



ANTI-ROLL BAR ANTICS

Actually, apparently they are stabilizer bars on Rolls-Royces. Notwithstanding, an owner turned up with the complaint that he had a bonk every time he went around a corner! I will not bore you with the ribaldry that followed that report but a drive down the local track and some vigorous wheel swinging from side to side, did indeed produce a very loud thump.

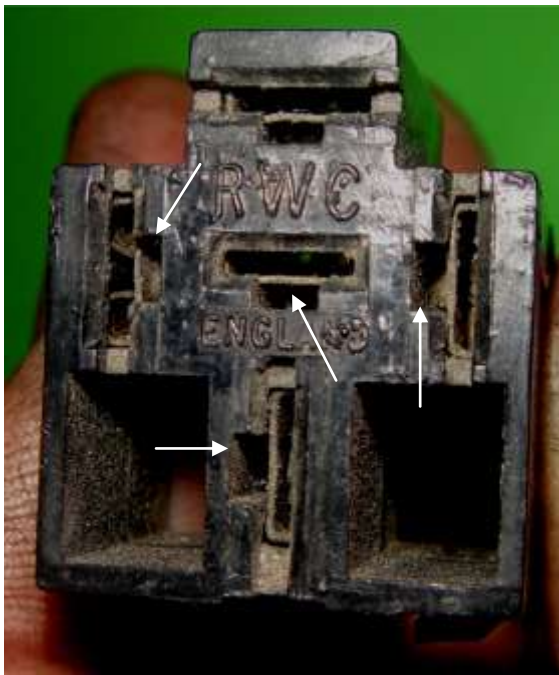
The owner then produced a Woolworths plastic bag of bits that had littered his driveway recently. A quick trip under the car and all was revealed. The bar seen above is mounted on the forward end of the car's subframe in two places, one of which can be seen above. What is missing is the retaining bracket that holds the bar. This is bolted to the subframe mount in four places; holes for the two lower bolts can be seen. The lower bolts are secured with washers and nuts. The two upper bolts, out of sight here, screw into threaded inserts in the mount. As Murphy would have it, one of these bolt hole threads was damaged and the other retained a significant piece of a bolt. These had to be drilled out and helicoils fitted to restore the threads. But as you can see the bottom of the radiator is in the road so that needs to come out. Actually this is probably not necessary as the unit is only held in place at the top with two accessible bolts and the thing can probably be lifted enough to get access to the damaged threads.

Murphy had not finished because to get a clear central approach to the damaged threads, the air dam under the bumper car had to come off! This was not too bad as typically, it had suffered one crack and a couple of scrapes which were expertly repaired by our local plastic welder.

So the message is to all owners of Post55 cars, get down on your marrow bones and check these retaining bolts for tightness!



BUTCHERED TERMINAL BLOCKS

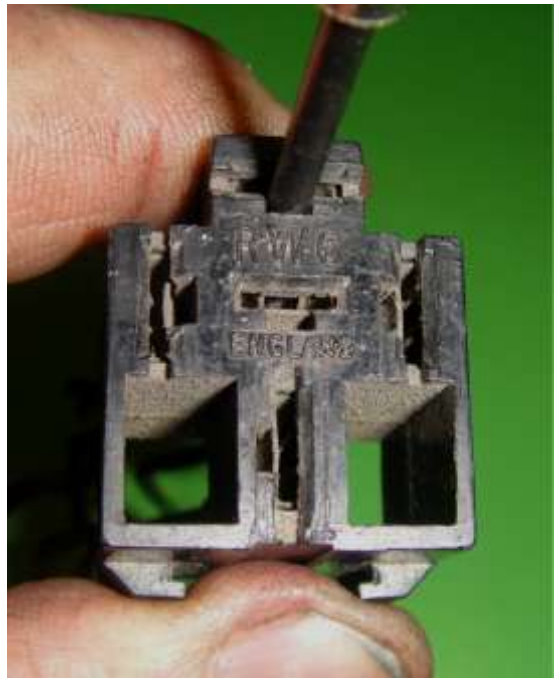


These fittings abound in all the post '80 cars to accommodate the myriad of relays that service the electrical system. They are neat, hard wearing, replaceable and easily fitted. Mr RWC England clearly shown here may have made these items especially for the Factory; I could not find them here. A friend suggested I contact our national parts of Crewe products and he supplied half a dozen by return post!

I had two casualties; the first, discovered when I bought the car, had detached itself from its locating tang after some Neanderthal had apparently wrenched the thing beyond its endurance while removing a relay! The bit that broke was one of the shoulders seen in the right hand picture and arrowed.

At left can be seen the tips of the various terminals that engage the prongs of the relays. These need to be removed from the used block by carefully sliding a thin but strong blade down the small release holes (arrowed) to depress a retaining tang and the terminal can then be pulled out through the bottom of the block. The 'new' blocks you get are good to practice on and can be cleaned up and all is as good as new. You will of course note exactly

which wire goes in which hole in the block. To fit them simply slide them in from the bottom until they click.



Removing the terminals and showing the tang that needs to be depressed before the terminal can be slid out of the block. The tool for depressing the prong I found most effective was a small electrical screwdriver. The right hand picture also shows the shoulders of the retaining groove that can be easily broken off by ham-fisted operators!



GOOD HEART STOPPING STUFF

And I refer to the reading on the temperature gauge. Fortunately I have never seen this on the road although it does happen.

But in this case the gauge was being tested to isolate a common problem with these gauges, low readings!

The Factory since they adopted cluster instruments on the Clouds thought it was reasonable to ask owners to check periodically that the four needles pointed to the four points of the compass more or less. The fuel gauge

had to be ignored for this intended layout but then, that ideally should seldom read below half full anyway.



And here is the cause of low readings. The sender (arrowed) is simply a switch that varies in resistance indirectly as the temperature rises. Attached to it by a simple push-on connection is an active wire to the gauge. When the engine is very hot the resistance is low and power from this wire flows through the gauge and the switch to earth and the gauge reads high.

To test the gauge simply pull the wire off the sender and earth it to the engine with

the ignition on and you will get a reading seen in the first picture.

So where is the sender? In the picture above you are looking over the top of the radiator to the top of the engine and at left is the thermostat housing. The sender is one of a number that variously switch on heaters, fans and compressors to name a few. The same setup is used on the Shadow II's. To replace the sender, lower the coolant level by about four litres and using a long socket, screw it out and refit a new one with good old plumbers' tape! Put the coolant back in, connect up the wire, check for leaks and look for a temperature gauge that points due East!!



MODULATION

I have to confess that I get a visceral pleasure when I see the odd modern car fitted with a manual gearbox and clutch.



Ever wondered why this little arched pipe was screwed into the rear of your intake manifold? Read on!

These fittings were one area that

sorted out the adept driver from the wrecker. Now we all drive automatics and the GM400 transmission fitted to your Shadow and Spirit does the job splendidly.

Apart from the actual selector lever there are only two controls to help it understand what the Hell you are trying to do with the car. One is a small solenoid which is switched by your

pressing a little button under the end of the accelerator pedal. This moves a valve in the transmission which redirects pressure and changes the power train to a lower ratio, in other words your 'kick down'.



In the good old days one practiced the 'double shuffle' using your clutch to disengage the gear you were in, using it again to speed up the next lower set of gears and finally using it to engage the lower gear and re-engage the newly selected gear.

And here is the modulator at the other end of the pipe from the manifold. The large pipe is the filler and dipstick holder for the transmission. Note the rubber tube connection.

It all sounds a bit tiresome but we (now the oldies) didn't try to resurface the macadam with Mr Dunlop's products doing 'wheelee's, we would show off our flying gear changes! Well the other control for your transmission is a thing called a modulator. This monitors speed and throttle position to work out when to 'change gear'. While the 'kick down' message is an electric current sent down a wire, the modulator reacts to vacuum.



The restrictor being prised surgically out of the old bit of tubing.

Vacuum is always present in the intake manifold when the engine is running but varies with

speed and throttle opening. This varying vacuum is picked up by a pipe on the top of the intake manifold and piped (sucked?) down to the modulator on the gearbox.

So here is the point of all these words, the connection between the pipe and modulator is rubber which perishes with all the grot around it. Simply whipping off the bit of tubing and replacing it could give you an interesting driving experience. Inside that piece of tube you threw away is a metal restrictor which has to be transferred to the new bit of tube.



DID YOU KNOW?

To drain the transmission you unscrew the dipstick pipe from the transmission sump. But there is always some left. To stop dousing yourself in fluid, screw in an old sump plug – it's the same thread (1" BSP I think).



WINDOW WINDERS THAT DON'T

The first electric windows I saw on a Rolls-Royce were fitted to the front doors of a Hooper bodied Silver Dawn. They were an option on the Clouds and universal on the Shadows. In the broader market, Packard pioneered the option in 1940. By the eighties ordinary cars mostly had some power system to raise and lower the glasses, these included pneumatic, and hydraulic as well as electric actuation.



The principal concern of government regulators was children garroting themselves by sticking their head out of a window and then kneeling on the switch.

The Spirit was the first of our models to use curved glass – then a bit of a challenge to the designers. One legend was that partially open glasses on the earliest cars were apt to jump the guides and wave about in the slipstream at high speeds. One of the fixes was that little black plastic bit fixed to the leading edge retainer!

The Factory got embroiled in the efforts made to avoid the problem the most obvious one being the 'double-switching' still to be seen on our cars built in the early seventies. This involved using the usual rocker switch to get the window to within a short distance of closing and then finishing the closure with a separate button. I have always been intrigued by the gap left after operating the first switch to its limits. I think Little Willie would be in dire straits indeed if his neck was in the gap! By the time the SZ cars came along, a lot of window foibles experienced on earlier cars appeared to have been eliminated.



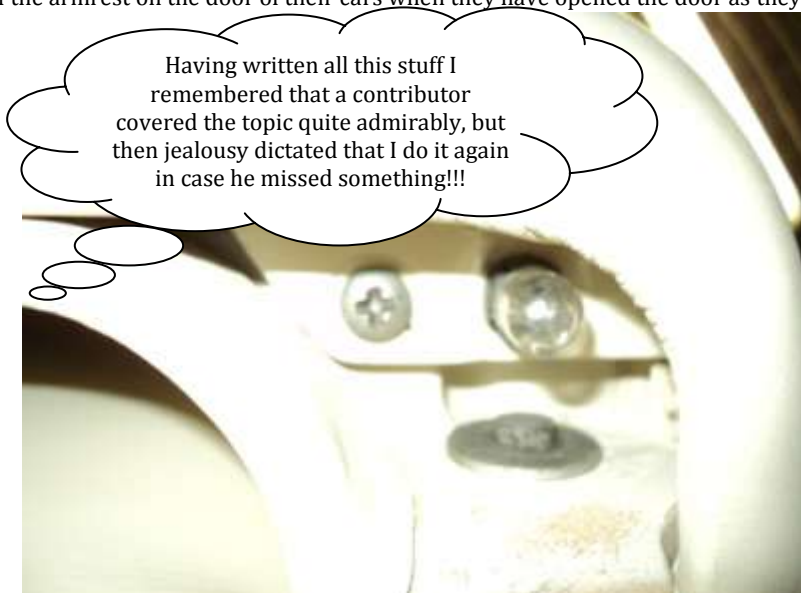
Step one to remove your hijackers arm is to remove the inner door trim. Always approach this with great care since it is very easy to mar some of the materials, a blemish you will see every time you look at the car. The workshop manual in our Technical Library <http://rrtechnical.info/> gives precise instructions. The little screw at left, one of two, holds the junk basket fitting to the door. These must be removed. The main panel is held with conventional push in clips which can be released by inserting a wide blunt knife behind the panel and up against each clip which you can feel and then prising the clip free by twisting the knife.



The night was getting late when I tried to take a pic of the iconic door handle. This assembly and the switch/es below it are screwed very firmly to the inner door panel. To conceal the screws an anodized insert is jammed into locating holes and there you have the pretty fixture. Step one is to remove the insert carefully as it is easily scratched. Cadge a dental probe from your friendly dentist, one with a strong thin hook at the end (the probe, not the dentist) and ease it out carefully.

But what about garroting on these models? Well the Spock disciples (the doctor not the spaceman) can relax because the later cars have a fairly breakable connector in their window gearbox train that will shear before decapitation occurs. But then you have the problem of a hijacker trying to reach you through a partially open window at traffic lights and you quickly slam the window shut. But it won't when the shear connector shears!

Some owners have seen this view of the armrest on the door of their cars when they have opened the door as they step down for their sobriety test and land on their back, wondering why the car was gently rocking! The star-headed screw (one at each end) secures the lower half of the arm rest to the upper bit. Having removed the screws be careful in parting the leather coverings on each bit, from each other. The leather particularly in later cars seems to be amazingly thin, probably something to do with mad cow disease. The hexagon-headed screw and washer, again two off, retains the armrest itself to the door. You could also note the tiny globe that lights up on door opening.



Having written all this stuff I remembered that a contributor covered the topic quite admirably, but then jealousy dictated that I do it again in case he missed something!!!

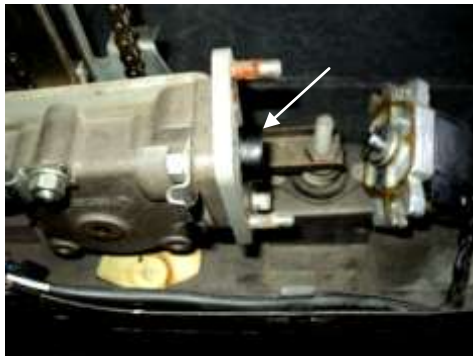
So here you are with a maniacal hijacker with his arm jammed in the window which will now not move at all. The options are for your decision alone. Drive to the nearest police station hoping the gentleman can run fast or, if you have one in the boot, get your machete and lop off his arm or else, explain the problem

to him, apologise for the inconvenience and ask him to stand and wait patiently while you lower the window manually.

The accompanying pictures and captions should provide enough detail for the above task.



Well the door lining is off and there is the motor which is held onto the winding gearbox by just two studs and nuts. At lower left the broken coupler is emerging from the gearbox with the aid of your dentist's probe. Below that is a better view of the motor shaft adapter with a cross pin that engages the coupler and if you climb inside the door you can see a similar adapter on the input shaft of the gearbox.



Probably the most difficult task is to extract the extract the broken bits of coupler, again an easier job with your probe!

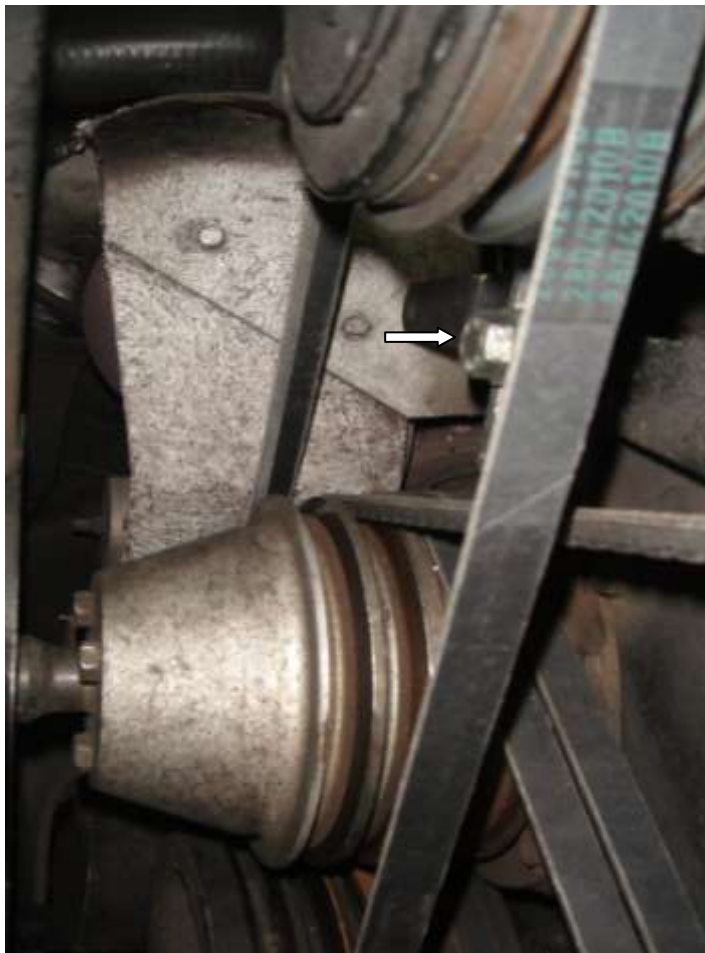
Finally there is the release of your hijacker's arm. Never ever force a window down, something will break. That is what you should have told your captive. He will now be pleased to see the adapter made from a cheap socket, which can be used to patiently wind the window glass down, release him to the local constabulary then wind the glass home again.

✘

CHANGING THE BELTS ON A POST – 20,000 SERIES SPIRIT



It's good to see these cars getting into the hands of enthusiasts. Our Technical Library has all the info but as the Chinese say – 'one picture' etc. The down side of the later models is



that they enjoy a sump oil cooler which is located behind the main radiator core. This has meant mounting the oil filter on an outrigger and piping the oil to it via massive flexible pressure pipes. In addition there are two pipes to the transmission cooler. All these can be seen in the picture above.

The alternator and power steering pump are mounted on frames which share a common pivot point. The bolt which anchors them can be seen here under the compressor. The shroud at the left rear is covering the turbocharger.

A further complication has been the migration of the power steering

pump to the left side of the engine and poked under the alternator. This is to accommodate the turbocharger which if fitted is on the right hand side.



This is one of the tensioning bolts, in this case for the alternator. The bolts need a 7/16" AF spanner and a ratchet ring can be very useful. The special bolt head through which the tensioning bolt is threaded has a threaded shank and nut at the other end to finally lock the adjustment in position. Having threaded the belts the relevant unit can be tensioned manually with a suitable lever. Holding the unit in place with the lever the tensioning bolt can be screwed up with your fingers and the final adjustment made with a spanner. Be sure to use anti-seize grease on all the threads.

Step one is to remove the oil filter carefully preferably after the engine is cold. The belting differs, apart from their routing, from earlier cars in that they have tensioning devices. These consist of a single screw with an anchor point. Some are not particularly accessible so remove the screws clean the threads thoroughly and check that they screw into their fixture with finger pressure. This will allow you to run them up easily before you have to resort to the tedium of spannering in a confined space.



And here is the tensioner for the power steering pump, accessed from below.

Note that the compressor belt is sitting in the wrong pulley groove – it goes in the rear one. The front groove is for the air pump if fitted.

Getting the belts into the correct grooves and keeping them there was the hardest part of the job.

AUTOMOTIVE VANDALISM



At left is the mounting face of the engine oil filter on a low mileage Turbo Bentley. Some very lazy person who either did not have a filter wrench or couldn't be bothered getting one apparently used a cold chisel! This explained the little dribble of oil at the front and possibly the higher oil consumption.

Below left, the rubber seal has been torn.

The picture below does pose the question of whose fault is this?



The above is the gubbins for the ABS system (antilock brake system). The small grooved box lying on the insulated air conditioning pipe should be held to the rest of the assembly but it seems that being continually smacked by the pipe



was too much for the grooved moulding and it broke. It can be remounted with a cable tie pending some sort of more effective repair. The obvious prophylaxis is to have the aircon pipe remade a little shorter. Caution here as these cars have a history of breaking the rigid pipes where they are joined if any un-natural strain is placed on them.





MAINTAINING THE PARKING BRAKE PADS

This is a worm's eye view of one of the rear brake rotors with the parking brake caliper. The small pads that clip into the 'jaws' are handed – a fact not often noted by the unfamiliar installer. Note that the curvature of the friction material matches the curvature of the rotor. If they don't they have been incorrectly installed!

The 'jaws' float on their pivot pins and align themselves with the rotor surfaces. The orange coloured spring simply stops rattles and keeps the pads apart. It is important however that the 'jaws' float freely. If as can happen their pivots dry and rust, one jaw can jam against the rotor and burn out the friction material on the brake pad.

To do the job properly undo the adjusting nut completely and also the small bolt and washer holding the retaining fingers and swing the jaws out. Liberal squirting with brake cleaner to clean off the brake dust and road muck follows. The pivots can then be liberally dosed with WD40 and the whole lot reassembled and adjusted.

