TEE ONE TOPICS

Number 12 March, 2002

MARCH SELF HELP GROUP - SYDNEY

The indefatigable John Begg organised yet another Self Help Group at Hornsby in the Sproston Laboratories to prepare cars that may be headed to Coffs Harbour in May. Conspicuous was Phil's new hoist that had no difficulty lifting the heavy Spirits skywards and all who wished were able to satisfy themselves on the condition of their car's nether parts! Phil as usual shared a good deal of his experience in the true tradition of the Group and as I remember it I will pass it on.

George fitting KMAC springs to Doug Brown's car

ENGINE CLEANLINESS

Phil pointed out that most if not all the cars he came across in the Club looked beautiful on the top but left a lot to be desired underneath. There is a school of thought that leaving the engine in its 'natural state' helps preserve it and avoids the disruptions that can occur with over-zealous applications of cleaning materials. But the other side of the coin Phil points out is that layers of dirt and grease act like a blanket to keep heat in. If there is one thing these engines do not need it is containment of heat, so clean the engine. Personally I prefer a clean engine as I do not enjoy getting filthy working on a dirty one, many people like to see these engines and one covered in dirt is not very impressive and lastly in my experience they tend to smell – a bit unbecomming!!!

SHADOW FRONT SPRING SEATS

Typical accumulation of gunk - in this case some tar covered sticky gravel. All holes were blocked

Given that these are often visible over the front wheel, it is amazing that they don't receive a little more attention. Some do not realise that these seats are pressings of fairly heavy steel, necessarily shaped in a cone to cope with the considerable weight they have to bear. The cone necessarily gathers dust and/or mud and if the drain holes provided become blocked you have a perfect setting for corrosion! So when hosing under the front guards hose down between the spring coils and make sure the drain holes are free!

While hovering around the front bits, should you remove the springs seats and tower covers, seriously consider having the lot sand blasted and finished in the best finish you want to afford. Ideally use POR

Where the holes are. There are three. Relax, you don't have to take the springs out to clean them.

otherwise prime well and coat with several layers of acrylic lacquer. Sand blasting the front springs particularly if they are rusty apparently is good for their molecular structure.

HANDBRAKE ACTUATION LEVERS

We previously addressed these little items on Bill Fleming's car. They are held in place with a roll pin which secures them to a pivot pin that swivels in drillings in the base of the caliper. It is difficult to get lubricant into the pin housings and quite often they will seize which means that that side of the brake doesn't work. If the pin is utterley inextractable it may be practical to remove the roll pin and allow the lever to swivel on the pin. We will look further at this problem.

FRONT SUSPENSION BALL JOINTS

By about mid Shadow I the grease nipple on the top of the upper outer ball joint was dispensed with and replaced with a plug. It would be in your interests to firmly poke the rubber boot of this joint with your finger and assess whether it is full of grease. If it appears empty you would be advised to replace the plug with a nipple and pump the boot full of grease and of course replace the plug. If any of the boots are puntured they must be replaced. If the lower joint appears dry you will have a major job to remove it and repack it. Perhaps we will address this a later time.

AIR CONDITIONING DRAIN HOSE

We all have had people come up and tell us the car has a water leak under it. It is most often the run off from the evaporator in the air conditioner which partially ices up during operation and it is the water from this ice melting that needs to be drained away.. Initially it drips onto a tray exactly like the refrigerator and then should drain away down a rubber tube that emerges usually on the left side of the gearbox. The only practical way to check the hose for blockage is to blow up it if that doesn't work further laparotomy is required. But not clearing this can result in very wet carpets and in certain cars, destruction of one of the car's computers which hide roughly under the tray I am told.

Some of the violence that erupted around John Elmes' Turbo! Actually it is John on the ground with Allan White trying to work out how to fit number plates!

George Shores, Peter Chan and I as you will have gathered journeyed to Sydney for the event and as usual had a very warm welcome. Peter grabbed heaps of pics with his new Nikon Digital which will be used to fill these pages. Phil Sproston and his lovely wife Kerrie turned on a plowman's lunch with all the trimmings which allowed us to eat and wander around the many cars kicking tyres and showing off our knowledge. John Elmes turned up in his 1992

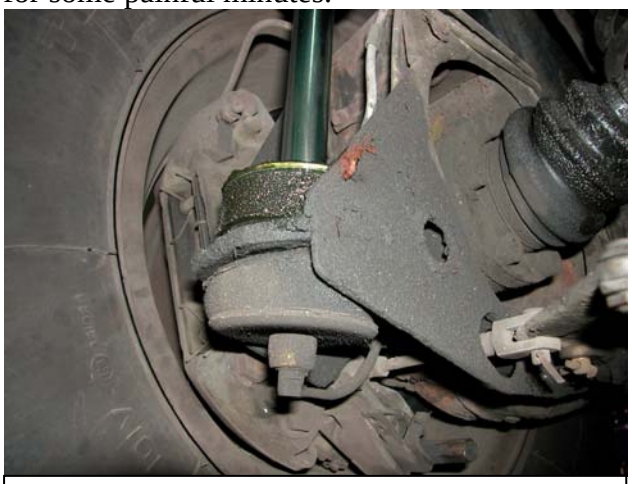
Turbo R which had queues of people around it waiting for a drive, a touch, a look, anything, but apart from that distraction people freely mingled and shared their enjoyment of working on the host of cars. All in all a very successful day.

This venue as we may have mentioned is so ideal in that not only do we have so much off-street

undercover parking, Phil generously allows the use of his equipment and provides a running commentary on a wide range of relevant topics.

SAGGY BUMS

It happens to us all and is also very noticeable in Silver Shadows. The rear coil springs on these cars were initially a bit of a headache for the factory. They are exceptionally long for a coil and despite all the very tight geometry in the rear end, a small error in the coil manufacture and the things would belly out in the middle and smack the housing up through which they poke (?) This produced a noise similar to being torpedoed and was known to seriously affect the alimentary tract for some painful minutes.



Spirits rely heavily on their rear shock absorbers and level the car from the number 2 system. Here is a common problem a leaking lower seal evidenced by the wet upper rubber bush

Apparently the springs were made in Scotland which has no relevance whatsoever to the topic other than my fantasy of being the buyer for the Factory and being invited around to try a mate's single malt which was quietly mouldering away in a hidden cellar. I had a friend years ago who used to be a customs man in the North and had the job of sniffing out illegal stills hidden in the rivers along the very rugged coast. I never thought he told me the whole story! But back to springs.

The Factory provide a method of measuring the datum height which involves, for starters a dead level surface for the car to stand on. A drive on hoist bed would probably do the job if you have access to one but most of us do not. The generally accepted assessment as to whether there is a need for action in this department is to run the hand over the top of the tyre. The adjacent rim of the wheel arch should just be touching the back of your hand. More likely you wont be able to get your hand in at all and neither can you see the top of the wheel. All the above assumes you have the car unladen, the number two hydraulic system at least exhausted so there is no chance of the car sitting on extended rams, the car is completely unladen with about half a tank of petrol and that you are sober. When the top of the tyre disappears is probably the time when you stop procrastinating

and fix the problem otherwise not only is the handling of the car significantly affected but you stand a good chance of damaging the constant velocity joints that hang out either side of the differential.

The purest will buy new genuine springs for the car at vast cost and still have to adjust the final height with shims. The old York Motors had a trick which will evidence itself on many cars in that they fitted a half inch deep steel ring at the top of the spring which lifted the car to an acceptable height. This hoist up would last for years but eventually down the little darlings would sink.

Using some applied mathematics I measure the height of the car au naturel, then jack up the rear via the differential housing until the car is at the height I wanted and measure again. The difference was NOT the amount the springs had to be reset but a computed fraction of them since the springs are neither vertical nor at the centreline of the back wheels. The factor you multiply your measured distance with is and that is the amount you tell your blacksmith to extend the springs. Or in other words,

Height of wheel arch measured through centreline of wheel when car is at desired height	**Minus**	Height of wheel arch measured through centreline of wheel when car is at 'sagged' height.	**Multiplied by**	**X**	**Equals**	Amount springs have to be 'extended'

Where 'X' = 0.76 when measurements are taken in inches.
'X' = .0.97 when measurements are taken in millemetres.

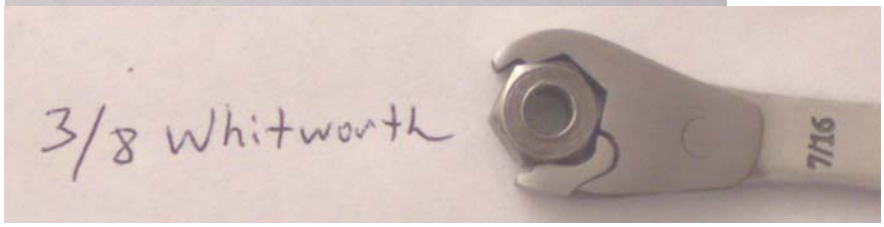
One tends to 'add a bit' to make sure there is sufficient lift. They can always sag but won't extend of their own accord. Years ago I lifted a Shadow II and was a little alarmed that the finished car resembled a poised grasshopper. The owner was not daunted but simply borrowed some steel plate for the floor of his boot which he carried around for some months and the ideal height is still present I am told. The measuring I found easiest by using a couple of spirit levels; one under the wheel arch and the other lined up with the wheel centre.

George's way

George has found K MAC springs that simply pop straight in. No measuring and although initially high the finished job results in a much improved ride.

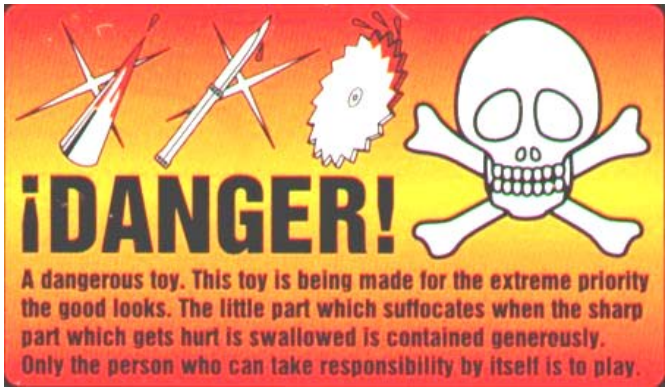
The Alden Wrench

Whilst meandering through an automotive tool shop in Philip in search of Whitworth sockets for the Wraith I noticed a most fascinating tool on the counter display. The Alden socket set consists of 3 pieces with a variable ratchet wrench at either end. The one on display was imperial but happily grasping a metric nut. This seemed a valuable addition to one's tool set, especially for accessing difficult positions where a ratchet would be more efficient that a spanner and a socket would not fit.



Well, this was too good to pass up and the plastic was hit a bit harder than expected. But justifiably... for $99 one receives 6 ratchet sockets - 3/8-7/16, 1/2-9/16 and a 11/16-5/8 - each of which can double for other styles of nut. The wrenches are stainless steel and appear to be very well made.

Wayne Wardman



ROAD TEST

By Rolls-Royce/Bentley's standard, the 4-year-old Arnage is still young. By the standards of EU emission regulations, it isn't. Remember, the 6.75-litre push-rod V8 started life some 40 years ago, while another engine - the BMW-sourced 4.4-litre twin-turbo V8 - has been rejected due to Volkswagen's pressure. The whole car is not much better, as it was developed in small budget when the company was still owned by Vickers. Vickers is renowned for making tanks, therefore the Arnage also drives like a tank.

Now with Volkswagen money and Dr. Piech's personal preference of this marque (his daily company car is a Bentley), and with the help of German engineers and their R&D facilities, Bentley has upgraded the Arnage to Series II. With more effort and money spent to the reengineering than that spent to the original Arnage, this car should be promising. To attract the attention of automotive media, the first Series II car launched is Arnage T, the hottest model of the range.

With the "T" in its name, we can't help comparing it with the coupe Continental T. Both uses a 6.75-litre turbocharged V8. The Continental T cranks out 420 horsepower, wonderful, but the new Arnage T adds another 30hp. Cool. In terms of maximum torque, although the Arnage is 5 lbft shy of the Continental's 650 lbft, it is still the second most torquey car in the world. Compare with the outgoing Arnage (Series I) Red Label, the new engine generates an extra 50hp and 26 lbft. Moreover, the torque curve is flatter and keener at low rev while turbo lag is reduced. Most important, the new engine complies with EU4 emission regulation effective in 2004. The old engine complied only EU3.

What contribute to these improvements is a 50% new engine. The V8 still retains the ancient push-rod and 2-valve-per-cylinder architecture, but most other parts were revised, such as using new pistons, lighter Nimonic exhaust valves, revised valve timing and lift, new management system, improving coolant flowing in the block and using double-wall stainless steel exhaust manifold, the latter reduces cold-start emission. However, the most decisive change is switching from single big turbo to two smaller Garret T3 turbochargers. This boosts power while reducing turbo lag. Twin-turbo format also allows the catalytic converters to be positioned nearer to the exhaust manifolds, reducing preheat time hence cold start emission. This is very crucial for complying with EU4 regulation.

The companion to the V8 was not changed. It is again the GM-sourced 4-speed automatic, the only gearbox in the world taht can handle the torque of Bentley.

Now the chassis. Additional braces increased chassis rigidity by 10%, although they also brought 15 more kilograms. 57% stiffer suspension setup at front wheels and (for the first time) an anti-roll bar at rear wheels lifts roll-resistance considerably, and less understeer too. Wide 255mm tyres wrapping 18-inch wheels (or 19-inch optional) improve grip. In case of losing control, the new ESP stability control can also prevent tragedies from happening. Finally, to give more sporty feel to the driver, power steering has been tweaked to increase weight, while adaptive damping has been reprogrammed to bias towards the sporty side.

On the Road

The Arnage has real visual presence, not only because it is huge but also due to its elegant detailing. It feels far more prestige than any German luxurious sedans - S-class and 7-series included. I love its mesh grille, unique headlights and a lot of chromed details. As I can imagine, this is the only car appropriate for serving Royal families. A S-class ? no way.

Enter the cabin and it is another league higher. What you see is the world's best craftsmanship, unlike the mass-production feel of other luxurious sedans. Predictably, it uses the best materials - beautiful wood and high-quality leather cover everywhere. And the way these materials put together is stylishly done, also full of character. Dark color scheme looks tasteful enough, so is the 5 retro gauges above center console and the metal dashboard panel with milled patterns. The latter reminds me another British classic - Morgan Aero 8. The lacquar-heavy wooden transmission tunnel is another visual joy, especially the shifter knob and gate are so expensive-looking.

The twin-turbo V8 is much more refined than the old one, its power deliver is more elastic and the torque delivery is smoother. That said, some might miss the old engine's surge once the single turbo cut-in. On straight line, the Arnage T is undoubtedly very fast. Whether it is "the fastest production 4-door sedan in the world" as claimed by Bentley is quite debatable. Officially, it does 0-60mph in 5.5 seconds, which is of course not the fastest. The tricky point is Bentley does not limit the top speed electronically, allowing the car to reach its aerodynamic barrier at 168mph, unlike most other sports sedans that are voluntarily limited at 155mph. If these cars have their speed limiters disabled, I am sure many will out-perform the Bentley. Despite of 450hp, the Bentley has a drag coefficient so poor that it refuses to reveal.

Turn into corner, you will realize that the T is much keener to change direction than the Series I Red Label. Stiff suspensions and grippy tyres help a lot. Ride quality is not as good, of course, but for a car weighing 2.6 tons and having a wheelbase exceeding 3.1 meters, it can still cover any surfaces at ease. Nevertheless, it does not provide a ride as supple as S-class and 7-series either. Otherwise who would have spent big development budget into air suspensions ?

If you want to drive it like S63AMG or 760Li, you are probably either a) crazy or b) naive. The Arnage is not only too big and too heavy, but whose chassis design also came from the old school. Drive it in tight bends, it will roll, it will understeer, rear wheels will spin under throttle (think about those 645 lbft !). The result is ESP engages all the time.

However, the Arnage is still in a class of its own, at least before the BMW-engineered Rolls-Royce come out. If you want the ultimate prestige car, this is the only choice. The T might not be the smartest choice, because all its good points will be seen in the forthcoming new Red Label. Perhaps a less sporting tune will suit Arnage more.

Source of Drive Belts

If anyone has difficulty obtaining fan belts (vee belts) for their vehicle, especially the older ones try

Lewis Pulleys P/L,
196-202 Wyndham St, Alexandria.

Phone 02 9319 5541.
They even have belt catalogues going back to the early 30's.

Alan White

FROM YOUR COURT REPORTER

Q: Are you sexually active?
A: No, I just lie there.

Q: What is your date of birth?
A: July fifteenth.
Q: What year?
A: Every year.

STEERING SYSTEM FILTERS

Many of you over the past 12 months have inserted in-line filters in your Shadow's steering system. It occurs to me that cars, particularly Shadow I's with a conventional steering box which have covered many miles over a long period before a filter was installed could well have built up heavy deposits of silt despite flushing. Use of the car with the filter could well have loosened this silt and overloaded the unit. The filters undoubtedly have a by pass valve in their design but I suggest monitoring the setup and probably changing the unit after say 12 months.

A PERSPECTIVE

Rolls-Royce used to be regarded as the best luxurious car in the world, although this is usually due to subjective feeling. Since the acquisition in 1931, the Bentley brand has been using to represent a more powerful (usually turbocharged), more driver-biased version of Rolls-Royce's cars.

Rolls-Royce is renowned for craftsmanship. It emphasised that assembly is undertaken by experienced human hands with intensive care, but this is no longer true as the Crewe factory has been modernised and cut man-hours spent per car. In fact, hand crafted doesn't mean a better fit and finish. Undeniably, Mercedes now builds better cars than Rolls.

Rolls-Royce was owned by an industrial group, Vickers, until 1998. As BMW has been supplying engines and various equipment to RR since 1997 and had revealed an interest in RR, it was tipped to be the new owner. However, Volkswagen entered the scene suddenly and out-bid BMW as it offered Vickers as much as £470 million. BMW fought back by securing the right of the "Rolls Royce" name through its close relationship with aircraft engine maker, Rolls-Royce Plc. It is known that through the years the car maker used the name Rolls-Royce under an agreement with the aero engine maker, which has business links with BMW's aircraft engine division so that it favoured BMW right from the beginning. BMW bought the RR name from Rolls-Royce Plc. for merely £40

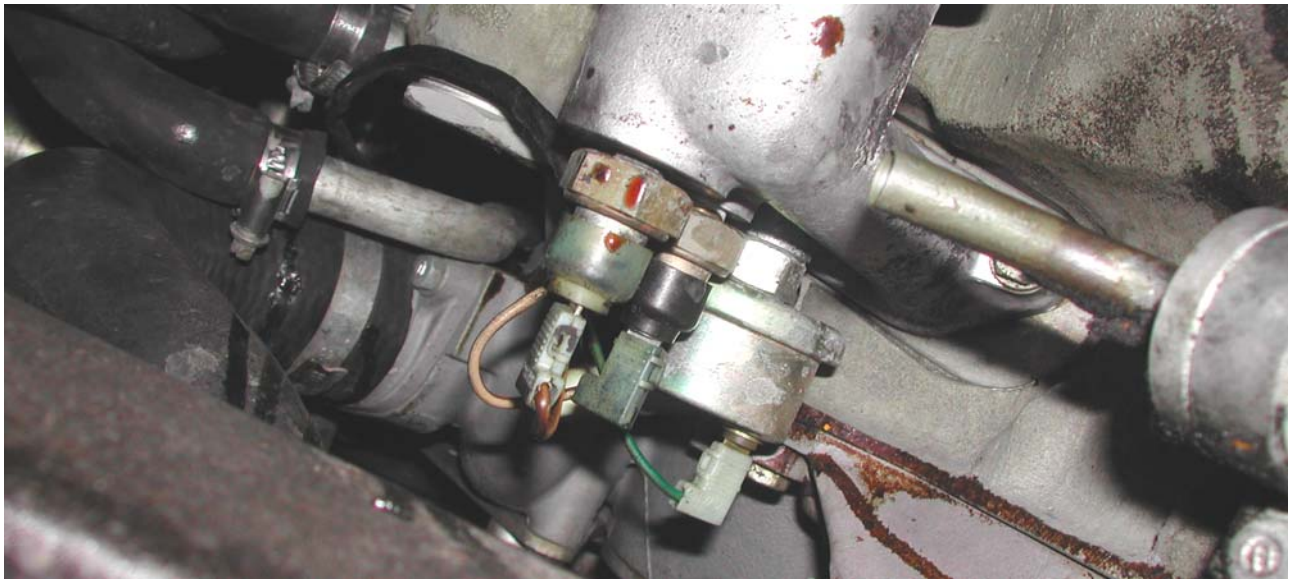
million. Shortly after that, an agreement was made with VW. Volkswagen could use the RR name until 1st January, 2003, then BMW will take back the brand name and started producing Rolls-Royce cars in a new factory at Goodwood. VW will retain Bentley and the Crewe factory. In other words, Rolls-Royce and Bentley will split from 2003.

The RR will be BMW's weapon to fight against the most expensive Mercedes. Expect more high tech to be incorporated but the car will be designed (or at least engineered) by Germanans. Similarly, Bentley will also be designed by Volkswagen. The German giant have an ambitious plan to make the future Bentley more exciting, appealing and increase production scale.

Courtesy - Autozine

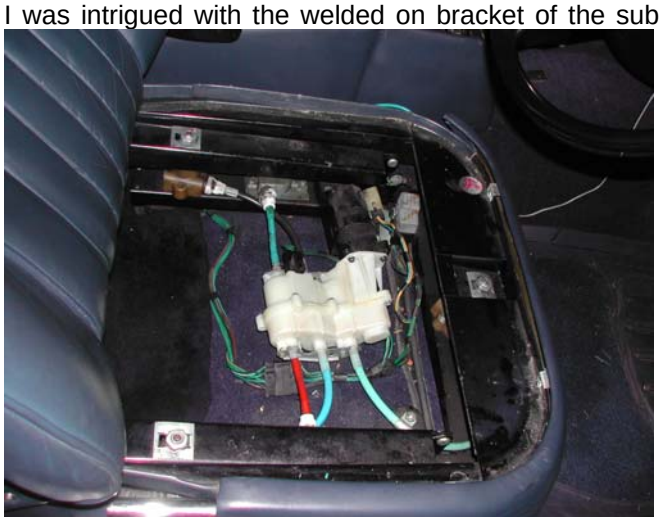
DIRTY DIP STICKS

Another little house keeping job. Polish the dipstick with Scotchbrite – they tend to oxidize in the sump oil. The dip stick tube inserts into a tube in the side of the sump and is sealed by a simple 'O' ring which is readily available. It is important that this is a good seal since the level of sump oil is above the point of entry of the tube. The latter is held in by two bolts but remember to drain the sump before removal of the tube!



There are three sensors on the filter head of later cars, the one on the left (above) turns the oil light on on the switch box, the centre one isolates the automatic air conditioning system and prevents its functioning until the engine is started and the one on the right is a variable transmitter that sends values to the oil gauge. This transmitter tends to fail internally like any component usually resulting in nil oil pressure reading on the gauge. Remember that the orientation of this unit is important for its correct functioning! Failure of the second probably wouldn't be noticed. The first switch however is a simple crude device used on most cars. The most common problem is leakage around the centre assembly and in the worst case blowing out the centre assembly followed by the contents of the sump! Message here!! Replace the switch if it shows any sign of seepage, they are not expensive.

I was intrigued with the welded on bracket of the sub frame of a 1985 Silver Spitit. Seven years before, these were used to hold the two brake hoses for the front wheel. Somebody must have ordered a lot of frames back then! The revised arrangement involved the hoses being passed behind the spring probably to cater for the rack and pinion steering which can be seen in the left hand picture.



The seat motors and clutches for the Silver Spirit are completely different from the Shadow. Simpler, lighter and less complicated.

Scott's Old Auto Rubber & Old Rover Parts,

Located in Melbourne these people allegedly stock the following Mouldings for S Series cars.

Might be worth checking.

Boot seal 4m 260.054

Door seal (on body) front 3m/door 260.009

Door seal (on body) rear 3.1m/door 260.009

Door seal (on body) - front lower1m/door 260.058

Door seal (on body) - rear lower0.5m/door 260.058

Screen seal – front 3m 218.060 (mitre bottom two corners)

BREAKERLESS ELECTRONIC IGNITION

The Sproston hinted at physical violence over my report on page 113 and the use of Piranha distributor modules. Little did I know that he is State Distributor for the things. Phil tells me he has a variety of makes as well as the Piranha and can modify most if not all distributors back to the Phantom and early Small Horsepower cars. All owners should consider getting rid of the points out of their cars. It can be done without modifying the distributor, allowing future purists to revert. An added impetus is that points for cars are now getting to a ridiculous level in cost.

Phil's address is

UNIT 1 (Lower level)
17 Kings Street
HORNSBY Phone 02 9939 6842

MORE COURTROOM GEMS

Q: This myasthenia gravis, does it affect your memory at all?
A: Yes.
Q: And in what ways does it affect your memory?
A: I forget.
Q: You forget. Can you give us an example of something that you've forgotten?

AN INCREASINGLY COMMON SIGHT

The Silver Spirits and Shadow II's were supplied with an 'air dam' which we common Australians call spoilers mate!! I gather that at 146 miles per hour the dam, if it is still on the car will tend to hold the front down and prevent the car from leaving the ground (a problem I have often experienced). The other feature is that it can make like a road grader if applied to speed humps and

drainage ditches. The above probably resulted from such an endeavour. As to aesthetics I have yet to be convinced. Frankly with the above car which is a pristine example of Roycerie, I didn't notice the thing was missing until I jacked it up! I have advised the owner that perhaps he should buy a new spoiler and store it in the attic until he sells the car. He should not even bother to paint it.

And here is a sight to delight any owner – a transmission sump without any nasties in it. The black spots are actually accumulations of transmission clutch dust a normal feature of any friction device.

FROM THE AFRICAN PRESS

The Standard (Kenya): "What is all the fuss about?" Weseka Sambu asked a hastily convened news conference at Jomo Kenyatta International Airport. "A technical hitch like this could have happened anywhere in the world. You people are not patriots. You just want to cause trouble." Sambu, a spokesman for Kenya Airways, was speaking after the cancellation of a through flight from Kisumu, via Jomo Kenyatta, to Berlin: "

The forty-two passengers had boarded the plane ready for take-off, when the pilot noticed one of the tyres was flat. Kenya Airways did not possess a spare tyre, and unfortunately the airport nitrogen canister was empty. A passenger suggested taking the tyre to a petrol station for inflation, but unluckily the jack had gone missing so we couldn't get the wheel off.

Our engineers tried heroically to reinflate the tyre with a bicycle pump,but had no luck, and the pilot even blew into the valve with his mouth, but he passed out. "When I announced that the flight had to be abandoned, one of the passengers, Mr Mutu, suddenly struck me about the face with a life-jacket whistle and said we were a national disgrace. I told him he was being ridiculous, and that there was to be another flight in a fortnight. And, in the meantime, he would be able to enjoy the scenery around Kisumu, albeit at his own expense."

I am remiss in that Warwick Grigg sent me some pictures of his transmission filter and associated pick up tube. This is not them but a typical unit from all the Turbo 400 Transmission cars. As I recall Warwick pointed out that before you pull the transmission sump out of your car you should be aware that there are three 'O' rings required – all different sizes! Two are obvious here being at each end of the pickup tube, the other squeezes into the outlet/inlet used by the filler tube that goes into the right hand side of the sump.

WINDING UP YOUR SERVO

It is always sobering for me to remember that most of today's young mechanics were not even born when the last Shadow rolled out of Crewe. Yet that car is still current in my memory. But it's predecessors, of which I have one, have features that today almost border on being quaint and in

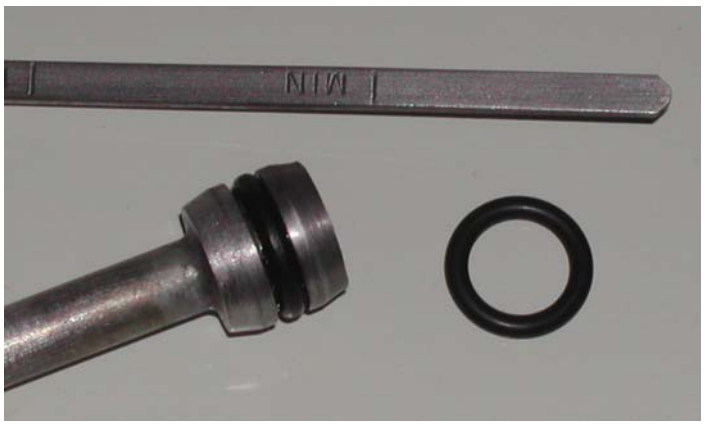
particular with this model, let's consider the brake servo. Last seen on the Silver Cloud III and probably a few Phantom VI's before they too were fitted with a modified Shadow system, the system was used for over 50 years. The fundamental principle was using the kinetic energy of the car to apply the brakes, hence the faster the car travelled the more braking power that was available to the driver.

Rolls-Royce were very conscious of providing brake dependability and took pride in the later years in the fact that their cars never experienced brake fade. This actually was a bit of a fallacy since there were reported cases of fade – not in the brakes but in the servo!!! But it was rare and the net result in the event of this happening was having to really lay into the brake pedal since servo action was almost non existant.

A similar symptom shows up when the lip seal on the drive shaft for the servo fails and the gearbox oil oozes out onto the servo lining. Oil and brake linings are inimical to safe stopping. The seal incidentally usually fails because dirt works its way down the shaft to the seal sets up corrosion which acts like a grater on the seal. Invariably when you remove the shaft there is such a ring and the most practical method of restoration is to fit a very thin stainless steel Ready Ring over the shaft and install a double lip seal on the gearbox. The outer lip on the seal keeps the dirt out and the inner one the oil in.

Road Testing Conundrum

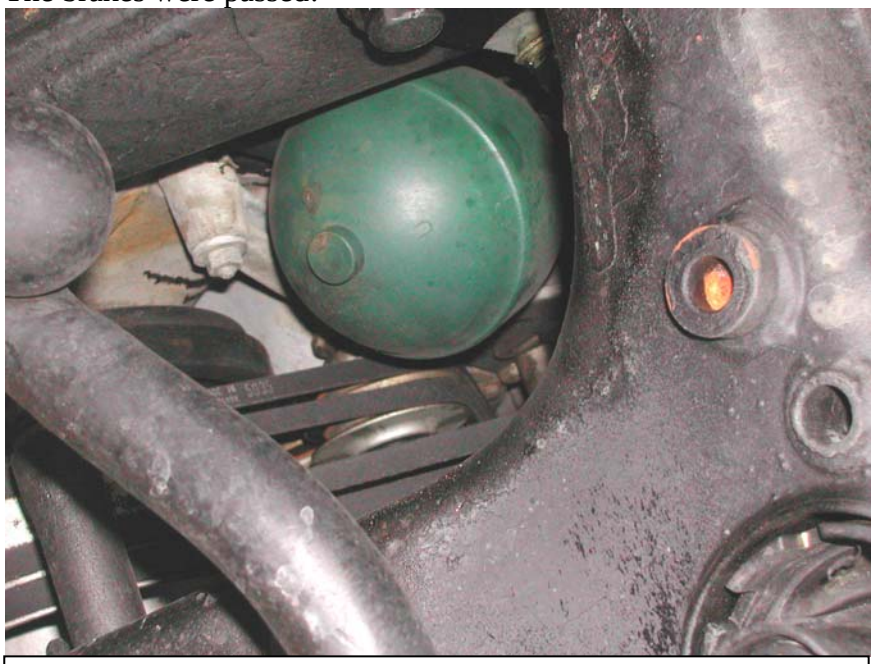
And so the memory loss is highlighted. Years ago, Eric Goudie who has an S2 that has been to the moon and back put his car over the pits for those grand inspections we used to enjoy in the A.C.T. and was knocked back by some young zealot for incorrect (?) headlights and no front brakes! The recounting of this by Eric was a masterpiece of armwaving and shouting given that Eric is not particularly versed in automotive nomenclature, so I decided to put the car untouched over the pits myself. First the headlights. There I was pumping the dipper switch like a dervish and all I could focus on was the amazed expression on the testing officer's face. Eventually, he announced that the light somehow were dipping to the right and not the left – a phenomenon he had not struck before. Much contemplation on my part until I remembered that the car new had been bought in New York by the then Australian Consul-General and brought back to Australia. Whilst there to satisfy the US road people he must have fitted American bulb given that they drive on the other side of the road!



And here is a better picture of the business end of the dip stick and tube

In vain I pointed out that the car had now resided in Canberra at least for some 10 years and been inspected by their peopleannually and would they pass it and let me change the bulbs later? Nein!!!! So onto the brakes. I duly worked the front wheels onto the drums on the floor of the station and was ordered to apply the brakes which I did. Nothing happened of course. "You got no brakes on the front" this now irritating inspector said. "How do you know" I returned? Well the machine says advised the man. So I explained the servo system. I may as well have given a discourse on quantum physics. He insisted I had to have front brakes that worked on his machine. So with some baring of the teeth I suggested that I demonstrate the brakes. He reluctantly agreed.

Getting off of his infernal machine I lined the winged B up with some distant object outside the garage – seen through the open door, stood on the brake pedal with my left foot and floored the accelerator with the other. When the transmission was threatening to have an internal haemmorhage I released the brakes. The Bentley thinking this was the test is had waited for ever since it was made, took off like a startled gazelle, even to spinning its wheels momentarily – how embarrassing. I managed to get up to about 20 miles per hour in a very short distance and then stood on the brakes. I swear the front bumper hit the ground but nobody has ever believed me. There was an ear-splitting shriek from the tyres, the searing smell of rubber and when I alighted, four very thick, very black skid marks on the immaculate painted floor. Those marks remained there for 2 years no doubt indicated in the repeat runs of automotive apocrypha at the testing station. The brakes were passed!



The accumulators for the Spirit and later cars are pre-charged and sealed units that simply screw in to the valves. Removal requires a chain wrench as there is no spannering point.

Such is the efficiency of the brakes on these cars, I once saw a Silver Cloud that had done a very very hard stop from a great speed. Nothing was amiss until the owner went to check his tyre pressures and couldn't find the valves! The wheels it seems had stopped but the hub caps had kept going! And that dear readers is why the caps on the Shadow and later cars have a peg on the inside of them that inserts through a hole in the wheel!!!

Anyway as they say in the soap operas, Wayne Wardman put his Wraith over the pits some weeks ago only to be told the car had no brakes.

Bentley Motors' news release

NEW BENTLEY IDENTITY LOOKS BACK TO THE FUTURE

BENTLEY

Geneva...5th March 2002

Bentley Motors today unveils its new corporate identity, featuring a new and contemporary logo design of the famous winged 'B' badge. A new Bentley logo has, like the company's cars, been conceived to last. Its design, derived from the 1930s version, reflects the marque's redefined core values and will consistently promote worldwide brand awareness as well as reaffirming Bentley's position as the world's leading manufacturer of powerful, sporting and luxurious grand tourers. "Our new Corporate Identity is a symbol of our confidence in standing alone – becoming Bentley and nothing else – and importantly it embodies all the new Bentley values while respecting our glorious past," says Dr Franz-Josef Paefgen, chairman of Bentley Motors.

He added, "We are seeking to appeal not only to our existing customers but also to new ones, people who may not have considered Bentley before. Carefully positioning the brand visually – and also in the way we behave and present the company – will be a determining route for those people to identify us first, as a company with whom they wish to be associated, and then with us as customers." Bentley believes that the new logo, which takes its cues from two widely recognised and respected elements, the Bentley "B" and the wings that are on either side, is sufficiently pure yet adaptable to serve it through the period of intense growth and change on which it is now embarked.

Although thoroughly forward-looking, the logo's design harks back to Bentley's earliest days, clearly reflecting the marque's heritage and integrity. Market research indicated that Bentley's marque personality could be summed up in five key words — driving, racing, power, craft and design. It also showed that existing and potential customers appreciate the sportiness and understatement of the cars and the importance of Bentley's sporting heritage. The famous Bentley wings have always evoked the movement, power and performance associated with the marque, but in the new design they have been re-examined. Automotive artist Gordon Crosby, a friend of W O Bentley, designed the original winged-B motif in 1911 and the first wings he drew were full and downward pointing, lending them a weighty effect. He also added an extra feather on the right-hand side. While this look built on the character of the marque, it is believed that the motive was not so much aesthetic as designed to combat fraud!

The early '30s saw a more streamlined version featured 10 feathers on each side and a horizontal wingspan, suggesting strength and boldness, while the dark oval 'white out of black' centre projected the Bentley 'B' and made it more of a focal point. In the '90s, a less rotund 'B' harking back to the 1920s design was adopted, while the feather tips were in turn made more angular, then rounded and then angular again. The new Bentley logo echoes the spirit and idiosyncrasy of the original version with its asymmetrical feathers, but at the same time recaptures the confident horizontal wings effect of the '30s, when Bentley was at the peak of its racing success. The strong 'B' shape of the '20s has been integrated into the design to make it more prominent. Light and shade have been added to the new wings to create a three-dimensional appearance and make the logo stand out on a page like a cast or chrome plated stamped badge. The resulting simplicity of the logo is intended to ensure that it can be represented accurately in a variety of environments, helping to reinforce a worldwide corporate identity. Its monochromatic look is clean and contemporary which makes it remarkably versatile.

Ideally the logo alone would serve to communicate Bentley's identity, but to maximise international brand awareness, following the parting with Rolls-Royce, the word 'Bentley' has been integrated with the logo, in a font consistent with the lettering used on the cars themselves. And as with every aspect of the new design, great care and attention has been devoted to getting the font right. The effect was achieved by taking rubbings of the engine-cover lettering to create an authentic logo script. The fairly ornate lettering was then refined to impart a strong, purposeful style that fits comfortably with the wing shape. The result is, arguably, one of the world's most powerful

automotive logos and corporate identities, consistent with the cars made by Bentley and its craftsmen and women in its Crewe headquarters.

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