

TEE-ONE TOPICS

Number 65

July 2007

OLD LOVE AFFAIRS

The worst part about growing old is being reminded of your situation. As those of you familiar with these pages will know I have been fortunate to have had a steady stream of our cars arrive on my doorstep over the past 30 years accompanied by owners slightly desperate to fix a problem. Canberra, the scene of these interests has a market for new Rolls-Royces equal I would think to that of Madagascar. Nevertheless the old Company set up a dealership with the local Toyota people some twenty years ago that at least gave a reference point for an owner stranded 200 miles from one of the two principal dealers, in this case Sydney.

My first car, a 1951 Silver Dawn, I bought with the last shilling in my possession and whilst I enlarged my garage to carry out the restoration, I used to spend a couple of dollars on a weekend permit and drive the car around the streets with no front mudguards and the bonnets and valances sans paint lashed down with bungee straps. The recovery of that car from certain destruction has yet to be told but the gist of it was that I stripped the car to the bare chassis and rebuilt it. During that time I raised a family and managed to hold down a job.

I have now recovered from the shock of seeing an account by some faceless person who described the onerous task of re-painting the car some 15 years or so later. The recovery of the car mechanically seemed to be of neither interest or note as long as the right colour was achieved. All



The chassis frame of SDB 94 parked in the driveway of the family house waiting for the big clean. One of the beliefs I had to overcome was the so-called absolute perfection and virtual indestructibility of the Factory's products. This car had been pounded around the bullock tracks that were loosely termed roads on the West Coast of Tasmania. The front axle was bent and several rivets holding the thing together at the sharp end were quite loose. But it all straightened up and was not only welded together as they were from about 1953 onwards but fillets and strengthening plates were applied to a scheme developed by the then extant Bert Ward who faced numerous cases of these frames coming to pieces. Having had professional drawings done of the modifications he sent them to Crewe for interest. Receipt was never acknowledged but when the chassis went to welded construction, all the mods were there exactly as Bert had designed them. Such was the arrogance of the producers in those days a factor that undoubtedly hastened their subsequent demise.

this was larded with throw away observations about the standard of body work that I must have tolerated. Nowadays I realise that this is probably the level to which many owners of our cars accede. The car by the way is still alive and well in Queensland in the hands of an international owner and a caring competent mechanic. I will tell the story some day.

The Dawn having been sold to pay for house extensions, left the way open for exposure to later chassis and I think the late Eric Goudie's S2 was stationed in my drive while I learnt how the Factory built these cars. Mark VI Bentleys came and went, the odd 'R' type, a Cloud I with a seized engine and a stripped differential but then one day a Shadow with not much in the way of brakes arrived. Could I fix this? Fortunately by dint of burglary, coercion, and threats of violence I had managed to get a library of material on these cars that I was quite sure I would never use. How wrong I was. With the aid of a now long dead fitter and turner in Canberra who if there is an afterlife I want to set up my cloud next to him, he made tools which I have to this day, to allow me to open the dreaded accumulators and rebuild them.



As the object of my affections arrived. In retrospect I realise that I went about this restoration in a manner not generally considered to be quite proper. So many times I have seen cars in this condition and the first task is to repaint the thing. The motive behind this would make for some probably offensive discussion. Let me just say that the joy of a Rolls-Royce to an enthusiast is surely in restoring it to as near as possible to its original mechanical excellence. What it looks like is of secondary importance. To recover the car the other way round is akin to being fitted out in a magnificent suit with comparable accoutrements but not bothering to shower or change your underwear!

The Shadow in those days was bordering on space age standards for ignorant amateurs such as myself, but given the cost of repairs and the distance to specialists, owners with enormous faith let me try my hand at keeping their cars on the road. The most spectacular failure I had in the proceeding department with this car was when the front engine mounting parted during a panic stop which demonstrated the efficacy with which the cooling fan could eat the header tank and radiator. Mind you this was probably eclipsed some time earlier by the splendid demonstration of metal fatigue the owner of a magnificent Ghost provided when, during a demonstration of thunderous revs he prodded the car to achieve, one of the fan blades detached itself and went clean through a beautifully crafted and polished bonnet which fortunately was shut for the demonstration. I will stand correction but having seen and heard a Ghost idle at a measured 95 rpm, I think the maximum speed of those machines would equate roughly to that of the fast idle rate on my common Spur!

Well the SY series was consigned to the 'older model' category with the then local dealer lamenting that no Shadow II ever actually commanded the magic \$100,000 price tag, new or used. The SZ then came on stage with far fewer design disasters than its predecessor and some 22 years later

expired under the old Factory banner with much the same body it started with but with some very nice derivatives.. More amazing, that dear old engine an example of which from my disembowelled S2 which sits on my garage floor imploring me to tend to its needs, got a bit bigger, more refined, got cross-bolted, turbo charged, injected and was finally shoved into the new generation of cars producing allegedly over 500 horsepower or whatever the metric things are now that people gabble about. Well these ghosts have come to haunt me with a 1967 coupe and two 1972 standard steel saloons all sitting on my garage floor! I have almost forgotten how to open the doors! Now that is aging would you not agree?



And only today I received a picture of the old girl resplendent in Queensland





LEFT OR RIGHT?

We have all played with the kerbside admirer! Having got over the emmachisit and owfasdositgo questions I have greatly enhanced my acting skills with this little gadget. This was a switch as I understand that was a direct accessory for the French. Apparently in that country a garage in which to secure your car is quite unusual. So you park your car outside on the street and leave the parking lights on in the hope that pursuing paparazzi don't collide with it. In an effort to save some battery reserves, the above switch used to allow all parkers on or those on either side depending which side of the street you were located. The switch was quite superfluous in Australia, mate, where it was all or nothing. But get the admirer and you have a wonderful opportunity. I offer a few examples.

The switch? Oh that:-

- Adjusts the ride if you are doing a lot of left or right hand turns and cuts down the roll,
- Controls the inbuilt jacking system,
- Switches fuel tanks
- Adjusts the suspension if you have a very heavy passenger on one side or
- As I tried once – It is an indicator now disconnected that shows a light behind the grille indicating to riot police which side of the local political spectrum you were supporting at a gathering! Take your pick.

PERIODIC CAUTION

Please remember that all these writings, those before and hopefully those afterwards are the demented outpourings of an old enthusiast, amateur mechanic and an enjoyer of the Marques. They are not gospels, prescriptions, advice or authorities. Read them at your own peril. You are on your own!

To today's owner, of greater concern is how to get the rotten thing off! Look carefully at the picture below and see a small silvery dot behind the front flange. That is a button. A judiciously poked prong over the back of the knob and a little push and the whole thing will fall off. The leather coated panel behind it simply pulls off after you remove the escutcheon plate behind the knob. The leather covered plastic box housing the hand brake handle is held on by a couple of screws and flat washers on the top, a chrome plated metal thread screw at the back seated in a finishing washer and a countersunk chromed wood screw in a finishing washer on the right. This latter one is not easy to see.

Mostly the finishing washers are lost and the leather has come unstuck. Why remove it? Mostly to service the handbrake ratchet mechanism and reaffix it to its brackets. The latter is a very well designed assembly and should be firm smooth and free if you follow me. Back off the brake



adjusters on the wheels and pull the brake handle out as far as possible and clean and lubricate the shaft and get some white grease up into the guts of the assembly. You should also be able to work some oil down the brake cable. If it is sticking try WD40 for starters. And of course while you have all these bits off the car use contact adhesive to glue back the errant leather and smother the lot in leather food. It will be grateful!

✂

EXTINCT SPECIES

We have dealt with this little beauty before. Most used as a stop lamp switch, it dated back to pre-war cars. It consists of a spring loaded plunger which you can see, made of 'Bakelite or similar which was sheathed with copper. Immediately above the copper sheath two sets of points bear against the plunger. When the brake is pressed the cross



shaft seen in the picture rotates pushing the plunger up until the contacts engage the contacts, complete the circuit to earth and the lamps light! This installation is in an early Shadow. When these things were first devised relays were expensive, complex and not that reliable so the circuit operated at full voltage amps etc. This burnt out the contacts which by the way are still available but also burnt out the copper sleeve on the plunger which is not available. If I find this one is in good nick I will have my sparky hide a relay somewhere to

take the main load which should preserve the switch for future generations. Later cars continued to use the legendary rattrap but switched to using micro switches and relays. There is room for your creative talent.

✂



ON PICKLE JARS AND BRAKE FLUID

While standing with some awe in my local delicatessen admiring the bratwurst metwurst and various other 'wurst's', I wondered aloud at why on earth would anyone want to buy a 4 litre jar of some barely describable or identifiable vegetable, pickled in fluids of equal mystery when the proprietor suddenly appeared in front of me with this very large empty jar.

Seems he thought given my pursuits (they are a source of curiosity in the neighbourhood) I could benefit by having one of these. I thanked him, dubious, but managed to extract yet another cheese tasting as a bribe for disposing of the vessel before heading for the nearest out of sight garbage bin.

I am glad I didn't. This is the contents of an RR363 reservoir on an early Shadow that had had its fluid changed some 250K earlier. As you all know the colour of fresh RR363 can be matched nicely with a good healthy micturation – a handy reference in case you forget.



The owner of the car assured me his man had run much fluid through the system so where had the colour come from? The answer lies at left. The inside of the brake hoses which were original – let's see that makes them 35 years old and were steadily dissolving. Very healthy eh! Part of the replacements made up locally by licensed operators appear below. I notice that the new hose material is

clearly branded June 2003 which will hopefully be some help to a future restorer. The life of these hoses and apparently all brake hoses – we don't have a lien on the life cycle – is 8 years. I like to think that is time in service. They are not expensive, are easy to change and are a great prophylaxis for the car's upholstery!





DIRTY ENGINES

One of the more interesting legacies left to us with the much vaunted vee eight engine first stuck in the S2 cars was the tell-tale hole. We see three of them on the left side above the fourth being behind the oil filter up front. And of course these are not normally seen as they are obscured by the hydraulic accumulators.

These holes as I suppose most people now know, drained the space between the two bottom 'O' rings sealing the cylinder liners in the block. The bottom one intended to contain the sump oil, invariably leaks. It does not take a degree in nuclear science to guess that the very considerable heat and general detritus flung up from the sump give the lower seal a hard time. The Factory solution is to remove the cylinders and replace the seals – at last count about 145 hours work. Some owners have devised a way of piping the output to a small container in the engine compartment.

My solution shamelessly pinched from a Southern professional is to tap in a 3/16" whitworth thread and wind in a grub screw with a drop of loctight. No further problem. If the upper seal goes coolant will get into the sump and you will have like Mr Whippy on the end of the dip stick very smartly. The drain holes are all accessible after you have removed the accumulators and oil filter pedestal for the left side and the starter motor for the right hand side. Do fix this problem. Apart from a dirty engine and dropping oil on your friends new drive the car will stink like an old wrecker's yard!





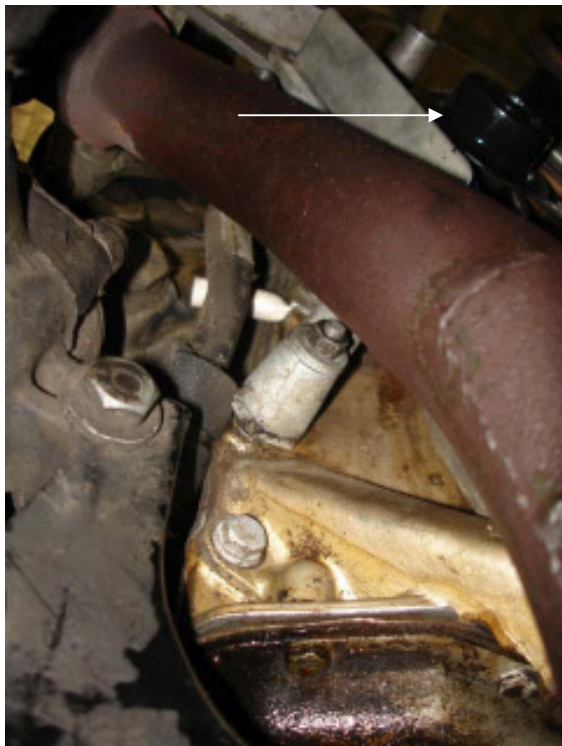
GETTING THE RIGHT TUBES

If you run one of these brake fluid (RR363) cars you will have low pressure tubing carting the stuff away to the reservoirs when the accumulators are full and the also hosing from the reservoir to the inlets of the two hydraulic pumps hiding down beside the intake manifold. Do not forget that brake fluid is fairly reactive with most things around it (it is an ester based fluid) and if, (as I have seen a number of times) you replace these hoses with fuel line or transmission line you may well pump lots of little bits of line into the system as the ester eats the innards (like that?) and one day all the lights will start ablinkin' 'cause there aint no more fluid to run on the ground. Better still if the reservoir to front pump hose parts company and hoses the exhaust manifold down while you are winding the old girl off the clock you could well make like a Roman candle.

The 'genuine' hose is available but if you trot yourself to a very respectable brake supply shop, grasp the Adam's Apple of the man behind the counter to obtain his attention then carefully enunciate 'brake fluid' in the context of hoses you might just get through. I have twice gone through this exercise where having thought the message had been received, the man returned with fuel hose. The only solution then is to reach much further over and down and take a particularly firm grip muttering 'we are not going to hurt each other are we'. There are two sizes 5/16" for the accumulators and 3/8" for the reservoirs. I have to buy it from my smiling man in metre lengths. When paying lean against the counter lest you fall over at the price but it is cheaper than you know what!

This stuff is also used in the reservoir lines on the post55 vehicles from the 'jam jars' to the stainless steel pipes and from the bottom end of the same pipes to the master cylinders. Always use new clamps and not those horrid slotted ones that grind you know what out of the tubing!

Very lastly if you are doing this little job on your T2 or Shadow two where they have moved the number 1 accumulator to the other side of the engine because it was too accessible, the return line on that hose is a doosie and if not fitted properly you will find you have acquired a fairly prominent pair of castanets into the engine compartment. Its all there folks Issue 47 page 693!



FAN BELTS AND PULLEYS

It is a quirk of the human mind that makes the eye of habit alight on things that jar. In my case it is so called fan belts or more properly, drive belts. Open the bonnet of an SY or SZ car and there screaming at you is often 'Gates' probably the finest or biggest or best belt manufacturer in the free world. But of course they put their name on it in bright lettering.

The 'genuine' belts are neatly labelled 'Rolls-Royce' and curiously seem to have been manufactured in Denmark of all places. Even better if you can tuck the tummy to one side and find the water pump belts right down the front of the engine you will sometime find 'Mazda' belts. No problem with function but a bit like wearing odd suit pants with the top coat eh!

as matched pairs i.e. they are exactly the same length. I think this is furphy since every time I fit a pair of either belts I always line up the Rolls-Royce printing on each belt such that when you look

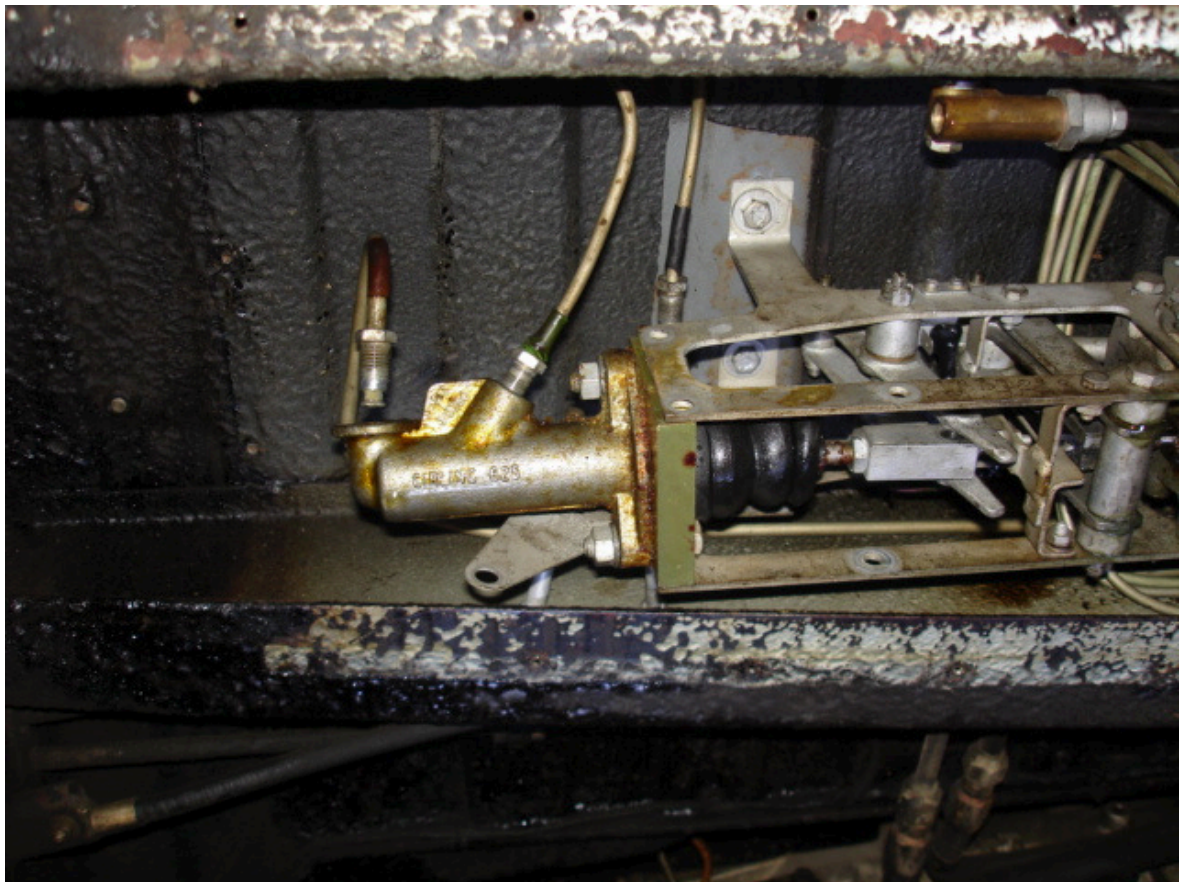


into the engine bay the lettering is the right way around and you do not have to stand on your head to read it! But never yet has this juxtaposition of belts remained suggesting that either the belts are not that exact or more likely the pulley flanges are worn differently. A matter for sleepless nights but there – I have told you. The compressor belts need to be tight – very tight but with a thought for the various bearings all these little wheels are running on. My empirical system is fit them fairly tight and if they squeal (slip) on full lock with the engine running, they need a bit more tightening. See previous issue to avoid denting things when levering.

down near the sump joint and reached from under the car. The tilted picture shows the adjuster bolt which moves the tensioner pulley. The bearing for the pulley which is arrowed is the same as the

water pump with a smaller end shaft. Do not try to replace the Bearing unless you have a special support since it requires pressing and unsupported it is likely you will break it.

I know you all know the tricks of changing the pump belts but for the benefit of your grandchildren here are a few tips. It is usually essential that you not only loosen the bolts that holds the idler pulley arm in place but also that it is removed. This allows the arm to move closer to the main pulleys. One belt at a time and judicious use of a blunt blade screw driver and one groove at a time. In the picture what is not shown is my menacing the area with a sledge hammer. Lastly do not forget to tighten up the lower nut. You will notice that the exhaust pipe has been fabricated at some time. Unfortunately there was not enough curve to clear the lower nut and washer so I had to break the pipe at the clamp and prise it away!



LITTLE MORE THAN A FINGER IN THE DYKE

You are lying on your back looking up at the legendry rattrap that has been partly dismantled. Still to be attacked is the ancient master cylinder seen here protruding from the back. It was replaced with the conical plunger feel mechanism about mid 1975. Allegedly copied from that originally used on the Morris Minor car the master cylinder has miniscule displacement and operates one small piston in each rear calliper. The general hydraulic system used on this model as we all know was rented from the Citroën people originally gossip would have it to cope with the demands of the suspension. The brake people saw a potential and quickly devised four wheel disc brakes as all good Shadow owners talk about.

Disc brakes by the way were first used by Lanchester in 1906, four wheel brakes in 1914 and hydraulics in 1921. Citröen used their new system in 1956 and Rolls-Royce adapted it for the Shadow in 1966. The first Citröens the DS19 did not use a brake pedal as we know it, but by a button similar to a large dipper switch with very little movement. All this device did was allow stored high pressure brake fluid into the lines to the wheels to stop tem. There was they argued no



need for a pedal. This had been inherited to provide mechanical advantage to the driver's foot to allow him to apply sufficient pressure to stop the car.

The picture at left gives some idea of the size of the displacement. The hole at the end is the replenishment port .

Tradition dies hard. There was considerable resistance to the 'brake button' , so much so they had to succumb and fit a brake pedal! Ten years later Rolls-Royce followed suit but bowed to Citröen's experience and also fitted a pedal. But they had to find some way that pushing that pedal felt like you were doing something and the 'feel' had to be

through the foot! And so they hooked the pedal up to the little Morris master cylinder. With a solid column of oil down the pipe from the little cylinder and pushing onto the rear pads it certainly felt like you were getting results.

If you have access to one of these cars try putting it on a little slope where the car can roll, exhaust the hydraulics, transmission into neutral and release the handbrake. Once the car is rolling try to stop it with the brake pedal! You will certainly get the feel but not much stop although the original comment in an Autocar write up ascribed some 22% of the total braking to this little toy? Fortunately if the little thing fails you should still have the maximum hydraulic pressure from the other two systems. Actually pushing on the valves does require a little pressure which comes through the pedal as 'resistance' so it wont feel like you have your foot in a bucket of porridge! About the only way this manual system can fail is for the rubber seals on the piston to fail usually through age, an hydraulic line to burst fortunately a rare occurrence and lastly if air gets into the line.

In the picture below is the 'piston'. The black bit at the left carries the main seal and the coloured bit on the right has a tiny valve that seals off the replenishment port at the end of the cylinder immediately the piston starts to move along the cylinder



The last malady is the most common usually co-incident with pulling a rear calliper off and thus opening the hydraulic line.. Getting the air out is the problem. This is because manually bleeding the brakes as you used to do on your old Post55 car or Mark VI Bentley was simply a matter of ramming a cylinder full of oil down the pipe to the bleed screw taking all air with it – as recommended by the workshop manual.

Unfortunately the little cylinder pumps out such a very small volume of brake fluid there is barely enough to get to the back of the car. That little bit of oil then coats the brake line and the air stays where it is. There are several approaches to this problem including raising the rear of the car to the highest angle practical and keep pumping the brake pedal filling the line until it runs out the higher bleed valve. Some have fitted Schrader valves in the lid of the brake reservoir to pressurise it and try to blow the fluid through to the rear. Well I have devised a little vacuum pump seen at right that sucks fluid through to the nipple and that seems to work even if slow. The vacuum pump is actually pulling the fluid out of the cylinder at the side exit port – refer to the first picture. Too much vacuum and it will pull the piston forward which



will start to seal off the replenishment port – there needs to be patience and control



Well the pump worked as can be seen by the amount of fluid pulled through in the series connected pickle bottle! The piston did actually move forward which could be felt by gently depressing the brake pedal which moved until the central plunger came into contact with it. The spring in the piston eventually pushed it back to its start position, the replenishment port seal was released and the cylinder filled up. Most importantly there was no air in the lines.

No I did not remove the whole rattrap, this is another one. What a lovely bit of gadgetry. This came off an old car and there was no obvious wear anywhere just crud which cleaned up. It was also a good idea to do a bit of lubricating!

One bit we haven't talked about is the 'G' valve seen sloping across the rear of the unit with the pipe hanging out of it. That will be in the next issue.

