TEE-ONE TOPICS

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CHANGING THE SUB-FRAME MOUNTS ON AN SZ

I have tried to limit the scope of these notes to fairly straightforward tasks, well within the resources of the 'average' owner and/or mechanic. But previously I waxed with great authority on the source of a noise in the front end of my Spur which was prompting a growing problem with dementia. I was quite sure that the problem lay in the front sub-frame mounts; so I replaced them. Some months ago I tried to get new mounts but had to settle for used items as they are apparently no longer available!!

The lists in that category seem to be growing!

The general layout for the area is well shown in the workshop manual but amazingly the instructions are wrong!! (See later Heresy and all that). In short, the mounts themselves poke into the ends of the frame from below and butt up to a machined stop inside the mount hole. Within the latter a 'thin' castellated nut is screwed onto the top of the mount and the whole thing screwed up tight – very tight! To unscrew the mount requires two serrated spanners, which if you can't borrow, buy, hire or steal them, you could have them made using the replacement mounts as a template.

Having raised the front of the car until the bumper is about pelvis height and supported the body (not the suspension) under the front jacking points (without flattening the guide plates) and applied the parking brake very firmly, you lie on your back and gaze upwards to see the view at left. The triangular plate seen here is bolted to the body and the centre bolt locates the mount relative to the body. The

sub frame can then move about the centre bolt. The little triangular plate is the one stop to avoid you and the body of the car sailing over the engine during a violent stop and chatting in a nonchalant manner with the driver of the car in front of you!

OK, having climbed back onto one's feet and checked that your joints are all located conventionally, peer down into the top on the engine bay and there conveniently located under one of the bonnet hinges is the top of the large central bolt we saw from below. Apart from the usual Factory embuggerance of making life as difficult as possible for all those that work on these cars, getting a bolt intact out from the top would be difficult.

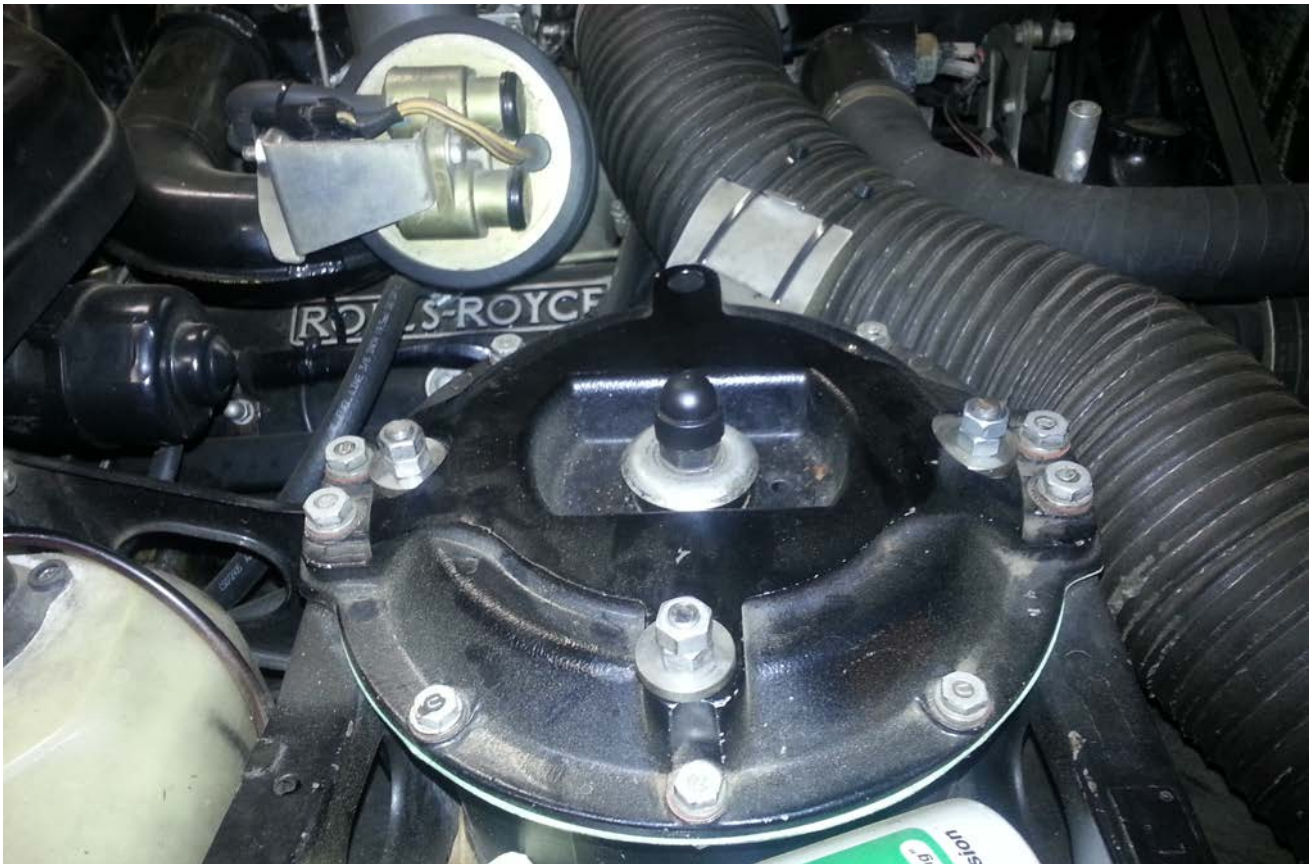
By now you will have worked out that the object of the exercise is to separate the subframe from the body. One then starts to think about which things are in which camp and here we have the first problem in that the cooling fan is attached to the engine which is attached to the subframe, but the cooling fan shroud is attached to the body!!! Being senile I had to start by lowering the sub-frame until the fan was jammed solid on the shroud!

So at left is a replacement mount complete with its locking ring partially screwed on, next the special serrated ring spanner to unscrew the locking ring and finally the lower special ring spanner to hold the mount from below while the locking ring is undone. This view also shows the rubber insert between its inner and outer sleeves; it is this that the car body rides on. At right is the lower side of the mount showing the very substantial core for the mount.

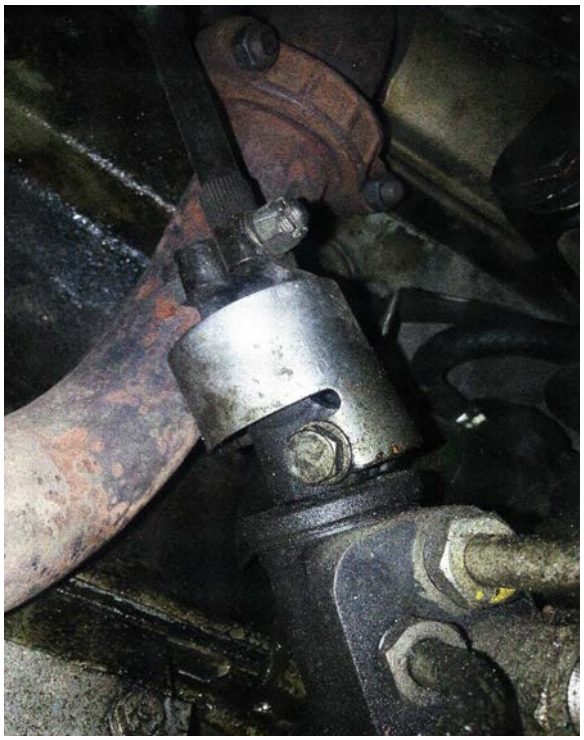
Here's another view of the mount with the locking ring removed. Note the shoulder on the outer surface of the mount which buts against a similar one in the sub frame. Also note the two slots in the rubber. These have to be positioned swish-wise across the car when the locking ring is attached.

And at right for the less quick among you is the mount with the two special tools. In place. The large holes are for inserting appropriate high grade steel bars to turn the spanners or hold them, which you have kept at the back of the garage for years wondering what on earth you have them for.

This is Father's helper since the spring must be retained against the body while the sub frame is lowered. This magic ring is dimensioned in an earlier edition of Topics but needs to be substantial and formed so that it fits nicely under the lower spring platform. Then you need a slice out of the ring so that it can pass over the shock absorber. The lot is held in place by three high grade steel threaded rods and nuts backed up with lock nuts.



And at the top, the rods poke through existing holes and securely locked. This little improvised gadget also lets you adjust the front standing height of the car by changing suspension shims on the front dampers.



The next two things to shift are the cooling fan which on this car screws on with a left hand thread a procedure that has been addressed on previous pages.

Then there is the last connection between the body and the subframe, the steering column. If you did not know it the steering column meets the rack and pinion steering assembly at an angle. Apart from the convenience of design it also minimizes the likelihood of kebabbing the driver with the steering column in the event of a head on!

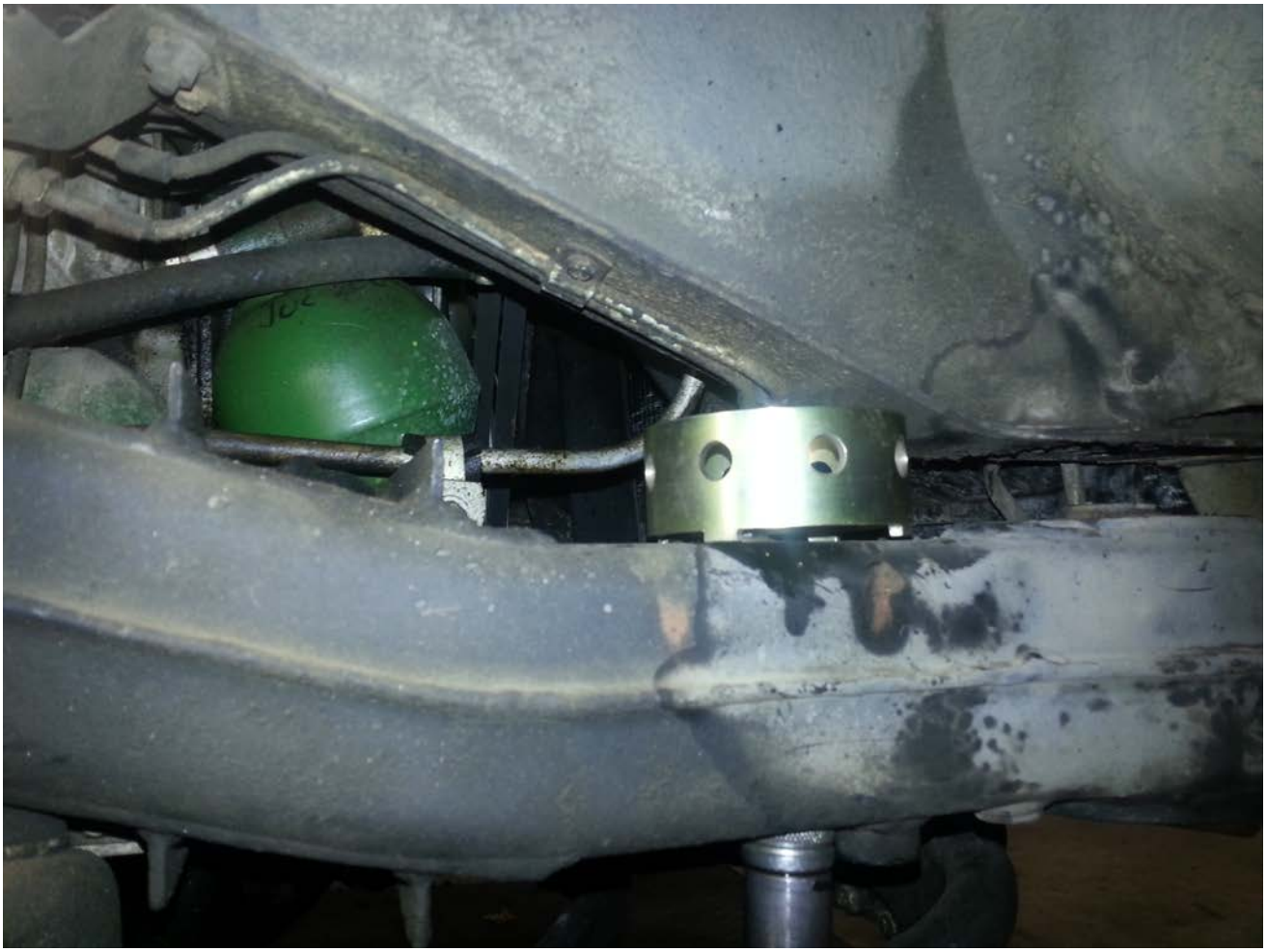
If you remove the split pin and nut from the upper end of the joint shown at left, the bolt can be pushed out and the joint is then able to slide down the steering column. The splines on the shaft and joint are mastered to avoid losing the respective juxtaposition. (I wanted to use that word tonight).

Last thing to remove is the triangular plate and the bolts holding it to the body and the centre bolts through the mount.

Keep an eye on spacers which are various but essential.

At this point you slide your garage jack under the middle of the front member of the sub-frame and just take the latter's weight.

NEXT STEP IS TO REPEAT ALL THE FOREGOING ON THE OTHER SIDE OF THE CAR EXCEPT THE STEERING COLUMN UNLESS YOU HAVE A LEFT HAND DRIVE CAR!



On the previous page the sub frame has been lowered with the garage jack a small distance. It was at this point I realized that the manual was wrong since it insisted on doing one side at a time. The above picture shows the maximum amount the frame would drop when the other side was still secured!! Clearly the tool would not fit.

Hold it, there was one last thing to disconnect and that was the lower end of the shock absorber; break the joint and that will let the sub frame lower about another inch!

Eventually the gap was big enough to get the top serrated spanner in place. Now will be appreciated the reason for having to remove the fan which when at home in bed depends to about ¾" from the bottom of the shroud!

The manual certainly did NOT recommend this set up mainly because the Factory writers worked on newly constructed cars, if they did work on them at all.

My car is 29 years old, not abused, no salt little rain etc but things still clag up. As I did not want to damage the tools I used the smaller jack to lift the lower tool and the sub-frame to the upper tool and the body. In short there was no way those castellations were going to slip out of their slots!

A large bar was placed through the holes on the upper tool and a jack handle laced over it. A standard 1/2" break bar inserted in the lower tool and the whole assembly meekly complied!

At left is the vacated subframe hole awaiting a replacement mount. The shoulder against which the mount rides can be seen here.

To finish the job it all goes back together in the reverse order making sure you connect up the steering shaft joint and fit a split pin.

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HERESY AND ALL THAT

I use the word lightly of course but perhaps topically, considering the foam that is being sprayed around over the currently fashionable bash-the-press initiatives. The transgressions I refer to involve our cars. I am not writing about people who leave a running Silver Shadow outside for a couple of years unused and finally have it towed to a wrecker. Those people are usually just your run-of-the-mill vandal.

Some readers will be aware of my derisory creation of a particular class of owner, termed cucumber munchers. This has nothing to do with diet or health but simply embellishments to a perceived classiness in the practice of owning a Rolls-Royce. As you would know we have been running intensive courses for these individuals ranging from door opening and closing, advanced bonnet locking and identification of in-car tools and their purpose.

Now it seems we have a new breed who vigilanticise (there is no such word but you will know what I mean) the maintenance materials. We at the operations centre (open 24 hours) are often approached about the practice of using the choke butterfly from an Hispano Suiza in a Silver Dawn or a gasket from a Toyota in a Shadow engine just to give a couple of examples. Only today a proud owner was telling me that he has found a Mitsubishi fuel filter that fits his late Spirit perfectly. The advantage as he sees it, is when he wants one he can call into the nearest Repco, who claim to sell almost everything automotive, and get one off the shelf. Changing fuel filters is not one of the more delightful recreational pursuits so the items are usually changed when prompted or to fulfill a resolution. If you have to wait a week to get the correct part the moment is lost! But writers such as I and the rest of the ilk, carefully avoid direct recommendation, aware as we are of the responsibility. If the Mitsubishi filter collapses and blocks the flow then the installer has only himself to reproach. After market or pattern parts are here to stay for all makes of vehicle so it is your decision whether to avail yourself of their provision. Mind you the choice with the passing of time seems to be narrowing.

One of the persistent bits of apochrypha that dates from the very early days of Shadow production was that of the failed oil filter cartridge. A couple of owners as the tale goes decided to use a filter from another make of car and modify it to fit their Rolls. The motivation it seems was to save money. The exercise was unsuccessful, the modified filter collapsed and two engines were destroyed. The Factory in a climate of pressured magnanimity replaced them free of charge given their probably urgent need to build a market in those post-war heady days.

I tell this story because recently there was considerable indignation that one of my correspondents had prepared a report, pointing out that there was an alternative thermostat for the cooling system to the one sold by the Factory. As I understand it, the concern was publicizing an alternative for whatever reason, but also, clearly, adopting it would save a significant amount of money. Perhaps the feeling was that, along with a maxim I have lived with for over 40 years 'that only Crewe trained mechanics should be allowed to touch your car', all owners should obey the dictum that every car manufacturer issues, ' use only genuine parts'. This is a practical suggestion commercially acceptable and simply good business. But it seems that some owners use the concept as part of the 'mystique and cachet' for the Marque as a major part of ownership.

By all means adopt this attitude but it's a bit rough to try and force the same attitude on others, particularly those who are selling their souls to simply keep the car respectable and on the road. Many years ago when the MkVI Bentley and Silver Dawn were in recent production, I witnessed the admonishing direction of a customer to the Spare Parts guru at the Sydney dealer, when the latter pulled the parts manual out for the Bentley to find a part for the customer's Silver Dawn. 'I do not require Bentley parts', announced the customer to a small audience, "I require Rolls-Royce parts for MY Rolls-Royce". The manuals apart from the page headings were identical!

Try this one for cogitation! A specialist in the repair of our cars noting that so many of his customers' cars arrived sans the little but important tool to remove the sump plugs on pre-SZ cars. Helpfully he had a suitable tool made and has sold over a hundred of the items. The originals by the way are no longer available from the Factory. Gossip has it that he is being assailed by at least one purist for selling an obviously non-genuine tool to remove genuine sump plugs from Rolls-Royces. I hereby certify I am not making this up!

Seeing that I am supposed to be writing bon mots for the intrepid soul who actually does something to prolong the life of their Crewe cars, can I have a further small spray on the legendry sump plugs. The plugs as most us know them first appeared about the Mark V Bentley just before WW2 got underway. I can only vouch for the Dawn/Cloud/Shadow period in that the recess for the plugs appeared to be cast rather than machined. This is not an accurate way to produce a shaped hole to take a standard sized machined hexagon tool. I have always used the Factory supplied tool that came in the kit in the boot but sometimes cringed when undoing a very tight plug thinking about the load bearing within the plug because of its looseness. The offending tool I understand overcomes most of this concern. But it is not the tool supplied by the Factory???????????

In shutting up, can I make the statement that if true devotees of the Marque want their steeds to survive, we have to consideer alternative methods and parts. Another solution is not something I want to talk about!

SHADOWS FOR RECOVERY

I think there are at present some 5 sad cars looking for loving homes. Let me know if you can help (spur84@me.com)

COOLING SYSTEMS FOR SHADOWS

(Captions would seem to be superfluous)

HIGH LEVEL SMELLS

A certain Phantom VI turned up on my doorstop charged with noxious emissions that were thought to be petrol fumes. A number of specialists sought to fix the problem which unfortunately was intermittent and totally unpredictable. I immediately decided it had a leaking fuel tank and since these items are no longer available I found indeed a fine spray of fuel coming from the protrusion under the tank which houses the drain plug. Periodic removal of the plug and releasing any water apparently had never occurred to the operators and the non-flamable stuff simply rusted through to the open air.

The solution was that marvelous putty which hardens after massage and placed and that leak has never released a drop! Some months ago the smell re-occurred. I collected the car dusted off my Rosary and portable prayer mat and waited. One hot afternoon I had had the car out and plonked it into the passageway through which many cars have passed and never returned. No! that is not true! But there was quite a rise and as I headed to the refrigerated locker holding the beer I heard a trickle quite distinctly. Checking the front of my garments (I am after all an old man) and discounting that possible source I looked across to the behemoth and noted a commendable micturition on the concrete below it of liquors that keep us all sane on the road. All this happened in the twinkling of

an eye. God and the architect of our house were looking after us as I was able to slide under the chassis and observe the residual drips of fluid from the carburetor overflow.

Since those very carburetters had been tenderly overhauled I was sure it was nothing as simple as leaking gaskets, float valves or the like would be the culprits. Lying under the steaming car the answer came to me – the fuel in the float chambers had boiled when I switched off the engine and the only ouitlet was the breather tube on top of the chambers which exited to the rear of the engine to the street for common cars below! The car was a 1970 vintage and actually was a Shadow 1 (sic) with a 6230 cc engine. And for those that have fiddled in those places would know the only insulation between the raging fires of the engine the heat of which passes very quickly up through the intake manifold, the only insulation between the manifold and the carburetter assembly is a very thin paper gasket!

I suspect that the coach designers for this splendid vehicle did not consider heat escapes from the 'go' department were needed or for that moment appropriate. Prewar builders often put openable (?) flaps in the valances of the high bonnet limousines but the practice seemed to have stopped after the WWII. The solution was almost simple. Get a heat block gasket later used in the Shadow II And install it. Small problem, the comparative thickness of the new item simply drowned the two dowels that locate the carburetor assemblies. Longer dowels were quickly made, the whole thing reassembled and there were no more complaints.

A few weeks ago I had occasion to get the car only to be greeted by an ear-piercing whistle when the engine started. The picture tells the story. Why the gasket delaminated is beyond me. A new gasket is in place and quietness now reigns! Shadow 1 (sic) owners in hot areas might consider this modification!!!

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A BIT OF HOUSEKEEPING

Most owners secretly hope that they will never use this kit, but when they do they forget to fully retract the jack before putting it to bed. This is the result. If you have a reasonable upholsterer in your area he should be able to at least make you a new bag!

DAMAGED WHEEL DISCS

By now I would hope that everyone keeps an eye on these very expensive and difficult to replace items. The above damage occurred because the clinch ring which grips the wheel was too loose. This is easily fixed by firmly tapping the rubbing points on the ring to squash them further towards the centre. Repairing the discs is a very specialized skill and for the very best work there is a gentleman in Albury NSW who a wizard at the task.

I do not recall written instructions on the repair process but the following appeared on our Club's Forum which may inspire you to tackle the job. The trims are most likely 300 series austenitic stainless steel; this material has a strong tendency to "spring back" when cold-worked and has to be gently "over-bent" when removing dings for the material to return to its original profile.

The force needed is relatively high depending on the gauge of material used for the trims. Do not use hammers for this process unless you are highly-skilled in keeping the hammer face parallel to the work to avoid the side of the face leaving more indentations on the trim. I would use a "C" clamp with a piece of suitably sized softwood [thickness approximately depth of the indentation + 10%] to match the width - 10% of the indentation under the screw face to apply force and use an anvil made from a piece of softwood with a suitably-sized hole cut with a spade bit to match the width + 10% approx of the indentation on the frame face of the clamp. The metal face of the screw must not contact the trim during pressing as it could leave an indentation.

Just align the trim in the clamp using the timber pressure pad and anvil and gently tighten the clamp until you can just see the pressure pad sink below the surface of the surrounding trim. Release the clamp and use a straight-edge to check the alignment. Repeat as necessary applying small increments of depression from either side as appropriate until you are happy with the alignment. Do not overlook the fact that compression of the timber components will also occur during this process and this also has to be compensated for by increased compression from the screw during the flattening process. Patience will be a virtue to get the desired outcome - finesse rather than brute force has to be the guiding principle.

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