TEE-ONE TOPICS

Number 33 March, 2004

THAT PHANTOM

What a magnificent effort! I finally got to see this much criticised machine which had been specially flown into Melbourne from Singapore by the Company for the Centenary Rally. The detail and finish were awesome, the equipment overwhelming and best of all they have sold at least 500 to date world wide. I was dying to climb all over the thing but every time I got near the interior someone beat me to it. I finally whispered to a 14 year old boy who would not depart the driver's seat that if he did not exit forthwith I would demonstrate an ancient technique I had learned involving the insertion of his cranium in his rectum. I suspect the vernacular was quite beyond him but the tone of my voice was not, so I stood back while he fled and before I could move some corpulent female planted herself in the seat. It has been a while since we had a murder associated with a Rally but I controlled myself and stalked off having secured the names of the hapless representatives of the company whom I shall call on in the hope that I can view this magnificent car in peace.

The accompanying pictures do not do the car justice but are my humble offerings. One of the pictures shows the rather slim tool kit nestling in the floor of the trunk. Before the harbingers light up, even holding a spanner near this car would be like walking into a nuclear power station with an axe in your hand. In any case tool kits were well on the wane long before the old Factory gave up the Ghost! I have yet to ask about workshop manuals, when I do you will be the first to know! But back to the tool kit you will notice an odd looking item which is basically a ring bolt with a large threaded shank. Seems that if one needs to be towed or more likely if one needs to tow something, you remove a plug in the 'bumper bar' and screw in this fitting – either end as appropriate. Better than hooking onto some vital bit underneath and bending it or ripping part of the body off. The now famous umbrellas were there in the rear doors – picture attached. My son Simon had to remove one and open it and even that was beautifully made. No pushing the thing up and clicking it, simply push a button and the item rises! I watched the hub caps carefully to make sure the 'RR' remained vertical. 'Twas not so with the chassis that first came to Australia. Apparently there was a technical hitch that was quickly fixed. The idea is not new of course as we have observed those mileage counters on the hubs of large trucks and their trailers which remain in a readable position at all speeds. The veneers on the car shook me slightly – used as I am to burr walnut etc but then again with bespoke construction you can have what you like. The grille was/is interesting as I guess it is a pressing and the surround is actually in two obvious pieces. It is not stainless steel but neither is it flat. The finished product however is superb and most appropriate to the overall concept.

The carpet is interesting being a finer pile than the former car's super Wilton and I did ask whether they bothered to pre-shrink the stuff before cutting it up. Have you not noticed that every carpet in former cars after some years will not fit the original press stud positions. This is because people are not averse to either leaving a window open in pouring rain or more commonly they get in the car with wet shoes. And the thing shrinks. Australia has turned out shrink proof wool for the last 20 years!!!! I ramble on – wait until you see this before opining!

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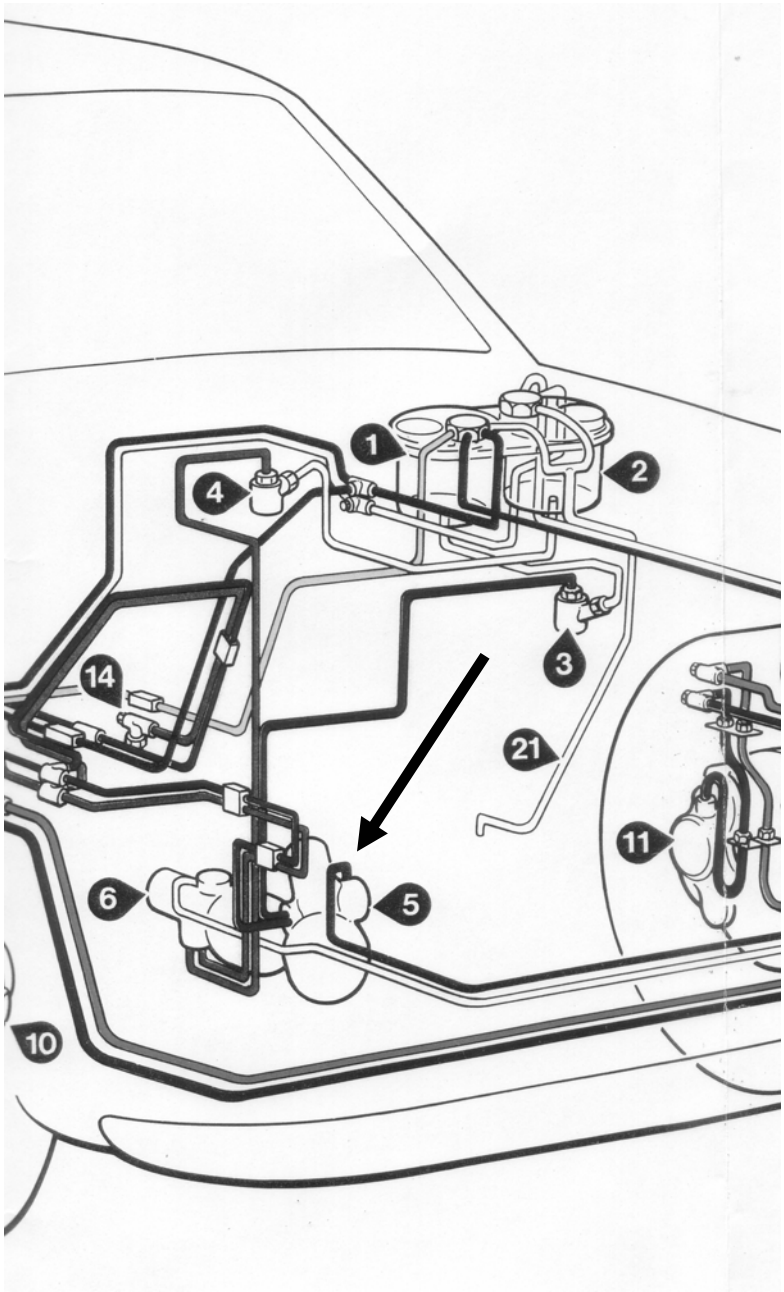
Some men in a pickup truck drove into a lumberyard. One of the men walked into the office and said, "We need some four-by-twos." The clerk said, "You mean two-by-fours, don't you?" The man said, "I'll go check," and went back to the truck. He returned and said, "Yeah, I meant two-by-fours." "Alright. How long do you need them?" "I'd better go check." After a while, the customer returned to the office and said, "A long time. We're gonna build a house."

RESCUING CORNICHES

The grand parade of Rolls-Royces and Bentleys down the East Coast of Australia prompted a number of friends en route calling to say that they had just seen an exodus or invasion of ‘so many cars’ etc. The calls began to pall after some time as I had to go through the whole gamut of the Centenary Rally, its route, who was on it and the fact that there were a couple of platoons of international vehicles entangled with the local registrants.

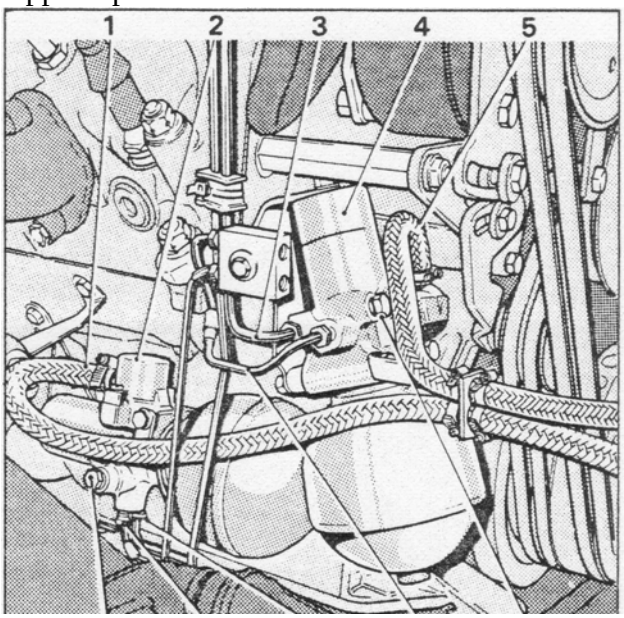


Then on the Saturday a week before the start of the Melbourne Rally came a different call; this time from our Technical Officer David Gore. Seems he was at Bowral with the convoy and one of the visitors driving a nice ’81 Corniche was losing brake fluid or more correctly the problem was with the Corniche! Apparently, and this was the part that really hurt, they were in the middle of a deluge, Canberra being in a gut shrinking drought!, had no shelter and no practical means of lifting the car to peer beneath it; could I help? Bowral is about 150K from Canberra and I had visions of Malcolm Yell a denizen of the town and never one to shirk volunteering, riding across the bulkhead of the car steadily pouring brake fluid into the reservoir. Replenishment would be through the passenger’s window with a large Scotch being passed out after every three bottles of oil.

In the event, a very full reservoir got the car to our Capital with about ¾ inch of oil left in the bucket! Fortunately the car was on mineral oil and also fortunately accompanying cars had donated their bottles of the stuff (every SZ car carries 2 bottles) and the owner had not had to resort to the use of light engine oil which can be used in an emergency. I was busting to see the visiting cars which were coincidentally parading with the local Wheels exhibition held annually at the old Parliament House. I had two Spurs and Ros’ Crowley’s Spirit on hand and sent them on and Bob Campbell Stewart and Garry Scorgie presented with their Shadows. Martyn Stafford-Bell had kindly lent his car which

I needed to collect and whether others fronted up I still don't know. Largely as a gesture of courtesy it was decided to parade with the local Branch which I am told received those of us who arrived there, very cordially.

I charged over in the Blue Beast and found Kerry Bos looking lost in the sea of cars, threatened him with violence if he didn't get in my car then charged off to the hotel where the incontinent Corniche resided. Kerry kindly fled with the Blue Beast back to the assembled throng and I topped up the leaker and headed home.



The temperature was well into the thirties and the car was hot. Up on the ramps and I slid (well actually crawled given the advancing age) under the front to be confronted with an apparently dripping accumulator. For those of the Shadow persuasion (you can writhe with jealousy) the mineral oil cars use sealed accumulators, much smaller than the old RR363 bombs and they are relatively easily accessible at the front of the engine. But as everyone knows Rolls-Royce did not have the word accessibility in its lexicon so they heaped pipes and pumps etc over the assemblies undoubtedly with some satisfaction!

As with the old RR363 system the pumps (4 in the first diagram) fill the accumulators and the valves (5 and 6 in first diagram) on which the latter sit then send unwanted oil back to the reservoirs. The latter route again employs a number of rubber hoses since there is minimal pressure involved. The control valves for the accumulators are very different from the Shadow but do much the same thing. One of them however has its return hose emerging behind the power steering pump and has to be routed through the various support members for that assembly before it can get back home to the reservoir. But seeing what is happening behind the back of the power steering pump is a little like observing the alimentary tract of a jelly fish! I used sheets of blotting paper between various assemblies, eliminating each as a source of the oil and eventually realised the stuff was coming from the back of the power steering pump. Working on a necessarily hot engine in a high ambient temperature did little for my demeanour but with some relief I found the leaking hose (see arrow on first diagram). The above diagram shows what happens when you have to put the same bit of equipment in two different bodies. The pipe (5) was where the puncture was but with the Corniche due to space limitations the power steering pump had to be lowered and the pipe disappeared behind it!

Off came the power steering pump and there it was. Unfortunately I was not of a mood to start taking pictures. The pipe was replaced and the pump restored but not before I had incorrectly installed the metal pipe connector and tried 54 times to start the simple high pressure hose connector all covered with oil and burning myself every third try. Eventually all was together the power steering bled, the accumulator bled and the leak apparently stopped. So off to Wheels in this delightful car and arrived to find the whole bloody fleet had departed. Such is life. I returned the car to the hotel and was somewhat relieved that it was in the garage when we arrived at our accommodation in Melbourne. In the absence of other advice I peered beneath the car – no dripping oil so hopefully my efforts were not in vain.

CHANGING DRIVE BELTS

This is relevant to the above account. Most of you at some time will have or simply WILL change your belts. Use genuine, since the word MITSUBISHI flashing around does little for the general ambience!!! First belt to come off is on the alternator. Undo the bolt/nut on the adjusting bracket under the alternator and the very long bolt through the top of the unit! The alternator will swing right into the engine and the belt can be lifted off. A trap for beginners (I'm one) if the alternator has a funny brand on it more than likely French, order two belts one for the standard alternator and one for the Froggy one. The latter requires a longer belt. Send the unused one back.

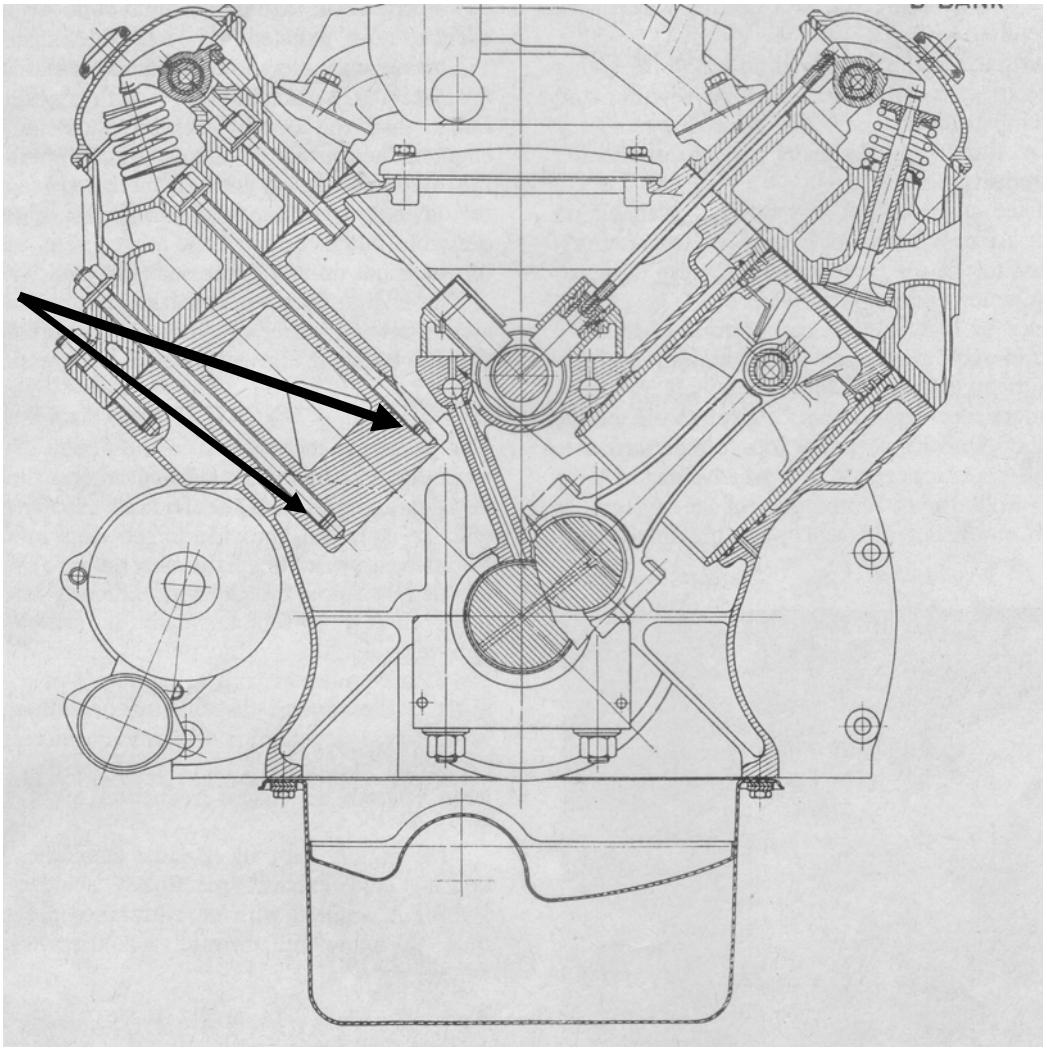
The tool kit in the new Phantom. Note the towing eyelet!

Next loosen the top mounting bolt on the power steering pump and the bolt on the adjusting bracket underneath it. When you go to push the pump towards the engine invariably the pump will only swing in a short way then stop. This is because the high pressure hose at the back of the pump which has a steel nozzle for mounting on the pump, has fouled the lower support brackets! Take a 5/8" spanner and loosen the pipe at the back of the pump which allows the nozzle to swivel and the pump can then be pushed right into the engine and the belts lifted off.

The water pump belts are tensioned by a separate pulley well below the power steering pump. There are two nuts/bolts to loosen, the adjusting one and the mounting bolt at the bottom of the crankcase. The pulley can then be pressed right against the engine and those belts lifted off. Replacement is the reverse. You will need to use levers to get a decent tension on the belts but be very careful what you lever against. When the compressor/power steering belts are tensioned (these are the biggest in the group) move the high pressure hose behind the power steering pump to a suitable position so that it is not rubbing itself again anything and then tighten the olive. That is what the gentleman did not do with the Corniche and the flange of the power steering high pressure hose simply carved a hole on the accumulator return hose. As the proverb says 'Do not spoil the ship but for a ha'p'orth of tar'. Had who ever fitted the last set of belts checked the juxtaposition of the pipes behind the power steering pump no damage would have occurred!

CRUMBLING ENGINES

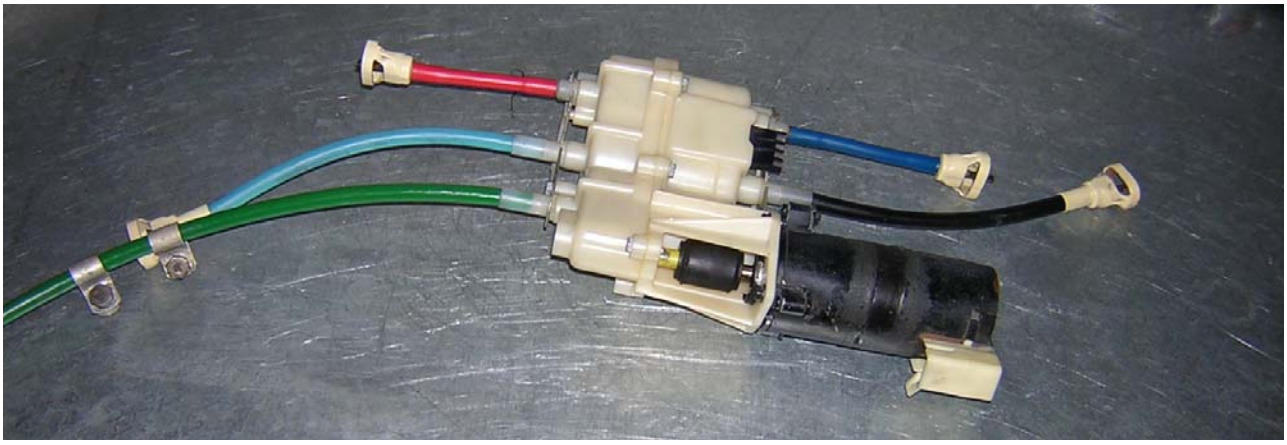
I recently purchased a copy of a paper presented to the British Institute of Mechanical Engineers titles 'The Design History of a V8 engine. Its author was of course A J Phillips, an engineer fairly well known to enthusiasts. The paper is particularly topical since more and more of these engines are starting to disintegrate. I will reprint the document elsewhere. One of the casualties on the recent Melbourne crusade apparently blew a head gasket in his Shadow. This is generally rare in my experience but then the examining specialist noted that the nuts on the head studs were literally finger tight. These studs are carefully fitted into the very bowels of the engine block and effectively not only hold the head down but hold the whole unit together. It seems that the main casting had lost integrity and the studs had simply pulled themselves out of the block. See arrows below.



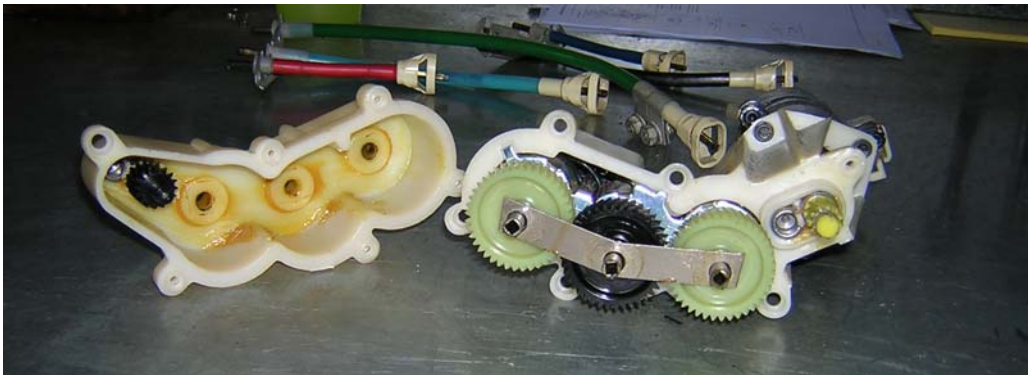
I mention this to alert owners to consider any form of prophylaxis that can be taken to halt or at least slow the deterioration of the aluminium castings that are the very body of the engine. Presently I am trying to get the heads off a very early Shadow and so far have had no success. Unlike the old cast iron blocks one would not dare using pullers on these heads for fear of permanent damage so to date the treatment (on advice) has been to rattle the studs with copious quantities of WD40 in the hope that the corrosive grip will let go of the head casting.

Corrosion of aluminium engine components is not new to enthusiasts. For over 80 years Rolls-Royce have used aluminium heads on their engines and there are well developed avenues for manufacturing replacement units ex-factory. These are very expensive but reasonable care given the uniqueness of the early cars and the fact that they are holding their value. But a new replacement block for a Shadow is reportedly in excess of $30,000. Add that to the expenses of dismantling, overhaul, reassembly and refitting, the total bill would have to exceed the value of the car by far! At the moment the solution for people such as our Melbourne casualty is to find a used engine that hopefully is recoverable and fit that. Also in Melbourne some very interesting work is being done in fitting an American cast iron vee eight, new. Hydraulics are provided by a belt driven pump and the finished installation is admirable and a fraction of the cost of a genuine replacement. One of these installations was at the Centenary Concours and I had great delight in asking people who should have known, what they thought of the engine. None believe it or not, picked the installation. This of course was a cursory inspection since the tappet covers had not been modified but the finished product runs very well, is just as quiet and best of all the car is still on the road and not being disembowelled in some wreckers yard.

HEAVY BUMS AND SEAT MOTORS



More on the seat motors for the SY and later cars. Apparently these assemblies are straight out of a 1980-85 Cadillac and are still readily available. But my informant tells me that the biggest trouble with the units was with them exploding!! Providing the flexible cables held, the gearing in the plastic cases when under great load, is trying to force itself apart and when push comes to shove the strain can be so great the plastic simply gives away, reportedly in a spectacular fashion. New casing and assemblies should be available from Kellow Falkiner. Noting the slip on three hole plate across the three axles in the picture below I imagine this was an attempt to support the gears when in their hour of need!



AN ICON DEPARTS

I would have to be the worst car salesman in the world. Months ago I was given the other ACT Spur belonging to our old mate the late Ken Glover, to sell and I could not settle on what was wrong with the car. Actually it was a myriad of little things. The poor old thing had barely moved in a year and of course it had the cursed sub-nom of 'Hong Kong'. Some people are quite paranoid about these vehicles particularly in the rust department but there Ken's car came flying through – clean. The windows were certainly in the roulette class, in fact I had the embarrassing experience a couple of years back when Peter and I took Ken and his sister Ann down the coast for a S.M.A.R.T. weekend.

Out the back of Cooma (some 110K South of Canberra, where there are more traffic police than rabbits) I came sailing over a rise doing some K's per hour only to run straight into a member of the constabulary who flashed me (with his lights I hasten to add). Grossly embarrassed I flung the poor old thing over on the side of the road and tried to open the bloody window – no luck) So then I tried to open the door which as you know on those cars could well double in a vault in the Bank of England. I slipped trying to get out and finished up being helped out of the car by the uniformed antagonist. The tongue as you know is always at the ready and I fixed him with a serious look and said 'Are you any good at electric windows?'. 'Wouldn't have them on my wheelbarrow' came the retort', but blow in this and he inserted the usual gadget in my mouth. I was more sober than I would have liked but, pleased he smiled indulgently and said ' when you overtake Sir get back to the limit quickly ok?' I smiled gratefully and we parted good friends.

Well apart from that episode all went well for the rest of the weekend except that the windows were definitely controlled from Mars. Well, after hours of investigation and dismantling I learnt a lot getting at least the driver's side to work and even managing to put a switch in upside down which is part of the inbuilt intelligence test. The new owner, none other than the President of the Queensland Branch Tony Lee has acquired the car and had an uneventful trip back to Joe's country. That car was more closely inspected than Saddam's beard. Oils and filters were changed the cruise control overhauled, new coolant hoses fitted and new Factory coolant installed. Mr Lee very early in the piece observed that mechanics was not his everyday pursuit so I thought it opportune that he should make it so. He will now be a dreadful bore so hesitate before asking him about his height control adjustments or his sphere pressures! But having heard of the results of Tony's efforts on his former Shadow, the Spur I feel is in for a rude shock and he will finish up with a very well presented car!

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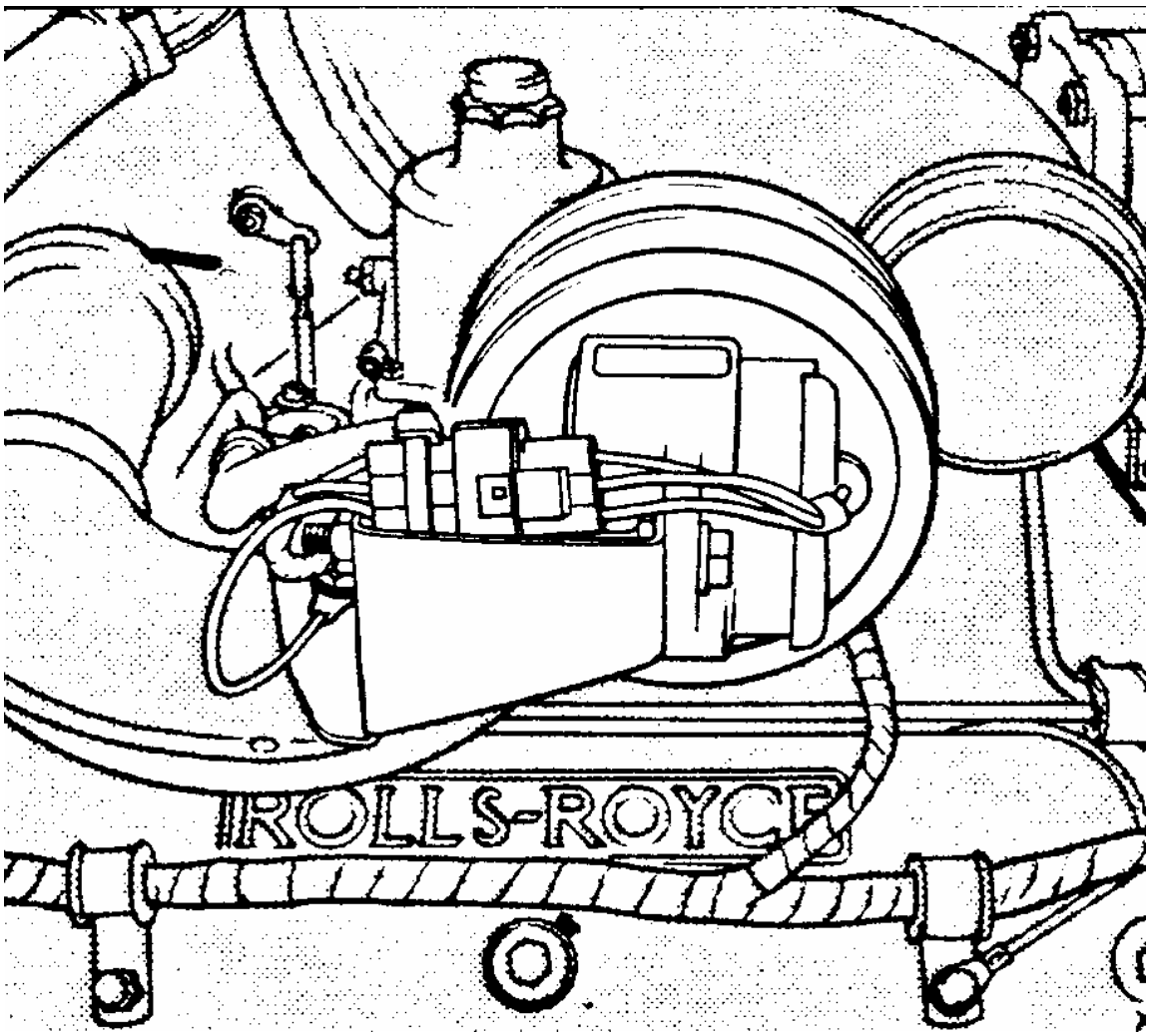
MORE ON SPEED CONTROLS

The simple bit of the speed control is the bellows which we have all seen perched on the engine. Here is one dismantled. The connecting chain which pulls the throttle linkage is at the bottom. The latter is a simple bath plug chain and readily available at any decent hardware shop. Although I am told with much assurance that the chain supplied by the Factory is more robust than commercial chain!! The most obvious malady with these gadgets is perforation of the bellows (the rubber bit at left!). This shows up as an inability of the control to hold speed; the higher the speed the worse the problem shown by the speedometer needle slowly dropping back. Another quick way to pick up a perforation is to simply squeeze the whole assembly. A good bellows will compress slightly but then resist further compression. If punctured there will be little resistance and you will probably hear air escaping.

The assembly to the right of the picture is the gadget that consists of two solenoid controlled valves. One opens up the bellows to the vacuum line from the induction system and the other opens to let in air. Sucking the air out of the bellows causes the bellows to collapse drawing up the round plate in the centre of the picture which has a hook on the back side via the bath chain

this pulls the throttle levers and the engine speeds up. Letting air into the bellows allows the internal spring seen at the top to push the bellows apart and throttle levers are released.



Should there be a need to change the whole assembly, seek advice since the bellows assembly has to match a particular model control box. The rubber bellows however is readily available from Kellow Falkiners in Melbourne .

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JAMMED WINDOWS

In the good old days, described elsewhere, when electric windows were somewhat of a black art, installers of these contraptions avoided invective and verbal detritus that inevitably flowed when a window would fail to elevate, by installing an alternative means of lifting. This was usually in the form of a beautifully crafted handle resembling a window winder. This was inserted through a hole in the lower part of the inner trim of the door after moving a beautifully crafted cover plate to one side. The handle was then rotated some 614256 times and the window could be closed. All this, which was usually carried out on the side of a busy road with cads passing yodelling 'Get a Ford' and/or in pouring rain and tended to incline most drivers towards manual windows. Unobservant as I am I have never noticed another car with this backup but then I

have never noticed another car that left its windows at half mast without any explanation as to why full erection was not possible!!!

Eventually, the Devil-may-care attitude prevailed and the handle was dispensed with. Unfortunately the expectation that the windows would always achieve their directed position was not simultaneously realised. And so only last week I flung a beautiful 1987 Spirit into the

bowels of Mr Carl Overs, covering the car with lots of froth and squirting with gay abandon. Unfortunately when the drying off phase was arrived at we seemed to have more water in the back than was intended! The left hand window had failed to continue raising some ¼ inch before the stops.

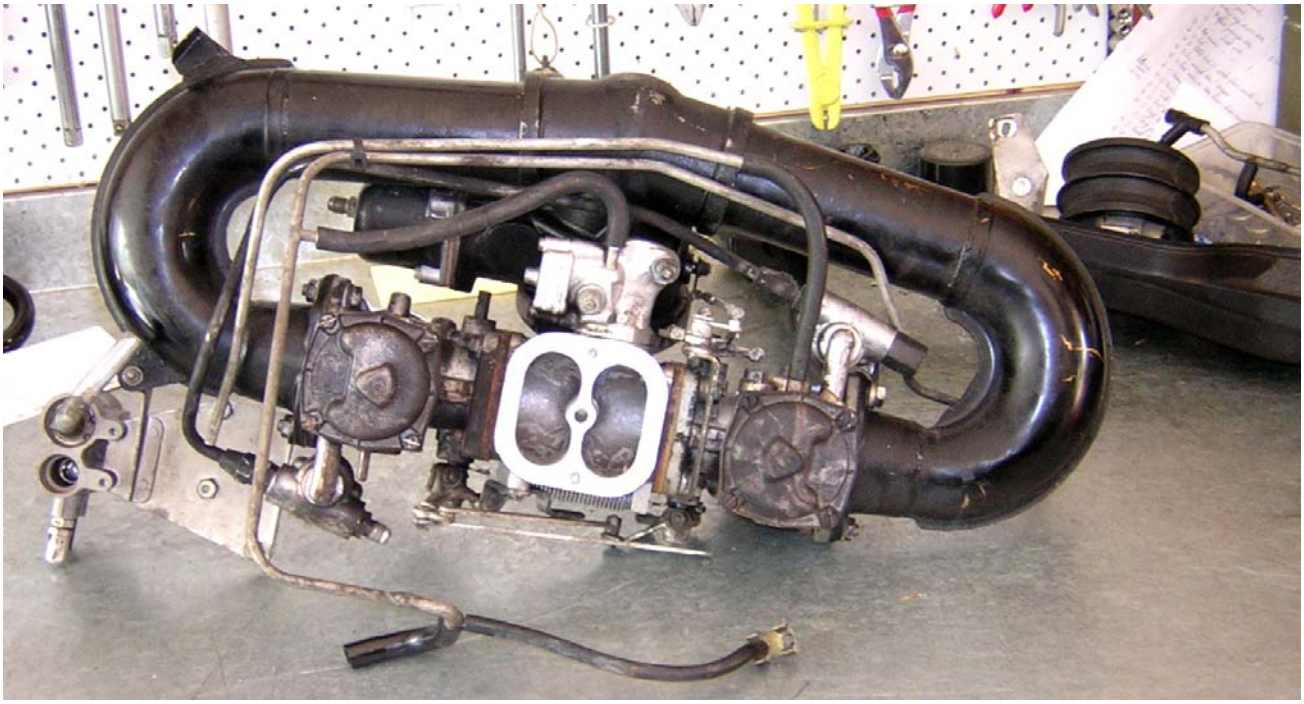
It is timely to corner the unsuspecting reader and explain how Rolls-Royce make windows go up and down! Noting the accompanying picture, the window is lifted and lowered by a simple bicycle chain with a few other bits keeping it square in the channels. The chain in turn is driven by an electric motor which exerts itself through a gearbox. Obviously the gearing has to be very low to accommodate the weight of your child who is desperately fighting the window to wave to the little departing friend at the kerbside, but it also needs to lift the window at a rate that hopefully allows such darling offspring to remove its head/hands or other appendages before it closes. Hence the need as I mentioned for 614256 turns of the drive shaft to raise the window fully. I exaggerate a little in this instance.

Again obviously the door only requires one motor to do this lifting and lowering business but to do so needs something to make the thing run backwards as well as forwards. The picture does not clearly show that there are only two wires entering the motor. Both are positively charged. The direction is achieved by earthing one of the wires which allows the remaining wire to exert its influence and the motor whirls appropriately! But in this case while earthing one wire

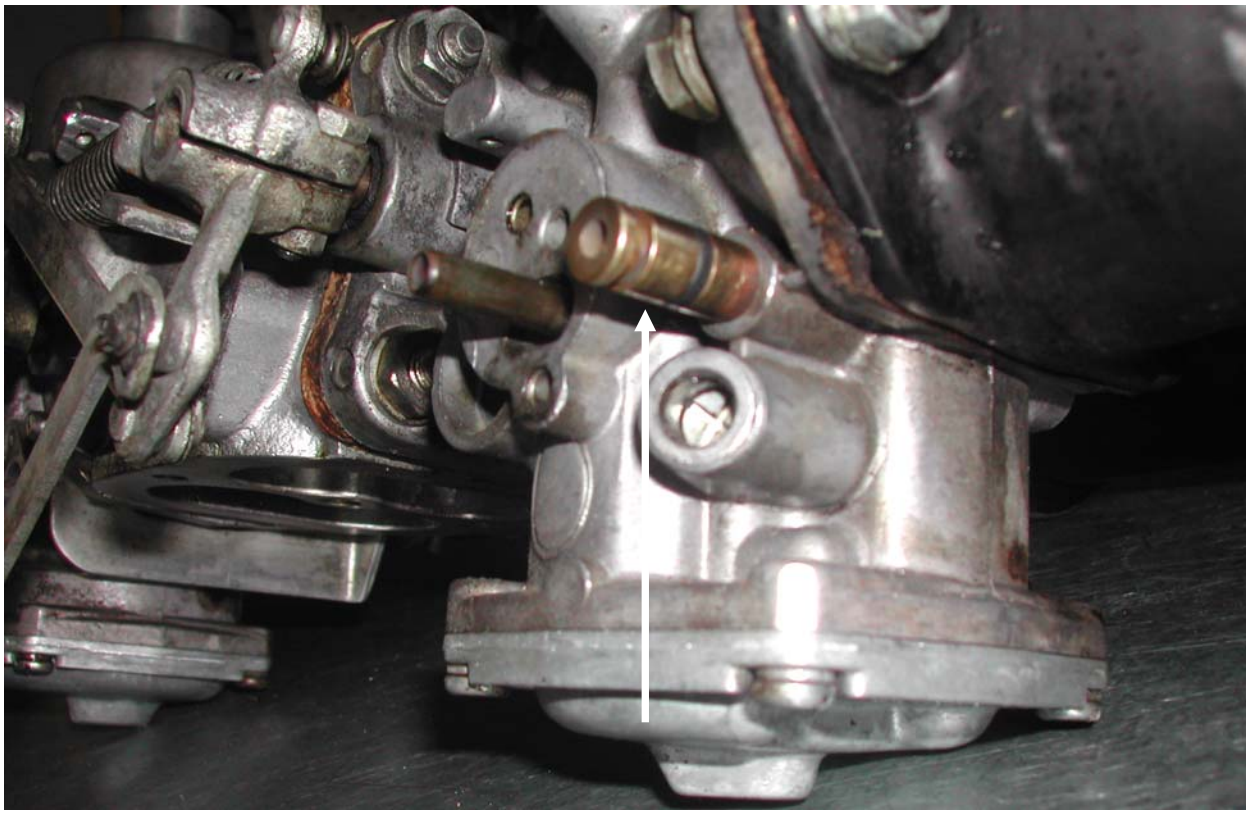
produced an impressive lowering of the window earthing the other achieved nothing other than a dull click. The cause of this I have yet to determine but given that the owner was about to drive to Beijing there was a need to close the bloody glass! Again referring to the picture one notices that the motor engages the gearbox from the forward side and that the end of its shaft runs in a bush on the opposite side. As luck would have it, the end of the shaft was covered by a piece of insulation tape and in the end of the shaft was a square hole which fortuitously accommodated the end of a small thread tap. This duly inserted it was wound in the correct direction some 614256 times or less and the glass was shut.

Now to work out why the motor won't run backwards!

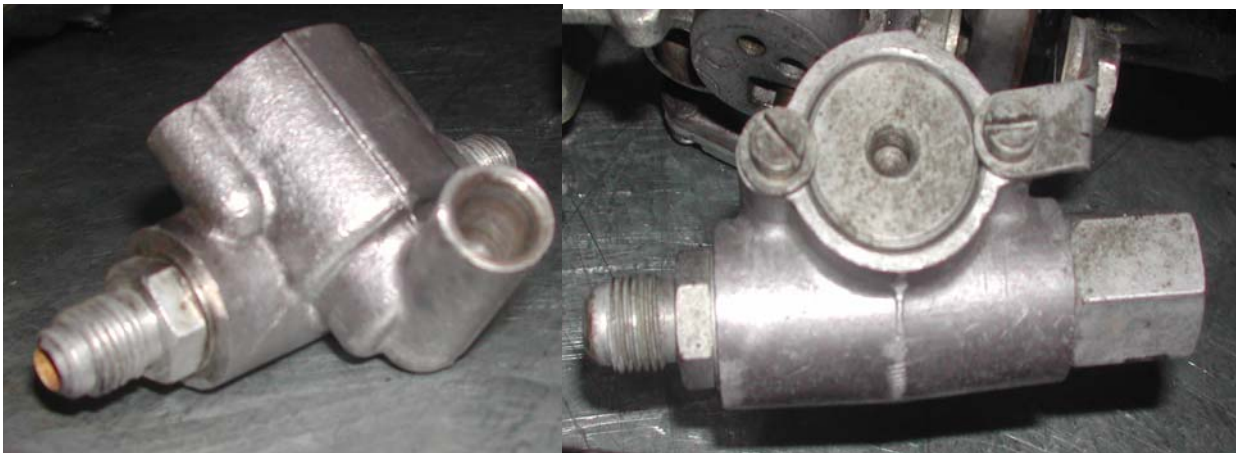
THAT QUAINT AROMA OF PETROL



This is the underside of a Spur's induction system. That small hole in the middle surrounded by the kidney shaped ducts, accommodates a single bolt which holds the whole assembly on top of the engine. The car from the time I purchased it had a lingering smell of petrol. There was no obvious drip or clean spot but peering down into the induction jungle I was sure that I could see 'wetness' around the bottoms of the carburettors. A quick call to my friends at Midel, the SU carburettor agents and they confirmed that the leak was most likely between the bottom plate of the carburettor and the main body. Seems that these plates get very hot, planted as they are so close to the top of the engine proper and eventually they warp and allow seepage of fuel from the chamber above. The web of pipes and tubing not normally seen from above is to direct the supply of vacuum and fuel as required.

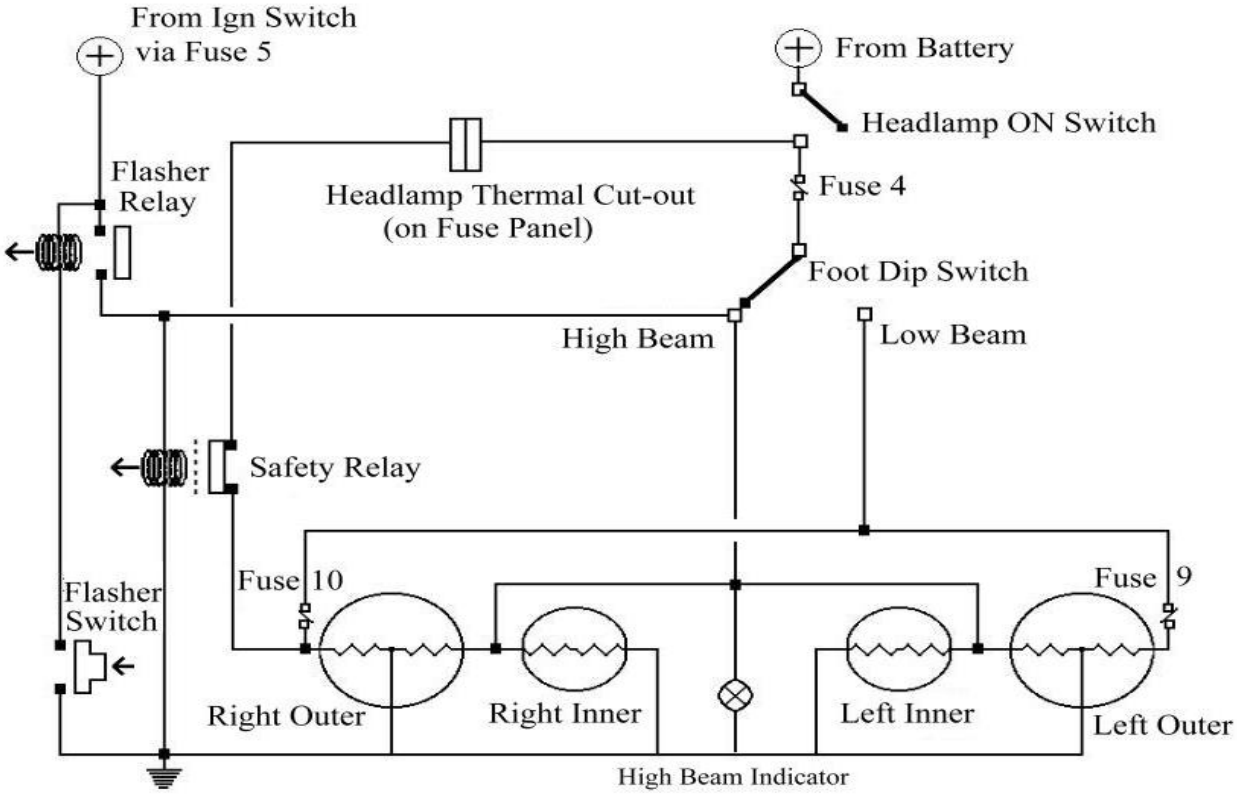


Here is a close up view of the bottoms of the carburettors this time the right way up. The new bottoms have been fitted with new ‘O’ rings. The tube arrowed is the inlet to one carburettor. To get fuel in, a special fitting slips over the tube and is held in place by a supporting bracket. Sealing is achieved with ‘O’ rings one of which is still on the tube. These had almost turned to glass with heat and age and were readily replaceable with after market items.



These are the fittings that feed fuel to the carburettors. The fuel feeds initially into the ‘A’ bank carburettor and that which is not required there passes on to the ‘B’ bank unit. Here there is a small restrictor that ensures that there is a small pressure in the system to feed the float bowls. From the ‘B’ bank unit the fuel returns to the main tank. This helps avoid fuel vaporising through sitting in hot lines. Both of the above units have filters located under the large plug that should be changed regularly.

Shadow 1 Headlights Operation



Purpose of Safety Relay

- Maximum current is drawn when the headlights are on high beam. If Fuse 4 blows at this time a dangerous situation of no headlights could occur.

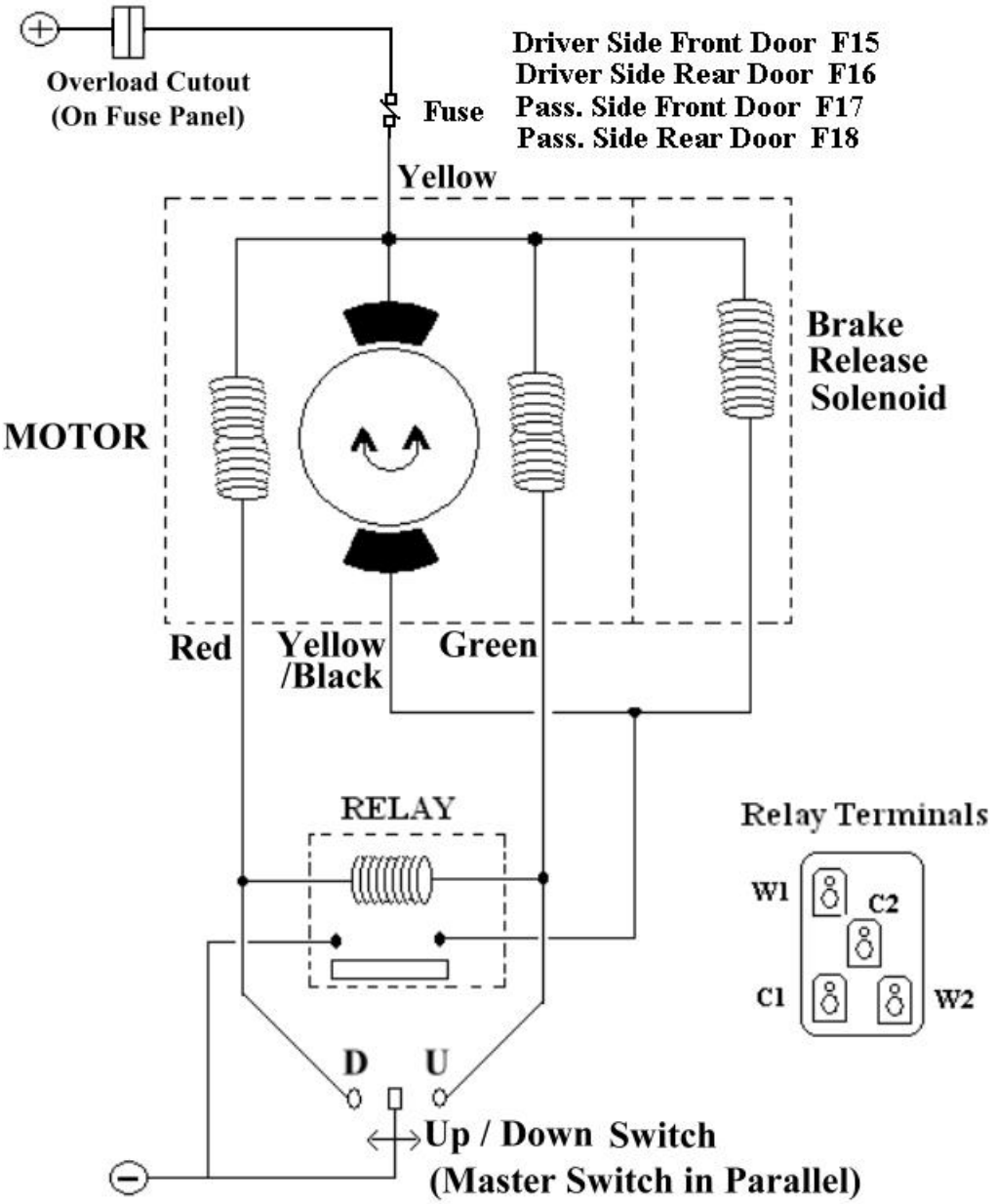
- However to prevent this situation if Fuse 4 does blow the Safety Relay will de-energise, allowing current
- via the Thermal Cut-out to at least one of the low beam filaments (or both if Fuses 9 and 10 are OK)

- Because the Safety relay is not energized when the headlights are on low beam, the same protection applies.

- The Safety Relay is also energised when the headlight flasher switch is operated, to prevent
- filament overload.

Note: The above diagram and the one following were supplied by John Kilkenny the owner for many years of a very ancient but much loved and cared for Silver Shadow.

Shadow 1 Electric Window Operation



- Because the resistance of the relay is several times that of the motor field windings, the Up/Down switch will energise the relay but only one of the motor field windings will get normal current.

- The armature winding and brake release solenoid will be energized via the relay contact.

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WEB SITES YOU SHOULD HAVE ON YOUR COMPUTER

http://www.rroc.org.au/
Rolls-Royce Owners' Club of Australia

http://web.rroc.org/
Rolls-Royce Owners' Club of America

http://www.swammelstein.nl/rolls.htm
A Dutch private web site with an excellent forum

All the above sites have free forums where you are welcome to share your knowledge and ask your questions. Or write to me - Bill Coburn Post Office Box 827 FYSHWICK ACT 2609 Australia or tuppercharles@bigpond.com.

If undeliverable please return to Post Office Box 827 FYSHWICK 2609 ACT AUSTRALIA