

TEE ONE TOPICS

Number 19 November/December, 2002

Disclaimer

The Tee One movement is not in any way affiliated nor associated with the Rolls-Royce Owners' Club of Australia nor any other organisation. Its aims are to spread knowledge and information about proper motor cars that would not normally appear in club journals nor any other publications readily available to the public.

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.

CALM DOWN



This poor specimen turned up on eBay. A left hand drive car apparently with a monumental smack in the left hand rear door. I thought it interesting to see the resistance the body put up to a side impact and the way the forces were transferred to the opposite side of the car. Presumably the occupants were able to exit the vehicle without difficulty – a credit to the design. Sadly, this vehicle is, as the Army says, BER (beyond

economical repair). There is a similar model in Queensland suffering a similar fate.

SERRATED NUTS

Rolls-Royce for many years have used serrated nuts where access is difficult, great torque pressures are required or extra precautions need to be taken to ensure that the things stay tight. The nut on the front of the vee eight crankshaft is a typical example.



are required or extra precautions need to be taken to ensure that the things stay tight. The nut on the front of the vee eight crankshaft is a typical example. I had occasion to remove the radiator for repairs on this well-worn car and discovered that in fitting an extra pulley on the front to drive a strap on air-conditioner, the fitter had removed the lock plate shown below and jammed the additional pulley over the but in the hope that it would stop it turning. I suppose it did to some extent. The same gentleman must have decided to give the nut a bit of an

extra tighten judging by the belting presumably that the thing had suffered from a cold chisel. One



wonders which planet these people learnt their trade. Anyway the nut had worked loose comparatively. A close look at the picture and you will realise that the lock plate largely determines the tension in the nut since in the end the bolt holes for the pulley have to line up with the plate. The factory specifies 90 foot pounds torque on the nut but allows you to exceed that to get the plate lined up with a maximum torque loading of 150 foot pounds.

And here is the nut. Undoubtedly the factory provides a tool for the purpose which of course is not available to mere mortals. My solution is besides the nut in the picture. My fitter man George somewhat reluctantly depreciated one of his valuable milling tools to groove up a standard socket and the finished product worked very well. If it had been necessary to tighten the nut even further, the solution would be to rub down the back of the nut to reduce its dimension.



And finally this is the tightening in action. The other way to tighten/loosen these nuts is to use a 'C' spanner but then there is no way to measure the applied torque.

THE PASSING OF A FRIEND

Some of you will remember a small furry animal wandering around peoples' ankles at self help groups looking for food or in lieu a scratch behind the ear. Most could not ignore her as she had a friendly and loving disposition beyond any that I have found elsewhere. My companion of nearly ten years during which I had some most profound changes in my life, she was always there and became very upset if we were separated for no good reason. This was my Cavalier King



Charles Spaniel, Lara who moved to Heaven on 19 December after months of gross discomfort which to my shame I was reluctant to end. She will be missed by many, some of whom had no idea who she was and I will have another hole in my life which can only be filled by memories.

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THE TERRIBLY BRITISH DAY

This long term function on 30 November 2002 went off by all accounts successfully. Some of you will recall my approaching you to either attend or lend your cars to 'show the flag' In the end George Shores who as you know only returned to the country shortly before the event heavily berated me for not gingering up you people to attend. I apologise. Other events at the time and my need to be interstate simply precluded any more activities. One comment I did receive from a few was to the effect that 'they' would feel that we have given up. I dismissed this since 'they' have no interest or involvement with our group or activities. Our interest is in the cars and keeping them on the road rather than displaying our ownership or simply massing up as many vehicles as possible.

NEXT SELF-HELP DAY - SATURDAY 17 JANUARY 2003

Peter and I will open our home at 61 Learmonth Drive Kambah for the next function from 9.00AM for the day. Bring your cars and your questions – someone will know the answers. George has offered to demonstrate a rear spring change on a Shadow and Sid Drury has released his car for the exercise. Meanwhile I will be giving a demonstration of re-charging the accumulators in situ and hopefully have a complete unit stripped down to explain how it all works. I expect several New South Wales members to attend, lunch will be provided and if the applause is sufficient I shall sing.(joke). And lest ACT Branch members of the Club feel excluded, they are of course also very welcome.

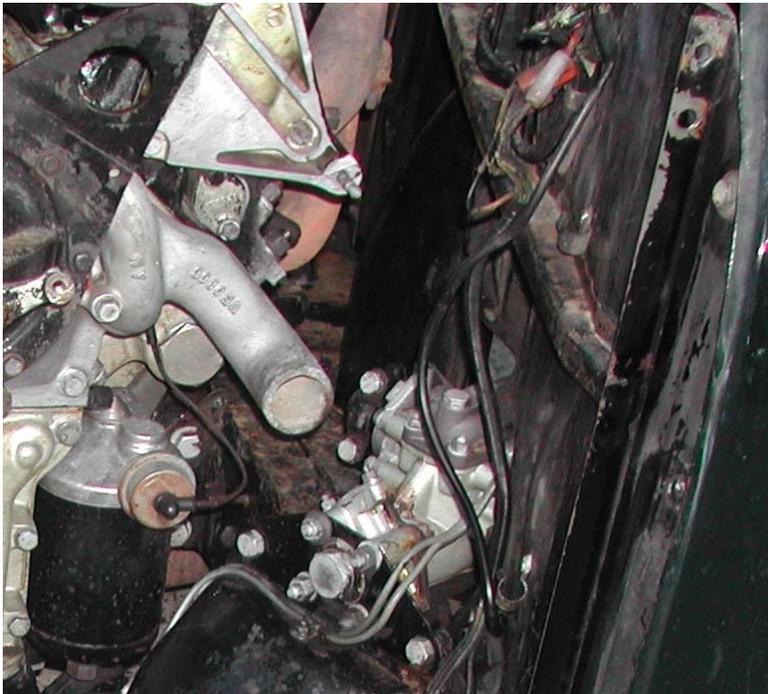
OLD AND NEW



Shadows to my knowledge never carried oil pressure gauges just an obscure light on the switch box. This was rectified in the Shadow II with the installation of a common instrument cluster much the same as the post-war cars prior to 1966. A warning light for oil pressure is a simple installation involving a switch screwed somewhere in the line. The switch incorporates a

spring and a diaphragm which is connected to an external terminal. When the engine is stopped the diaphragm is grounded through the engine and power coming through the instrument panel light is able to complete its circuit and the light glows. When the pressure builds up the oil pushes against the spring and diaphragm, the circuit is broken and the light goes out.

Clearly a gauge needs variable input to give variable readings. In this case the 'switch' is replaced



by a rheostat known as a sender where motion created by a moving diaphragm against a spring is translated into a variable resistance. The analogy is similar to a volume control on an old radio. The more 'resistance' the current has to pass through the less that gets to the gauge and the less the needle moves on the dial. To the left is the sender unit mounted on the head of the oil filter on an S2. Later cars only differed in the inclination of the filter body to accommodate other components. The top picture shows a close up of the original sender together with its current replacement. It should be noted that the old sender should always be fitted with with the embossed rectangle within 20° of the vertical. This is achieved by selective

fitting of copper washers below the fitting. The later sender does not require this positioning.

PURE TRIVIA

- Intelligent people have more zinc and copper in their hair.
- Q. What do bulletproof vests, fire escapes, windshield wipers, and laser printers all have in common? A. All invented by women.
- It was the accepted practice in Babylon 4,000 years ago that for a month after the wedding, the bride's father would supply his son-in-law with all the mead he could drink. Mead is a honey beer and because their calendar was lunar based, this period was called the honey month we know today as the honeymoon.

UNDERHOOD PADS

On many cars these are getting pretty frowsy. They are not unique to Rolls-Royce and have been used on all cars since the Shadow. They principally protect the exterior paintwork on the bonnet from the furnace-like heat from the power-plant beneath. They also keep the noise down. Eventually oil fumes, wear from misplaced components and the heat kills them and they need replacing. New from the factory you are looking at about \$1500-00 but most people have them recovered or if necessary re-made. Most upholsters can do this work for you for \$200 using appropriate fire resistant materials. One American re-manufacturer describes his product as follows which gives some insight into what is required.



These pads are made very much like an original set only better, using the same style welded steel wire frame and attachment loops. Original under hood pads used fibreglass insulation similar to household insulation and were upholstered with canvas (Duck) fabric. These new style after-market pads have been upgraded using Tekfoil® insulation with a Dacron® wrap. The pads are upholstered (front & back) with # 9005 Black Arctic® Vinyl. Arctic® is a name brand top grade quality heavy weight expanded vinyl. Arctic® Vinyl meets Motor Vehicle Safety Standard #302, California Fire code bulletin #117 Sections E & F, rated at -30 degrees F. Cold Crack, rated @ 40 Ounces Per Linear Yard and has a 100% Polyester Knit Backing.



**Let me take this opportunity to wish
you
the very best
for
the season and the New Year. ***

***Terms and conditions apply**

Please accept with no obligation, implied or implicit, this wish for an environmentally conscious, socially responsible, low stress, non-addictive, gender neutral, celebration of the coming holiday, practiced within the most enjoyable traditions of the religious persuasion of your choice, or secular practices of your choice, with respect for the religious/secular persuasions and/or traditions of others, or their choice not to practice religious or secular traditions at all; and a fiscally successful, personally fulfilling, and medically uncomplicated recognition of the onset of the generally accepted calendar year 2003, but not without due respect for the calendars of choice of other cultures, and without regard to the race, creed, colour, age, physical ability, religious faith, choice of computer platform, political inclinations, favourite sports Team or sexual preferences.

By accepting this greeting, you are accepting these terms. This greeting is subject to clarification or withdrawal. It is freely transferable with no alteration to the original greeting. It implies no promise by the wisher to actually implement any of the wishes for himself or others, and is void where prohibited by law, and is revocable at the sole discretion of the wisher. This wish is warranted to perform as expected within the usual application of good tidings for a period of one year, or until the issuance of a subsequent holiday greeting, whichever comes first, and warranty is limited to replacement of this wish or issuance of a new wish at the sole discretion of the wisher.

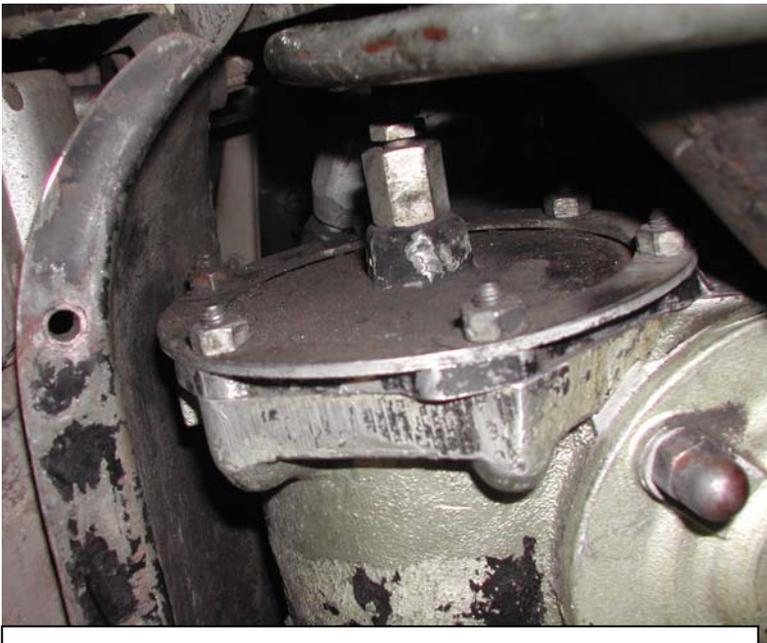


KEEPING ON TRACK



First up disconnect the steering lever from the pitman arm using a tie rod end splitter.

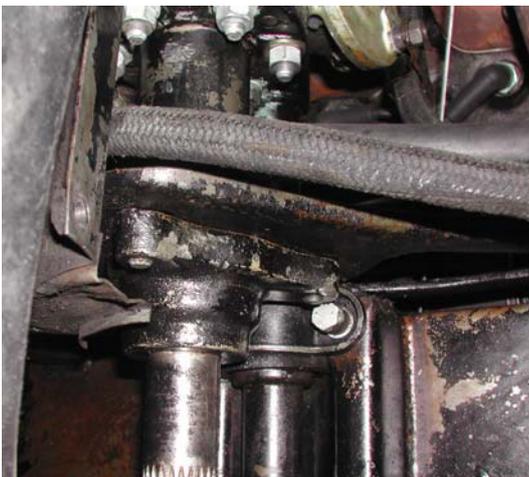
Have you ever noticed in movies where the driver not only is looking intently into the eyes of the lovely lady beside him, ignoring any traffic that may be in the vicinity, or indeed the actual route that he should be following, but at the same time turns the steering wheel hither and thither through an arc or about 25°. Unless all studio cars have chronic steering problems, I suspect the movements are required for atmosphere rather than actually keeping the vehicle on the road.



Here is the top of the vertical shaft. Note the six nuts. These are loosened to allow the top cover to be rotated.

the steering is straight ahead should be nil. This clearance on all Rolls-Royce cars is adjustable usually fairly simply with the exception of the boxes fitted to the pre-Shadow vee-eight engined cars.

Elsewhere I have given a discourse on these boxes and pointed out their unique layout involving a transfer case and the vertical output shaft. Adjusting these boxes involves moving the vertical shaft into mesh with the input shaft. The shaft



And here is the housing with the lower bearing held by three bolts from above. Both housings have vernier scales to help you move the two bits evenly.

is held at the top by one race and at the bottom by another, both bearings are mounted in eccentric housings and

adjustment is achieved by their equal rotation to move the shaft laterally. The shaft is moved gradually while the steering is in the dead ahead position. Before starting on the exercise disconnect the cross steering links from the Pitman arm. It is in the latter that you will feel any play. Moving the shaft in will reduce the play to nil further movement will give it a slight preload. Too much of the latter and you will have an automatic steering facility that is the wheel will stay where you last

left it. Backing the shaft off until this stiffness just disappears is the ideal practical setting.

Finally shout yourself a wheel alignment and ensure that your man gets the steering wheel spokes in the correct position when he adjusts the track.

This scene is oft repeated in real life and is very noticeable in our cars. I have on a number of occasions noticed a driver in a pre-rack-and-pinion car, happily swinging the wheel from side to side while travelling along a perfectly straight road. Drivers seem to be oblivious to the problem until you point out their actions. The usual problem in the older cars is a worn bush in one of the relay levers. If that is not apparent try looking at the backlash in the steering box.

All steering boxes have an input gear and an output gear and the clearance between them when



And two of the three bolts seen from above

A friend sent me the following which he found on the web but unfortunately I can't give credit to its source. It appears to be a response from a help column hence the one-sided dialogue. The information however is interesting. Having got the car running as you would wish, the mind turns to appearance. Woodwork is a favourite place to start renovating as it is within the capabilities of most amateurs. The leather probably comes next. If there are panels damaged or the under-structure of the cushions has failed an upholsterer is best approached. But if the problem is mainly grainy blotchy leather there is nothing like the application of some cash and hard work to fill in those boring Sundays. The following talks about Leatherique for which there is an agent in Sydney Australia but I have no experience with it. Connolly is the name most of us are familiar with but it seems that old firm is now in trouble. Either way I hope the contents give food for thought.

LEATHER AND OTHER COACHWORK

Cleaning the leather using the correct type of cleaner is important and the Leatherique material is just fine. The important thing if you lack a great deal of experience cleaning hide is to select a cleaner that will not do any harm. In most leather renovation processes, like Connollising the cleaning represents the bulk of the work. It is not all unusual for an owner to look at his hide after the cleaning and seeing such an improvement he thinks the process is complete. The application of the renovator is just the icing on the cake and done properly any defects are subtly disguised rather than completely obliterated with excessive thicknesses of renovator.

Looking at the Leatherique website I find much of the information is misleading. Water based materials are not superior and Connolly were compelled to use them for environmental reasons. Among other considerations was the location of the Wandle Bank works situated directly by a private residential area. There were plans for a completely new factory outside London but the recession of the early 90's stopped this. When they made the switch to a completely water based finish Connolly suffered problems with colour coming off. All pre 1985 spec cars and obviously all Shadows therefore used Connolly's Vaumol hide. This had a two layer colour coat consisting of one layer of a cellulose colour being spread over the stretched hide. The second layer was then applied with a spray gun. Environmental considerations aside there is nothing wrong with a solvent based finish like Vaumol and properly cared for it has a long life and is easily restored at a later date with similar materials to those used in production. This is in fact exactly what Connollising is.

Alternative leather finishes are usually polymer based but although these are the most durable often look false and can look more like plastic than even some plastic finishes. The other significant fact regarding Vaumol is that it has two colours. The main colour and black which should be evident in the pores of the grain. This is not dirt trapped in the grain it is supposed to be there. This unfortunately cannot be replicated during renovation so prior to applying any renovator you should be aware that it will alter the appearance considerably. This is most obvious with light colours. Clearly it becomes difficult to renovate anything other than the smallest areas in isolation without them standing out more than the original defect. You can check if your hide has already been renovated by looking for the presence of the black in the pores and also by pulling back the piping and spreading the flutes in the centre of the seats apart to see if the "new" colour stops short. It is impossible for the renovator to cover all the hide.

The advantage a water based renovator like Leatherique will give you is that it can be applied easily by an amateur without the need for special skills or a good spray gun and compressor. Most owners who use them are pleased with the results. They are not dyes however and will no more penetrate the surface than a solvent based product. The term dye is a bit of a misnomer as regards leather as no top finish is a dye. The term is used because no one wants to think of their leather has a painted surface. It is true that many hides are dyed and this includes most of Connolly's current



Recently I had the vexed job of replacing all the coolant hoses on a Cloud III which has more rubber through it than a tyre factory. I have now found that Kellows in Melbourne have a complete range of these items which presumably come at a better price than the \$500 plus for the factory items. In my ignorance I found the above universal hose which with a bit of thoughtful slicing produced bends and curves to suit the most fastidious owner.

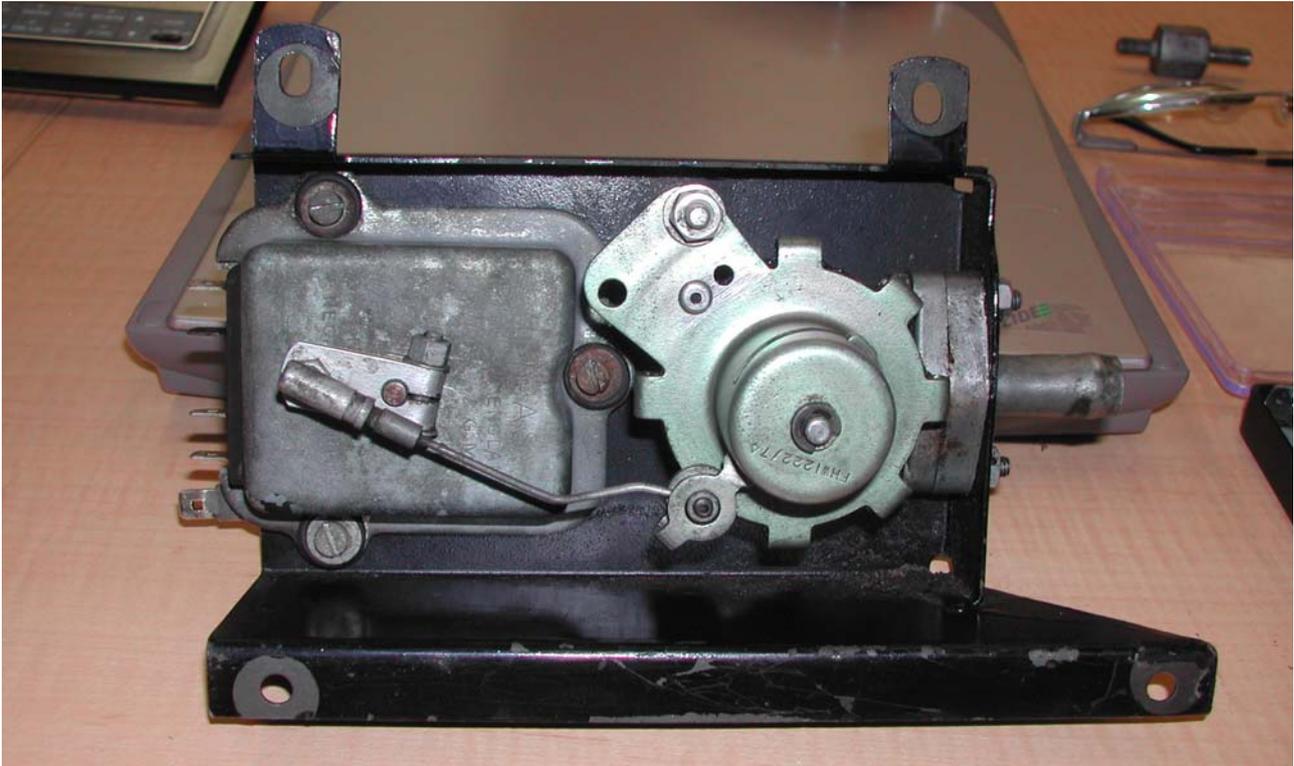
Autolux range but this does not form the basis of the finish, it is there to supplement it. I think you have two options here. You can find a good professional leather restorer. This will not be easy, they are very few and far between. The other alternative is to go with a water based renovator like the one supplied by Leatherique. If you take your time and follow the directions I am sure you can bring about a vast improvement.

What you will lack however is the skill to carry out the small repairs which can make a big difference. Also I have never seen a water based product that provides the same finish and durability as solvent based materials. Shadow front seat cushions are interchangeable and should be swapped regularly to even up the wear on the leather and the foam beneath. Hiding what is normally a worn outer panel by placing it on the inside of the opposite side of the car can help improve the appearance. Before renovating any hide you should apply the renovator oil or hide food. In conjunction with regular cleaning this is really the only maintenance leather requires until the colour coat deteriorates. It is also worth considering replacing badly worn areas. A good trimmer could for example remove the front cushion cover dismantle it and replace a single heavily worn section. Any colour mismatch is then dealt with through application of renovator to the whole cushion. Such repairs are often the best way to renovate a worn interior. You should remember no renovator will remedy the cracks commonly found in neglected hide. They will look fine initially but will always return.

All kinds of special options have been supplied by the factory Special Features Dept. Some of those are and continue to be in very poor taste. They are however original equipment and in competition cannot be marked down. After market additions carried out to the same standards and in keeping with the rest of the car must surely be more acceptable than those built by the factory for some

owners who's idea of what is their ideal car is questionable. One example that springs to mind was a Bentley Turbo R supplied with a Rolls-Royce rad shell but still retaining all the Bentley badging. This car also had copious amounts of gold plating and an interior that turned the stomach. But still factory supplied! The opening armrest you mention in another posting is likely to be a factory special option, the original build sheet would reveal this. At the time of Shadow production R-R would only supply special features on registered cars and at very high price. Few owners took up these options. Another indicator is to check the quality of the fittings used. If it is solid, well trimmed and uses good quality well chromed fittings it is probably original. If everything is poorly engineered it will definitely have been done later on. The main dash section is easy to remove, the remainder is not quite so easy unless you know the location of the fixings. The door cappings

require removal of the door trims and peeling back of the plastic vapour barrier underneath. A row of 2BA fixings will be visible along the top edge of the inner door structure. The lock button must



This little darling is the electric tap mechanism used on the Cloud II and III to look after the hot water. The Cloud II has one assembly the III two. Cloud II owners will know that the whole gubbins screws to the right hand valance up near the radiator and feeds the heat exchanger under the right hand mudguard. The Cloud III went one better and fitted another tap to the left hand valance to look after the upper system (demisting) separately. This was achieved by fitting an additional heat exchanger. Either way you would be well advised to check that the taps are working. Cars in hot/warm climates rarely use their heaters and the taps simply block up.

be removed by loosening the 3BA lock nut. Certainly on Spirit type cars and probably on Shadow's there is one posidrive screw that comes in from each end and is hidden under the door seal. BA fixings comprise a different range of sizes than the Metric or AF system. Snap On can supply BA tools. Many of the small fittings on a Rolls-Royce are BA. The correct material to refinish wood with is flexible polyester, you probably will not have access to this however. Do not whatever you do attempt to use French polish, button polish, shellac or anything similar. If you tell me what materials you have access to I can, if you wish, supply more information. Whatever you decide be assured by the fact that Rolls-Royce woodwork is the easiest to repair. Because it was produced to such high standards deterioration is in almost all cases confined to the lacquer. The veneers themselves do not normally suffer any problems. The thickness of the veneer is usually only a consideration if the part has been restored already. Using the correct techniques reduces the chance

of breaking through still further. Finally bear in mind most veneers are extensively touched in prior to lacquering, small 'trough's" are not a problem.

Shadow's, certainly in the UK, were only supplied with one mirror. If you try to fit the opposite mirror in the same place on the opposite side the window frame obstructs it. For this reason this mirror is positioned differently. In every case I am aware of, this was a dealer fit option. As most dealers did not have the skill to attempt to cut a hole in the door capping they are not internally adjustable. I have seen many instances however where the adjusting mechanism in inside the door and once the hole is cut it can be fitted. If you have a LHD car the right side mirror is not its pair it is the single mirror for a UK car.

Where you source your materials, depends largely upon your location and/or the trouble and expense you are willing to got to in order to obtain materials which are often classified as hazardous to transport. Without wishing to sound as though I am promoting Leatherique, there are definite advantages to using a material that is widely advertised/available, is easy to get transported and gives reasonable results for a first time user. I consider there are far better materials but none are as easy to obtain in small quantities and to get good results involves a degree of learning. Connolly's own products in particular are very difficult to get good results with unless you have had a good deal of experience. It seems that if you have spray equipment and a filtered booth you will quite likely have experience in spraying paint products. Leather renovation products are very different as the build required is negligible. They are highly pigmented and excessive thicknesses should be avoided. Use a small nozzle/needle combination and an air cap designed for use with metallics, shut down the fluid needle and air pressure, trim the fan size and do not try and achieve a full wet pass.



We all know that the main heating supply comes from the back of the 'A' bank (right hand) head. But the Cloud three needed a separate supply for its upper system and this is where it comes from. This little pipe is cunningly concealed under a projection at the front of the 'B' bank head right behind the power steering pump. The other pipe in the picture wanders across the engine under the water pump and with yet more rubber connections delivers water to the upper heat exchanger under the right hand mudguard.

Vehicle painters usually make poor leather renovators as they tend to pile the stuff on to achieve a full gloss finish. The filtered booth is unnecessary from the point of view of cleanliness although any means of removing overspray will make the process a little easier. Almost invariably the initial coat is best ragged in using a lint free absorbent cloth to apply the colour in a circular motion in order to fill the grain. The spraying or other finishing process only giving a more uniform effect. As I stated before 90% of the job is cleaning and preparation and this will take, at the very least, one

full day. If it takes you less you probably have not done it properly. Whatever product you use the more trim you can remove from the car the better. I suggest you buy a renovation kit and experiment on some scrap material using the instructions that should be provided. If you are happy with the results attempt to SUBTLY disguise a few badly worn areas of the car. Often this approach gives better results than going over the whole interior in one hit. When you have disguised the worn areas the lightest of coatings blends everything together. Although this sounds easy it is difficult to



In case you were wondering what your newly ordered GT looked like inside, here it is. A few relics from the old cars are a bit reassuring and I do like the satellite navigation system, as I get older I am thinking of having one installed on my torso.

avoid the constant temptation to apply too much. If you are successful you will end up with an interior that looks "freshened" but not overdone. If not you can still plaster the renovator on as most people are happy to do in the first place. Be aware none of the processes can be reversed and moving forward slowly has definite merit!



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! Should you wish to communicate with the Editor he can be contacted at any of the following cavacharles@bigpond.com 02 62965893 FAX 62965892 or Post Office Box 8 MAWSON 2607 ACT.



Nothing remarkable here other than a left hand drive version of the Silver Spirit. But why are the headlights different? This nonsense has been going on since before WWII. Even the hallowed P100's fitted to Silver Wraiths and Phantom IV's suffered the anomy of having sealed beams shoved into them to meet American standards. Apparently it all dates back to the pre-War flapper days, Gatsby and all that when a popular sport was using externally mounted spot lights plus manoeuvrable headlights to blind oncoming drivers. Presumably the idea was to stop the oncoming fellow until you passed. Unfortunately many oncoming drivers tried to keep going and finished up very dead in the ditch. This was so serious that Congress actually passed Bills specifying the lighting allowed on vehicles and those restrictions apply to this day. The main requirement seems to be the requirement for sealed beams. Semi-sealed units of course allow the driver to slip larger globes into them.



FOUND



David Gore had barely got the staples out of the last edition of the Topics when he had a call from a friend in the United States to say they had bought a Silver Wraith Sedanca and of course it was the

above car. Well it has gone to a good home apparently and will hopefully be back on the concours circuit in the near future.



Several people have remarked on the 'odd' appearance of the GT. But they are quite surprised when you tell them that when the first Silver Cloud emerged, many said it was the ugliest car Rolls-Royce had ever produced. You would not want to be sensitive in the design game.

ACCOLADE

I was startled to receive the following from a Queensland recipient which did me ol' heart no end of good.

"I have received three copies of your publication Tee One Topics for which I thank you very much. As a relatively new RR owner the Spirit is our first car, it is very refreshing to read articles written by someone who is not overawed by the myths and legends that abound about the marque. Your articles are practical and helpful to any RR or Bentley Owner."

Well all I can say is thank you and that is what we are all about. Owning one of these cars in this vast country can be a bit daunting when you are miles from someone who knows something about them. The awe factor is very real and not only present with owners. Some months ago I replaced a steering rack in a Silver Spirit which inevitably resulted in the steering wheel being off centre. Being in a hurry I took it to a standard tyre place with a modern wheel aligner and asked them to adjust the tie rods to correct the wheel. After 20 minutes of looking they apologised and said they were simply not confident at working on the car???



BLOWER MOTORS

Silver Clouds as we all know have two air delivery systems, the upper one that breaths through a slot under the right hand headlight and the lower one under the car floor beneath the driver. Both use a common Smith's motor to drive the fan. Smiths, who like Lucas, seem to have descended into the pit of extinction produced these motors for many years for many cars. My favourite Cloud III did not appear to have blower activity underneath and a quick whip around with a test lamp suggested the problem was the motor. It certainly was, the insulation around the main armature windings had melted. Enquiries to the factory established that a new motor was available at a cost of \$900! More enquiries to various motor repair places were fruitless- seems they didn't involve themselves with such tiny specimens. Then salvation,

Kerry English
33 Addison Avenue
ROSEVILLE NSW 2069
Phone 02 9417 4130



Came to the rescue. A new looking armature, that is the old one re-wound was posted back for a cost of \$65 plus freight.

While on the subject, owners of S2's will be aware that when the lower

system is switched to high speed the resultant noise emulates a 747 at idle! This must have driven the designers crazy to the point that they changed the exhaust arrangements for the fan with a cone – a design used I note on some jet engines. I imagine the theory is that the semi compressed air comes together gradually after the fan and as a result is quieter.



Here is an early picture of the S2 ducts and fan. The large vertical opening plugs into a hole under the right hand side of the driver's seat and sucks air out of the car pushes it through the heater/air conditioner matrices and into the big distribution tube that runs across the car behind the bulkhead.



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