royce. They immediately appeared relieved.

We were on the road next morning eager to see if we had affected any improvement on *Helga*'s pumps. No problems were encountered, not a moment's hesitation, but not a real test I guess, if my theory that heat was a factor is correct. The ambient air was only 21°C and we travelled only 180 km to the next fuel station, the remote Cocklebiddy Roadhouse, where we parked *Helga* behind this small group of buildings.

Here we rang John who promptly jumped in his four-wheel drive and did a 70 km round trip to take us to the Eyre Bird Observatory, where he and a friend recorded daily bird counts, radioed out weather reports and caught any starlings travelling west. It was a delightful sojourn 'camped' in the only telegraph station from Australia's early history still standing, miles from the nearest inhabitant and nestled amongst trees beside pure white sand hills and beach stretching to infinity, it seemed, on the shores of the Great Australian Bight.

We relaxed in this solar powered self-sufficient outpost and between meals, which John and his friend provided, sat on the veranda enjoying the sight of the constant stream of varied bird types visiting any one of the series of bird baths surrounding the dwelling. For variety we skinny dipped, or just lay on the pure white sandy beach taking in the wonderful vista of this transparent emerald green Southern Ocean stretching to the South Pole, strangely with never a wave in sight due to the shallow gradually tapering ocean shelf. It was a unique and refreshing experience.

After a couple of days of this luxury we found ourselves back in *Helga* heading east with the outside air now reading 39°C and with 3600 km still to go. This will check out the pumps, we thought, and it did. *Helga* stalled when we stopped at Eucla after 200 km. The gremlin was still there. What was I missing?

We crossed the border into South Australia and stopped to admire The Southern Ocean but at only one or two of the series of cliff top lookouts. For each time we did *Helga* stalled and we had to coax the pumps back to life.

After another rather warm 480 km we reached Nullarbor Roadhouse, a refuelling depot. I noticed an RAA (Royal Automobile Association of South Australia) Office and thought I would have a talk with the officer on duty. I was sure that vapour lock was involved due to the bubbles issuing when I removed the fuel line at the carburettor. The locals living in this climate should, I thought, have experience as to where in the fuel circuit such could occur and possible remedies.

I was greeted with:

"WE DON’T FIX CARS. WE HAVE BEEN SUED TWICE. WE ONLY WORK ON AEROPLANES AND POLICE VEHICLES. IF YOU BREAK DOWN WE WILL COME AND GET YOU AND IT WILL COST YOU 400 DOLLARS. IF YOU WANT A MECHANIC, THE BEST MECHANIC BETWEEN HERE AND ADELAIDE (1100 KM) IS AT NANDROO (150 KM)."

Undeterred we pressed on. This just made the challenge more exciting. I would have another look at *Helga* when we stopped for the night. I felt concerned however for those travelling out here who got into trouble without a toolbox.

Later in the day while cruising at 70 mph, and although all three of us were pretty warm, Shirley and I were admiring the vast and ever-changing landscape and *Helga* was purring beautifully.

SUDDENLY ALL WENT QUIET AND WE ROLLED TO A STOP.

She had not done **THIS** before! I crawled underneath and tapped the pumps but nought happened.

Photos by Shirley Missen