

# TEE ONE TOPICS

*Possidemus et ipsi reficimus\**

Number 9 December, 2001

## TERRIBLY BRITISH DAY (Don't you know!)

The format and venue were as usual, like-cars grouped together, at Weston Park. What was not usual, was that this year, there were two groups displaying Rolls-Royce and Bentley cars. That there were two separate displays is a pity, however, we make no apology for the stand we are making. The branch committee (and some of the membership) of the RROC was unhappy that we (as the Self Help Group) may have been exposing the club in general, and the branch in particular, to risk of litigation should anything go wrong. As we had no support from the branch, we chose to "go it alone", and judging from the turn out, we've done it in spades. Fifteen cars! Thanks go to those who participated, and a special thanks to those who lent their cars for display. Top marks to Bill Coburn for having the initiative to ask members who were otherwise occupied, for the use of their cars for the day.



Participants, (in no particular order) were:

Kay and John Beagle 1954 Bentley R type. B166UM	Bill Fleming 1976 Silver Shadow SRH22610	Susan and Keith Stammers 1997 Bentley Brooklands SCBZE12C4TCH57952
Eileen and Ian Sykes (unable to attend). 1959 Silver Cloud II STB48	Martin Stafford-Bell (unable to attend) 1965 Silver Cloud III SJR 09	Gary Skorgie 1976 Silver Shadow SRH23952
Wayne Wardman (and family) 1977 Silver Shadow II SRH31614	Peter Smith 1973 Silver Shadow SRH 12875	Ken Glover 1983 Silver Spur SCAZN0006DCH06901
Greg Whellum 1970 Silver Shadow SRH8702	Marie, Andrea and Neil Garvie 1974 Silver Shadow SRH19405	Warwick Grigg 1977 Silver Wraith II LRH31493
Heather and Sid Drury 1972 Silver Shadow SRH13584	Paul Samuels (founding member), Rosie 1955 Bentley Continental BC70D	George Shores 1978 Silver Shadow II SRH34273

\* We own and we ourselves repair

What a roll out. By the way, you may note that I actually placed that magnificent Bentley Continental next to me on the above list. Probably the closest I'll ever get to my dream car! What a beautiful beast it is, Paul!



The day started at 7.30 a.m. for me, as I selected our site and set up the less than famous “one burner barbecue” in preparation for the breakfast rush. By 8.10 am I was getting trepid. No one else had arrived, and I was feeling very alone. Thankfully, Bill C. rang and told me that he was running a little late. He arrived and we set up the display boards that he and Peter Chan had worked until the early hours to complete, and the shade tent generously supplied by the aforementioned Peter. Several members had arrived by then, and helped erect the tent.

We settled down to a great breakfast cooked by one of our very young enthusiasts, Andrea Garvie (aged 9) who seems to have adopted the mantle of “group chef”. We dined magnificently on egg, onion and sausage sandwiches. Is your mouth watering, Bob Skillen? My dear friend, and first member of the TEE ONE group, once confessed to me that he absolutely loved barbecued sausages with fried onions.

People seemed to enjoy the display boards that included photographs, a brief history of the group, and points of interest (and milestones) in the “Company”. Several people were observed deeply engrossed in the plastic encased TEE ONE bulletins and a couple even approached the Editor for information on how they could be placed on the mailing list. Welcome too, to Ean from Cooma, who had previously been a member of the RROC with a Silver Shadow II, and now owns a Silver Spirit.

Thanks too, to the Stammers and Paul Samuels (who, by the way, is a member of the ACT branch of the RROC and, in fact, was a founding member of the original RROC AUSTRALIA movement!). Their cars certainly enhanced our display. Later in the day, they moved their cars to the RROC branch display, their generosity in sharing their cars is most commendable. The Brooklands Bentley was in beautiful condition and the colour most fetching. Need I postulate about the Continental? At rest, it seems to be crouching, ready to spring into action, on command. I love ‘em. Again, Keith, Paul, thanks a lot.



A small aside. Bill and I went over to the Jaguar group to thank the president and the committee for their efforts (they organise each Terribly British day) and ended up scoring a job. We were asked to

select the best display for the day. Dang! That immediately disqualified us. Though I argued that we had the best display, Bill's sense of decorum got in the way and we chose the Jaguar group. It was the fortieth anniversary of the introduction of the E type and the club effort was great.

The public slowly drifted off at about 3.00p.m. and so did we. Bill and I ferried the doctors' cars back to their owners while Peter and Laraine packed and tidied the site. We got back just as Wayne and Warwick were departing having worked their butt off packing our stuff away. First to arrive, we were also the last to leave. A great day made possible by you, the members of the TEE ONE group. Congratulations.

George Shores.

P.S. Next year, the Terribly British Day will as likely be held on the lawns of Old Parliament House. See you all there.

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## A nice little touch.

Sid Drury was wondering about starting a mushroom farm in his boot of his Shadow, such was the ingress of water. The built in channel around the boot collects most drips that get past the seal but in a really good deluge things tend to overflow. Fortunately the carpet was recoverable thanks to good old Mrs Beeton the turn of last century's guru on good housekeeping. Mould on a carpet she says is removable by a mixture of soft soap, starch, salt and lemon juice, spread on the stains and left in the sun with renewals of the stuff every two or three hours then vacuum. It worked!

Getting the old seal off was reasonably easy although the paint work suffered a little. And there is no need to remove the boot lid. The new seal comes in a length (5 metres is ample) and can be

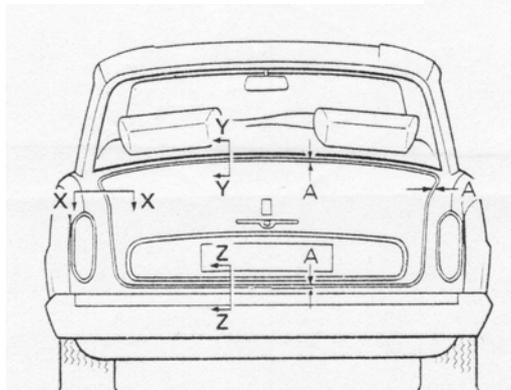
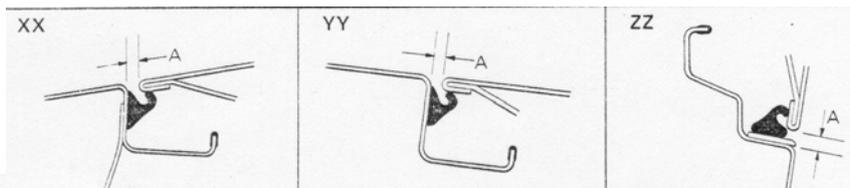


bought as an after market item from Grippy Rubbers for about \$35 – less than a third of the price for the genuine item. Grippy recommends using Loctite 106 adhesive with which I had no success. The adhesive takes about 20 minutes to stick, hates silicon and needs to be held tightly to the surface while it works.

I talked to the Loctite man who has a handy number 1800 800 462 and he recommended their simple contact adhesive with which everybody is familiar. Theirs

is a bit more expensive than most but he said they had tried 'cheapening' it by lowering the quality of some of the constituents and found that the resulting product just didn't perform. What do they say? You get what you pay for! The location of the rubber is important and is shown in the diagram for a standard Shadow boot.

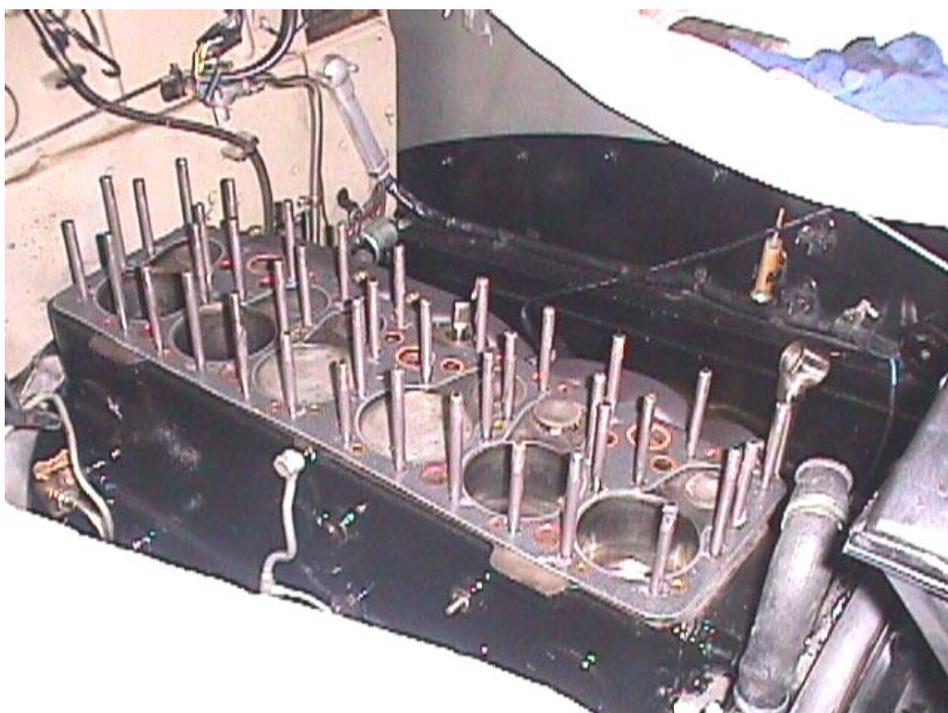
Dimension 'A' is ideally ¼".



A nice touch however is the factory recommended insertion of a thin strip of rubber in the lower corners of the opening. When the seal is glued over them, it is distorted, and protrudes further out than the rest of the run, providing a very positive seal in the corners. The picture also shows the purpose of those little chrome pieces which are to hold the seal which is not glued at this point to permit drainage.

## Heading up the R Type

John Beagle's R Type Bentley is well and truly back on the road and according to John going better than ever. The valves were seated and the guides sleeved with very fine brass tubes (K-Line Thinwall Guides). The machinist when I asked about wear values thought that these would give only half the mileage of cast iron guides (50K as against 100K) but that they were used in racing engines very effectively. Given the scarcity of genuine guides not to mention the cost and the low mileage the car was likely to cover, selection was not difficult. One innovation was the use of the modern composition gasket seen here in lieu of the original copper/asbestos item. We had been told that these gaskets swell but given the history of the previously blown head gasket we took a lot of time pulling it down in increments. Having arrived at the maximum 45 ft lbs, the engine was started and run to full temperature. Next morning with a dead cold block, the head nuts needed up to a quarter of a turn before they were back to specs. One more tighten down is planned after about 100 miles.





The exhaust manifolds were treated with POR black which gave an attractive dull finish guaranteed to withstand very high temperatures. All exhaust nuts were treated with Never-Seize and screwed down on new brass washers. The engine was treated with POR engine paint which dries to a very high gloss and is allegedly very durable.

A note on exhaust tappets. Nominally they are set for .012in but experience has shown that continuous high speed running, producing

considerably more heat resulted in some burnt out exhaust valves as their expansion and that of the adjacent tappets reduced the clearance to the point where the valves were not closing properly and as a result burnt out the seats. The solution is to open the exhaust tappets out to .014in and all should be well.

## Under Pressure

Those little red lights blinking on the dashboard telling you there is a brake failure or a problem with the number 1 or 2 hydraulic system need a switch to turn them on and here it is. Basically the terminal on the left is connected via a relay to the lights. When the terminal is earthed the circuit is completed and the light glows. Given that the switch has to put up with pressures up to 2,800lbs per sq in, it is fairly robust.



And here are all the little bits inside. The assembly is very tightly screwed together so be prepared with a good vice and well fitting ring spanner. The replaceable bits are in the centre of the picture. The large black rubber seal at the bottom, the tiny contact above it and the secondary contact over that. The powerful spring is what the oil pressure has to push against. Note the insulators and to the right the inside view of the main terminal..

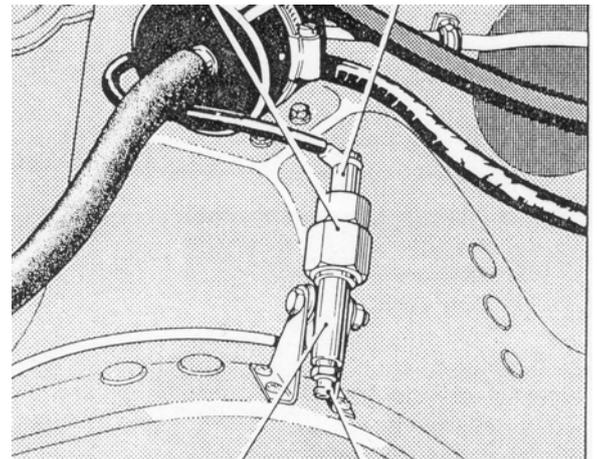


The important message here, is to regularly check that the lights work. And that doesn't mean switching the ignition on and watching the glow while the engine starts. That only tests the light

bits not the switch bits. Best you start first thing in the morning when a lot or all of the pressure in the accumulators will have leaked away and pump the systems down until the lights come on. Starting the engine should see them go out almost immediately. If not, exhaust the system unscrew the switches, pull 'em to pieces and fit new contacts and the rubber seal. The arrival of the Shadow II saw the pressure switches mounted high up in the engine compartment. Otherwise Houdini techniques are required to extract the switches from the control valves on the accumulators and they won't be as accessible as this.



**Silver Shadow**



**Silver Shadow II**

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## **THAT LEAKING TRANSMISSION**

David Gore leapt to the rescue of Neil Garvey and his concern for an apparent transmission leak at the front of the unit. He points out that it could be no more than a leaky front seal however it could also be a cracked weld seam in the torque convertor, leaking front pump mounting bolt washers or a damaged front pump to housing O-ring. Less likely cause could be a worn front pump to torque convertor neck bushing. The bad news is that in all cases the transmission has to be removed to repair any of these items. David says he has all the bits and pieces to do this including the floor jack cradle to drop and replace the transmission – however as he points out this cannot be done in one day at a self-help group session. He says that a full overhaul kit should be fitted whilst the transmission is out of the vehicle - when ordering the B & M kit you need the transmission serial number and identification code which are stamped onto a plate which is riveted to the right hand side of the transmission case - kits are readily available from auto/drag racing spares shops such as Rare Spares/American Auto Parts. So get to it Neil!!!

NB. David mentioned a reference for the Turbo 400 which he thought was very desirable reading before tackling one of these boxes. It is titled 'How to work with and modify the Turbo Hydra-Matic 400 Transmission. The author is Ron Sessions and it is published by Motorbooks International, ISBN 0 87938 267 8 (pbk).

## ACCOLADE

This avuncular gentleman seems to be the driving force behind most of our activities. John Begg has not only got the Shadow Register off the ground but has had it leaping ever since he took the job on. He is one of the more satisfying members in that he will give it a go as the saying is. The first to admit ignorance, he asks, knows when to stop and having learned sets about sharing the knowledge. His own Shadow II is immaculate and whilst given every bit of TLC it is used very firmly with no quarter being given for its age or status – much the same way as your editor is treated I may add. This is NOT a paid advertisement.



## PUBLICITY

As reported the ‘Terribly British Day’ was a great success. Peter Chan bit the bullet and produced two excellent display boards for the general public and lest there be some confusion about what we are about we penned the following.

### THE TEE ONE GROUP

One of the great joys of Rolls-Royce and Bentley motor cars is working on them mechanically and on their coachwork. Frequently criticised for the conservative approach to their design and engineering, enthusiasts professional or amateur develop an affinity with the cars to the point where they can almost anticipate how a component functions or should be serviced.

There are Clubs all over the world including this country dedicated to the collection use and maintenance of these vehicles but given their complexities there is a tendency to rely on professional repairers and dealers or unfortunately to simply store the cars in the hope that problems will not occur if they are not used.

The TEE ONE GROUP is a loose gathering of enthusiasts dedicated to repairing Rolls-Royce and Bentley cars, and most importantly, sharing their knowledge and experience and publicising every available avenue that can be found for the supply of spare parts and services whether genuine or after market.

The Marques generally have gone through a turbulent period over the past few years with the parent company selling the car entities to Volkswagen and BMW. Unfortunately these business decisions, resulting in destroying the 'British' image of Rolls-Royce and Bentley, have prompted extraordinary reactions from some owners and enthusiasts which the TEE ONE GROUP takes no interest in. What does concern the Group is the supply of spares, service and documentation for the future. We are advised that every effort is being made to ensure that these are not disrupted in either quantity or quality.

The Group has assiduously avoided a Club structure to date and has even taken an interest in and offered assistance to other similar marques where it is possible to help. Like-minded enthusiasts are welcome to join us

A periodic issue of notes is provided to those who wish to subscribe, devoted almost solely to technical matters. The social experience of driving these cars is left to the individual.

## Quest!



All standard bodied S Series cars provided this little hole to put a rubber moulding in to cushion the door slam. Amazingly it is not a spare part! These little items are among the things that paint experts remove for their attention. Given a 40 odd years of age they do not take kindly to the move and simply disintegrate. Any ideas?

## THAT Brake fluid!!

Everybody knows that Rolls-Royce borrowed heavily from Citroën to develop their own version of a hydraulic braking system and automatic levelling suspension. Presumably they drew on Citroën's experience in specifying the brake fluid to be used and probably jointly prevailed on Castrol to make the stuff. Citroën apparently specified the fluid for their cars produced from 1955 to 1986. Rolls-Royce used it from 1965





thru 1979 when they switched to mineral oils. I remember in the mid-seventies when owners and enthusiasts started to get over their fear of the systems and started buying RR 363 there were two problems – price and availability. The latter can be overcome by stocking a bit and maybe carrying some with you on a long trip. There are Castrol Depots all over the place and are listed in the phone book. The current pack is a litre bottle which is probably the safest considering the concern to keep water out of the stuff.

As to price, this week in November I paid under \$12 per litre. The current price for off the shelf DOT 4 fluid is \$11.50 a litre – hardly a case to go rushing to Professor Alan Fells! The fallacy that newer is better is often quoted. Castrol tell me that they would be delighted to drop production of RR 363 – the volume is so small. Apparently they don't start making money on a product until they are selling something in excess of a million litres per year! If you changed every synthetic oil Shadows' oil several times a year you would not get to that figure. So as old as the specification is, RR 363 is still considered to be the best product for our cars.

DOT 4 can be used in an emergency but both Castrol and Rolls-Royce insist that the entire system be flushed afterwards and refilled with the right stuff.

Sunday 9 December, 2001 saw a quick dash to Yass for breakfast with new arrival Gary Scorgie at his country residence (more of that separately) and a return to the Holt Service Station. Wayne Wardman gave a dollar saving demonstration of replacing the scuttle ventilator filter and then went on to reassure me that the reason seats in Shadows will not lift on occasions was not due to my bulk! The following details were supplied by Wayne and I have added some observations of my own.

## Silver Shadow II Seat Switches



the switch.

*Wayne Wardman*  
Remove the front seat cushions. (Take the opportunity to vacuum the area and apply petroleum grease to lubricate the runners.)

With the ignition switch set at Accessories, test the various directions for proper movement of the seat. If any movement is limited, the cause is likely to be

## Removing the Switch

Unscrew the centre chrome ring. The inner ring has two small holes in its periphery. You can use pliers in these to unscrew the ring. We found difficulty with this due to the tight space and the angle involved (Grigg Enterprises is making several tubular devices for ring removal.)

Remove the ashtray complete with its matt black box.

Reach in and remove the switch. Remove the paxolin cover from the switch by peeling off the sticky tape.

Examine the blades that have points at the end. If any of these are elevated from the black plastic bars of the switch, proper contact may not be made. To confirm this operate the joystick in all eight directions and observe the points of the operating pair of blades. Both blades should move. If not, contact was not made.

## Correcting Contact

If the blades are fixed to the rear of the switch with screws, unscrew the one holding the non-moving blade in place. Remove the blade and straighten it with a pair of long nosed pliers.

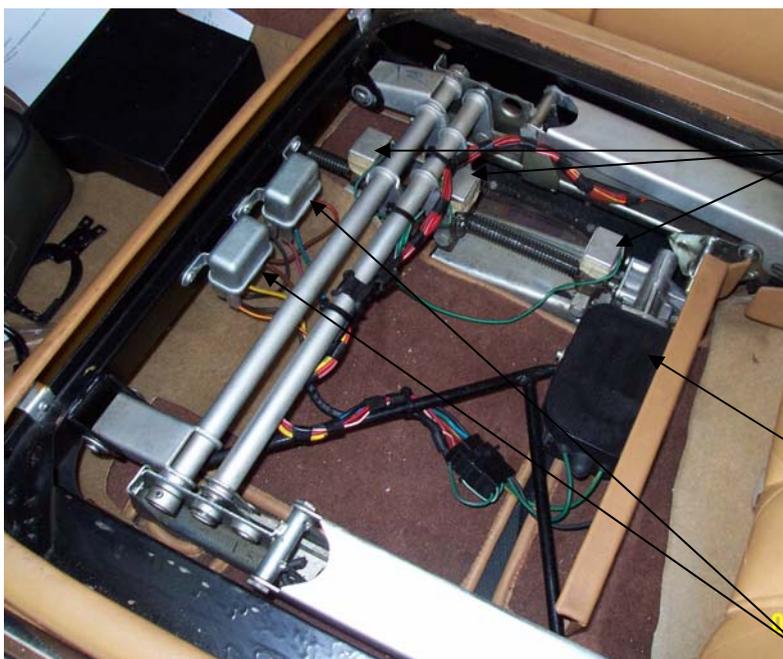
If the blades are riveted in place, lift the non-lifting one close to its fixed end and straighten the blade with a small screw driver.

## Other problems

Corrosion can occur at the fixed ends of the blades. Carefully clean each one and apply WD40. Test the movements of the seat again.

## Reassembly

Clean the chrome rings and the threaded portion of the switch and reassemble it.



### **Where that titilating buzz comes from**

These three little boxes are the clutches. Essentially they are split nuts, the two halves of which come together by means of an electro magnet, engage the threaded shaft that is spinning and move along until they reach the end of their travel fixed by roll pins or release from the shaft

This is the motor that drives the threaded shaft through a worm gear. The direction of rotation is controlled by the switches through the relays seen at the front of the seat (one for each direction). If

your confidence extends so far the motor by now could do with a good clean particularly the commutator (clean with very fine glass paper not emery).

## WET 'N' WILD WEEKEND AT THE SSSS

The future of the NSW Self Help looks bright indeed, if our last meeting is any indication. Forty three eager members got together at Sproston Four Wheel Drive on Saturday the 24<sup>th</sup> of November for an informal and informative day of discovery.

Some of the participants were:

MEMBER	CAR	CHASSIS No.
John Begg	Silver Shadow II	SRH 40497
David Gore	Corniche DHC	
Eric Marshman	Mk VI	
Stuart Ridland	Silver Shadow	
Mike Winzeried	Silver Shadow II	
Phil Edmunds	(Guest of Mike)	
Darrell Haden	(Guest of Mike)	
Fred Haughtey	Silver Shadow II (Federal President)	SRH 41269
John Bateman	Silver Spirit	
John Raymond	Silver Spirit	
Warwick Grigg	Silver Wraith II	
Hamish Brown	Silver Shadow	SRH 17984
Douglas Brown	(son of Hamish)	
Alan White	Silver Shadow	SRH 18001
Chris Hazlehurst	T Series	
Kerry Sproston	Silver Shadow (Estate)	
Phil Sproston	Silver Shadow II	
Neville Bradshaw	Silver Shadow II (by 2), SilverWraith II	
David Holyoake	Silver Spirit	
Judith Merlin	Silver Shadow	
Wayne Wardman	Silver Shadow II	SRH 30164
John Elmes	Silver Shadow II	
Stewart Begg	Silver Spirit	

Not a bad roll up in anyone's language. Before I begin, I'd like to thank both Judith Merlin and Fred Haughtey for making the effort to join us, and I hope that they found the experience worthwhile.

Bill Coburn, Peter Chan and I had driven over from Canberra the night before in Peter's silky smooth Lexus four wheel drive and enjoyed the warm hospitality of John Begg, Registrar extraordinaire, and convener of the Self Help meet. A nice meal at a local Chinese eatery suitably complemented by copious quantities of silly sauce primed us for the long day ahead. Don't think I didn't notice you two grabbing a nap in the Lexus, Peter and Bill!

The day started wild and blustery, making Kerry and Phil Sproston's establishment (Hornsby 4 Wheel Drive Centre) even more suitable for our group demonstration

Dismal weather greeted us the next morning and we agreed that the postponement of the branch concours was a wise move. We were assured that Phil's place had plenty of cover so inclemency would be of no consequence, and as we pulled into the driveway at a little after 9.00 am, I could see that John B. spoke the truth. We were greeted by Phil and Kerry Sproston and given a Cook's Tour

of their very well equipped workshop and ample under cover parking space. With the barbecue positioned and the urn filled, we were set for a big day.



One of the early birds was Eric Marshman who had not been seen for some time. I got the distinct impression that he had a very interesting time and will be at the next one. The regulars drifted in and filled the air with sounds of warm greetings and light banter. It struck me that members were drawn to these meetings by more than a desire to learn more about their cars. The workshop took on a distinctively festive air, so John Begg took charge and began the day's activities by mounting the engine stand (see photo) and introducing the "guides". Phil Sproston gave a short welcoming and introductory talk then handed over to David Gore who spoke of things chemical, (more of that later). Bill and I gave the usual talk on safety which included my rather tiresome carping about trouser belts being either removed or shirts pulled out to cover any buckles, and the dangers associated with watches and rings. (See tip at the end of this article).

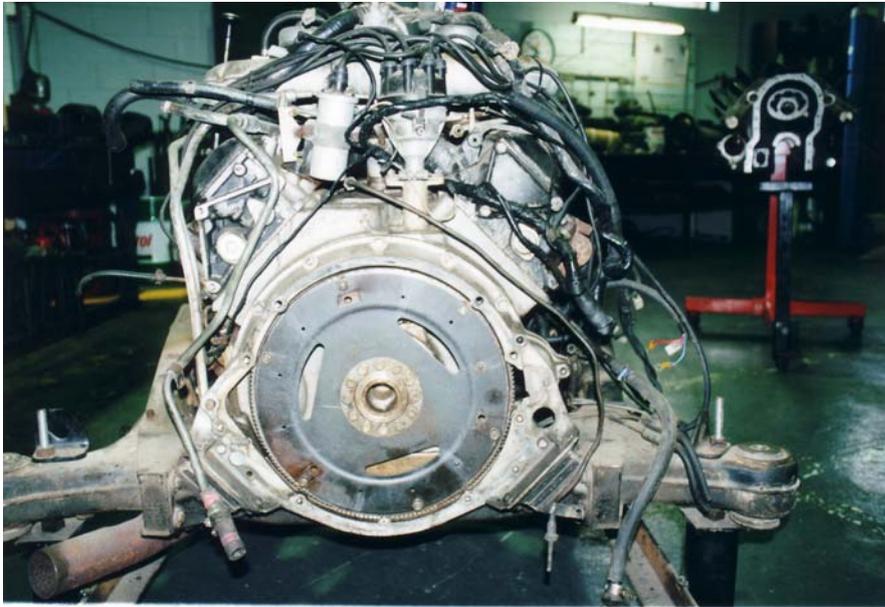
**Radiator and block back flush  
and coolant change.**

Preliminaries out of the way, we turned to the first item on the



agenda. Although the methodology is written up elsewhere, some important side issues were raised in the course of the discussion. They warrant recording so here they are.

- **David Gore (who is, by profession, an industrial chemist) explained why coolants need to be replaced regularly.** In brief, additives fail with the passing of time and with use so for that reason alone, coolants should be changed as per hand book and manufacturer's recommendations. There is a far more important reason for coolant replacement than loss of effectiveness of the additives though. At worst, failure of lubricating properties will result in accelerated wear in the water pump bearing, and weakening of the anti boil and anti freeze additives will merely affect the safeguards in place. The **hidden danger** is that gradual dilution of chemicals in modern coolants can begin a reaction within the



engine block. As we could easily see in the demonstration block Phil had on display, the amount of aluminium housing the cylinder liners is minimal so prevention of any corrosive activity in that area is very important. Boy, didn't that grab their attention, David! Barry Gillings also spoke of his experiences with corrosion in older cars, in particular, Phantoms. Most of the detail eludes me now so readers wanting more detailed information should call either David, Barry or Phil (whose experience with marine engines stands him in very good stead when it comes to stubborn fasteners and/or corroded parts).

- Use of after market (non-genuine) replacement parts. Two of my pet examples are the jubilee clip and the thermostat, both of which were discussed. Briefly, the jubilee clip has a smooth inner contact surface so when it is tightened, the clip exerts pressure over the circumference of the hose evenly. The very much cheaper clip presents a serrated surface to the hose and on tightening, attempts to drag the contact surface of the hose toward the



tightening screw, creating an uneven clamping force and in some cases, tearing the surface. So next time you hear a colleague complaining that his repairer charged seven or eight dollars for a

simple clip which can be picked up anywhere for a few cents, tell them that they aren't as simple as they look, and why. He/she will think you are a mechanical genius! The thermostat is not as easily explained though as I have had two separate and conflicting explanations as to why there are lead pellets in the skirting flange. I look forward to getting a definitive response from Ian Rimmer at the next federal rally. The first explanation given is that they are there so that they can melt and allow water to pass in case the thermostat fails to open and the engine overheats. That one seems less likely to me as the engine would have to get *very* hot first. The *other* explanation for their existence is that it gives one the option of increasing the flow rate of coolant in car engines in hotter climates rather simply by removing some or all of the pellets. That procedure may be undone by simply replacing the thermostat (with pellets in place) if a car was to be returned to a more temperate climate. This explanation appeals to me more. It seems to be more aligned to Roycean logic.

Phil had his very interesting estate car (previously a hearse) up on the hoist and we took the opportunity to have a good look at the location of the plugs and taps.

Before I move on to Phil's presentation, I'd like to pass on an observation which epitomises the intention of these "self help" sessions. This involves two keen and very likeable chaps who have been with the NSW SHG from the start. I'll call them Stuart and Jeffrey (as I should, because they were christened thus). Between the end of my presentation and Phil's terrific hands on demonstration on the 1970 Silver Shadow engine, we had a break. I happened to wander down the line of ever improving cars and happened on the pair of them with their heads under their car bonnets. I overheard them discussing which clips they found on their hoses. Now *that clearly demonstrates interest and understanding* and I think it is terrific. To me that is the very reason we meet and it gave me a very real buzz. Good to see!

We had a tasty barbecue lunch, courtesy of the hard working catering staff. Never trust a thin cook, Bill! The Coburn touch enhanced the flavour of our sausage buns.

## **The engine.**

Phil gave us a short background on his demonstration engine. He'd picked up a sad and neglected 1970 Silver Shadow on the way home from the ACT federal rally and had removed the engine before us. The naked block beside it had been very kindly lent by John Vawser of Vawser Motors of Alexandria as Phil gratefully acknowledged. A great training aid John, thank you. It is so easy to explain the purpose of weep holes when all is exposed.

I spent a number of years as a technical instructor in the RAAF and I was quite impressed with Phil's competent performance. He explained what was about to be done, then cast around for someone in the group to do it. That hands-on approach was very well received.

We were shown how the whole carburettor assembly could be removed by undoing a few fuel lines, linkages and a solitary bolt. Someone removed the front hydraulic pump and an obdurate thermostat housing after Phil demonstrated how one applies heat to aluminium (only hot enough to melt soap...see, I was listening!). The valley cover was removed and we gazed down at the cam-shaft, a sight not many of us have enjoyed. The cam followers were removed and examined, then passed around. More assemblies were pointed out and their purpose explained, then Phil and David Gore fielded questions.

We wound up shortly after Phil's engrossing presentation and people drifted off. We helped hard working Kerry to demolish the remaining cheesecake and to tidy up, then we too, headed for home.

In closing, I extend a heartfelt thankyou to Kerry and Phil Sproston for their generosity and commend them for their great club spirit.

George Shores.

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## LEAPING AROUND WITH THE SPIRITS.

Five hundred years ago when I was rebuilding my Silver Dawn, I thought I would never tackle an S series car as they were far too complicated. But then one arrived on my doorstep with a seized motor so I had to quickly lift my sights. A similar transposition occurred with the Silver Shadow and now the Silver Spirits and Spurs are quietly lining up.

The scoffers will tell you that a Spirit is a Shadow with a new suit. To some extent that is true but there are so many different features on the newer car that that observation becomes a little ridiculous. One area that is very different and very interesting is the rear suspension.

The Shadow in this department as we all know sits on coil springs which in turn sit on hudraulic rams which lift the car up and drop it down to keep a datum level. The rams are generally reliable although can leak, and the whole set up with the speed solenoid, valves and piping can emulate an orchestrated version of a ship's plumbing. I suspect that it was this latter feature that encouraged the Factory to move up to gas struts and gas springs.

The first obvious difference you notice clambering under a Spirit (or Spur) are the little rear coil springs! This is because a large proportion of the 'springing' is done by the strut and gas springs. The strut looks like a very substantial shock absorber except that it has an oil connection to the body. The other clue is the actual shaft of the strut which would be four times that of the conventional damper we are so used to.

To raise and lower the car to compensate for load changes accumulator pressure is used and pumped into the body of the strut. But that would leave the car sitting on a solid column of oil which doesn't compress readily. The answer is the gas spring. Basically a sealed version of the accumulator that we are so familiar with which is charged with nitrogen and screw into the top mount of the gas strut. When the oil is forced out of the strut it is directed into the nitrogen charged sphere where it pushes via the diaphragm against the compressed nitrogen. It is this that gives the overall ride quality. When the nitrogen exhausts we are back to a solid column of oil and not only do buttock corns commence growing the car tends to bounce and skitter at the rear – all very undignified! The answer is to replace the gas springs. I expect we will be doing this in the near future.

**This newsletter is put together by Bill Coburn as his personal contribution to the repair and maintenance of Rolls-Royce and Bentley Motor cars. Readers are cautioned to make their own decisions about the accuracy or otherwise of the contents. Every effort is made to disseminate what appears to be worthwhile information in the hope that the lonely owner will have some idea of where to start!**

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The knowledge of owners and enthusiasts that is shared in these gatherings is offered/received without any form of guarantee or authority. Individuals are solely responsible for their own cars and actions and the use to which they put the information gained.