TEE-ONE TOPICS

Number 54 June, 2006

GRINDING AWAY YOUR LIFE BUOY

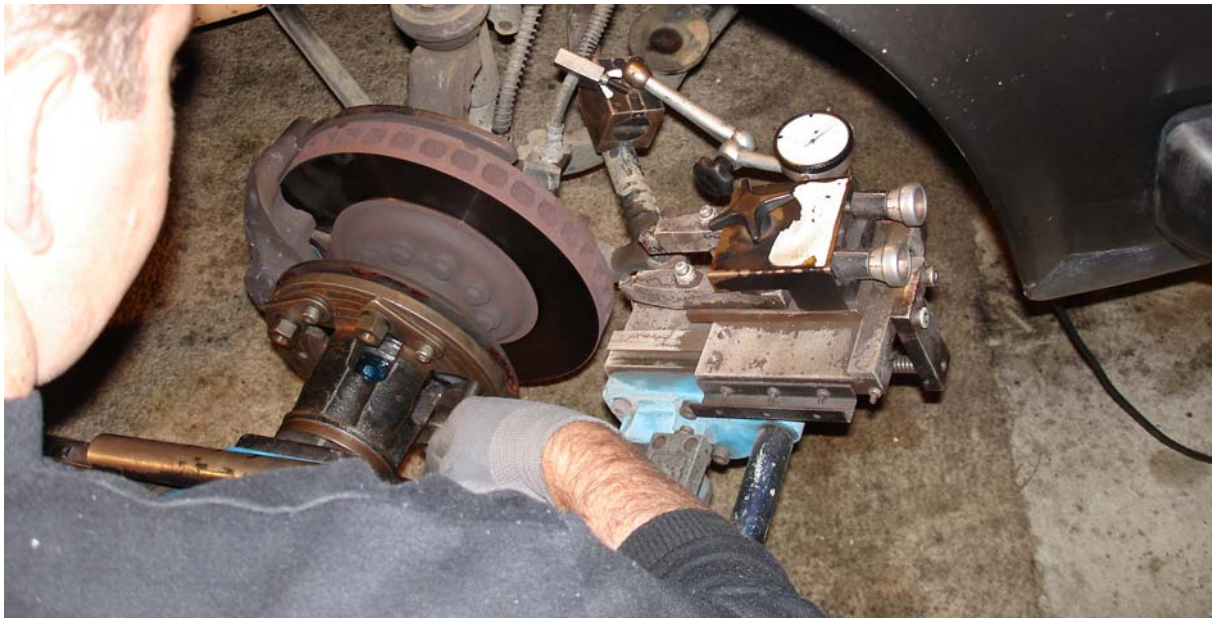
Did you know that by law, manufacturers of brake rotors are required to stamp the minimum thickness permitted of their product after grinding on the rim of the rotor. Many cars carry undersize rotors operating below their design limits and while you may have a small touch of suicidal mania, there is the general population to consider.

Rotors as we have discussed tend to warp mainly through being splashed with icy water from the road when they are very very hot. With constant pressure brake systems as fitted to the SY and SZ cars you won't feel a warped rotor in the pedal. But the car will let you know since even the most gentle pressure on the brake pedal will have the car pulling up in a series of jerks as the rotor wobbles from side to side between the callipers. I always shudder to think what is being done to the suspension during these games.

Elsewhere we have addressed the problem. Fortunately not common in this country is the annular connection between the friction disc and the rotor simply shearing off due to corrosion which would have to rank as catastrophic. In this country however where corrosion is not a major problem, over-

ground rotors will still shatter. In short have your rotors checked for thickness or get a micrometer and do it yourself, it doesn't require a degree in maths!

Step one is to clamp off the brake hose to the front calliper disconnect the hose unbolt the calliper and remove it. Here is our local man in Canberra prising the bearing cap off the hub so that his grinding machine will fit over it.

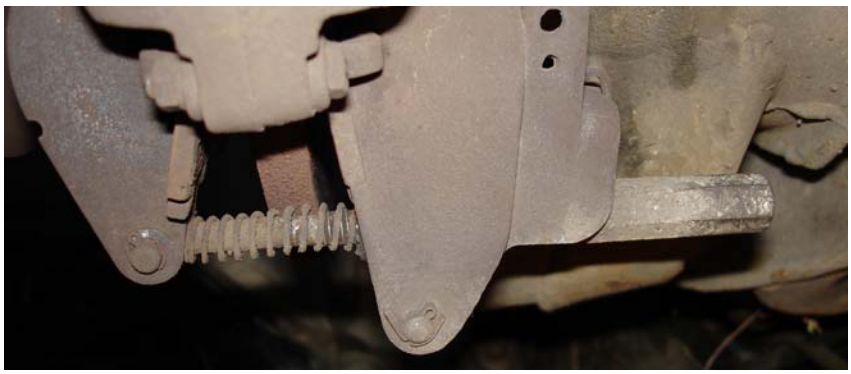


The machine is bolted onto the hub and adjusted to ensure concentricity of the grinding mechanism to the hub centre. Note the dial gauge upper right.

The finished job. It remains to refit the calliper release the clamps and bleed the system. If the rotors are undersized – replace them. Should you choose to use the after-market discs marketed by R A Chapman, the rotors are actually marginally thicker than standard. This allows you to install and have them very lightly ground preferably in situ thereby ensuring perfect alignment!

🛠

REPLACING THE PADS IN THE PARKING BRAKE MECHANISM



I sometimes think we would be better off with a couple of bricks instead of this setup installed on the SY and SZ cars. We have a 30% driveway which is a good test and I have yet to find one of our cars with a parking brake that will hold on it. Because of this drivers frequently drive off with the brake still applied, completely ignoring the red light staring at them to get it off! As a result pads wear quickly, the brake gets out of adjustment and the whole assembly becomes useless.

By comparison (even if invidious) our Lexus parking brake not only

holds the car on our drive but you cannot move it with the brake on, without applying considerable power!

Well as we are saddled with the system it is best to maintain it. The parking brake mechanism is separate from the rest of the brakes and hangs off the bottom of the rear calliper. The force required is achieved by a series of levers that give the operating cables great mechanical advantage. If you have a look you will see quite a number of pivot points and places to wear with no clear method of lubrication. If these are ignored eventually the levers will seize and the parking brake will be even less effective.

In these situations I find the best approach is fill your oil can, get a large bunched old cloth, hold it under the mechanism and flood the lot keeping the oil away from the rotor itself and the pads.

The best time to lube up this area is when you are changing the pads. You can then open things up and really get the oil into the system. First step is to unscrew the adjuster (1/2" A/F) and pull the two sides of the brake clamp apart collecting springs and washers as you go There are two little fingers that bolt on to the main calliper which centralise the pads. They are held on by a 2BA bolt and nut and to make your job easier they should be removed.

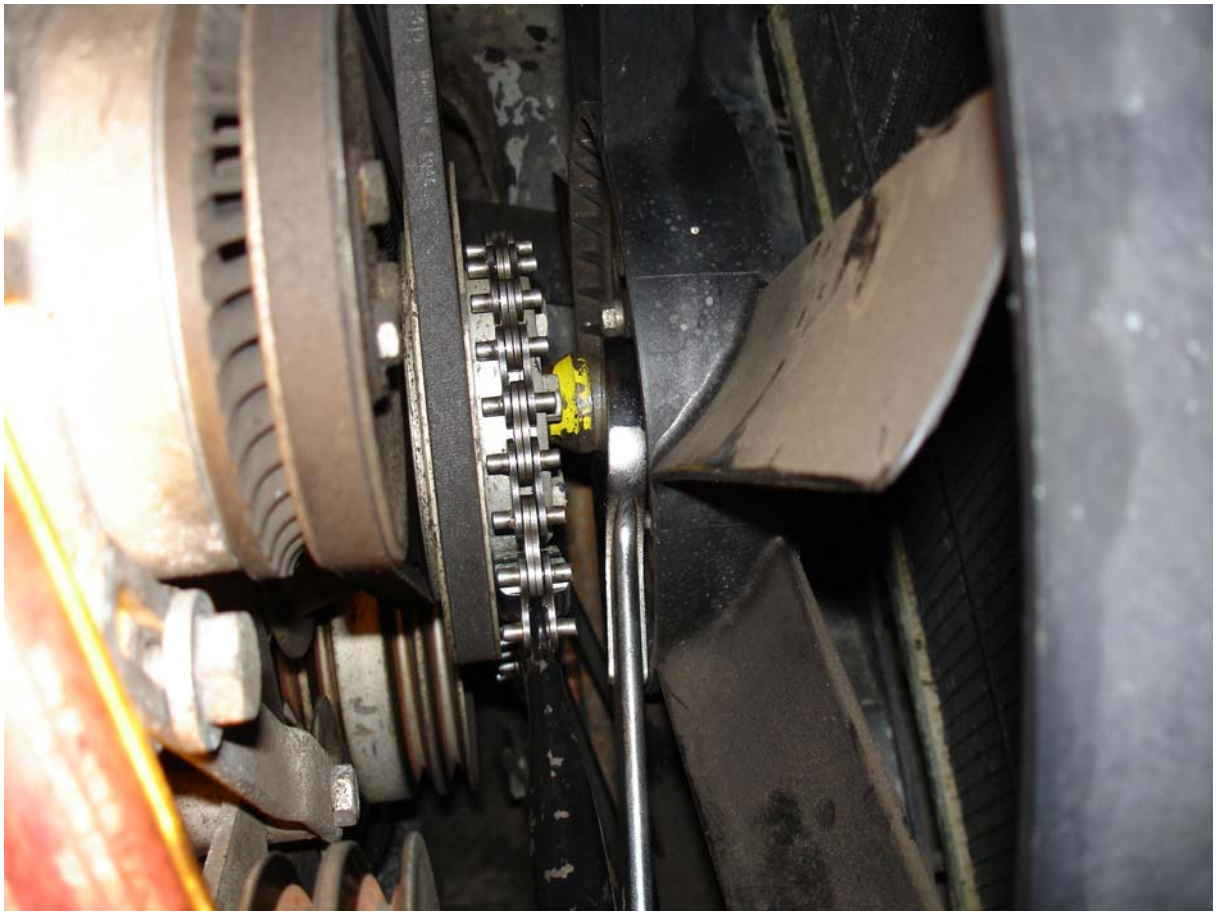
In the pic above the outboard pad can be seen mounted on its lever and held in place by a spring. One of the small fingers mentioned can also be seen ready for removal. The pad is removed by carefully prising the outer loop of the retaining spring out of the notch in the lever, sliding it someway down and then lifting the loop off the lever. The pad complete with spring can then be removed.

The springs are often rusted and over-stretched and should be replaced. It is not uncommon to snap the loops at the end. Note that the inboard spring is larger than the outer one.

Getting the new pads back and threading the springs through the levers is fiddly but careful thought and a patient approach with a screw driver will let you lift the outer loop over the edge of the lever and slide it up to its notch. Note the loop shapes, the square one goes to the pad.

Also be aware that the pads are handed. The 'cutaway' section follows the curve of the rotor. It is easy the put them on the wrong sides.

So you have lubricated the mechanism and checked that none of the levers are frozen, you have replaced the pads and re-threaded the adjusting screw through the inner lever and screwed on the long adjuster. Screw the latter in until the wheel locks up and then back it off three clicks. The Factory recommends bedding in the pads by stopping the moving car with the handbrake. This should be done with discretion so as to not overheat the pads!



REMOVING THE VISCO DRIVE FAN UNIT ON AN SZ CAR

I had decided that I would never tackle this task. There are two methods of attaching the unit to the drive shaft – this one simply involves screwing it on. Of course the thread is left hand and with some 100,000 kilometres to tighten up I was prepared for a grand struggle. In the event sheer force prevailed. The large set spanner seen behind the fan was wedged against the right hand valance. The fan pulley was gripped by a chain wrench. You quickly rue the day God didn't provide you with a third hand holding everything in place before you start applying the pressure.

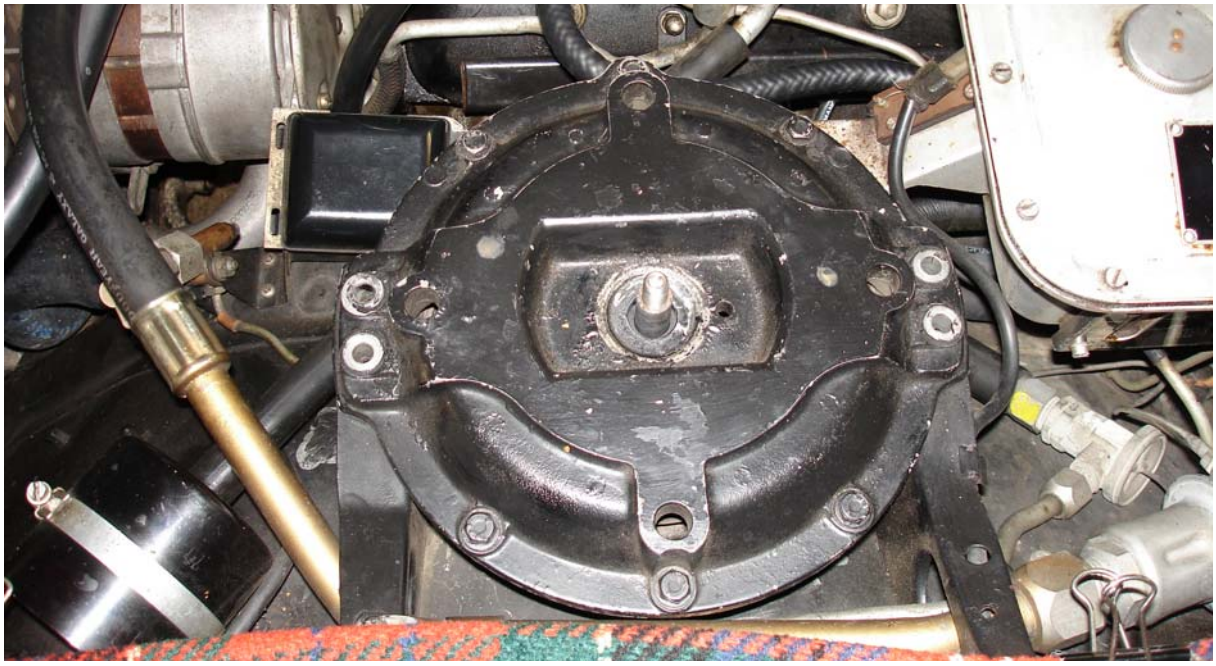
A five foot jack handle was placed over the chain wrench handle and weight applied – succumbed like a lamb!

ARCHIVES

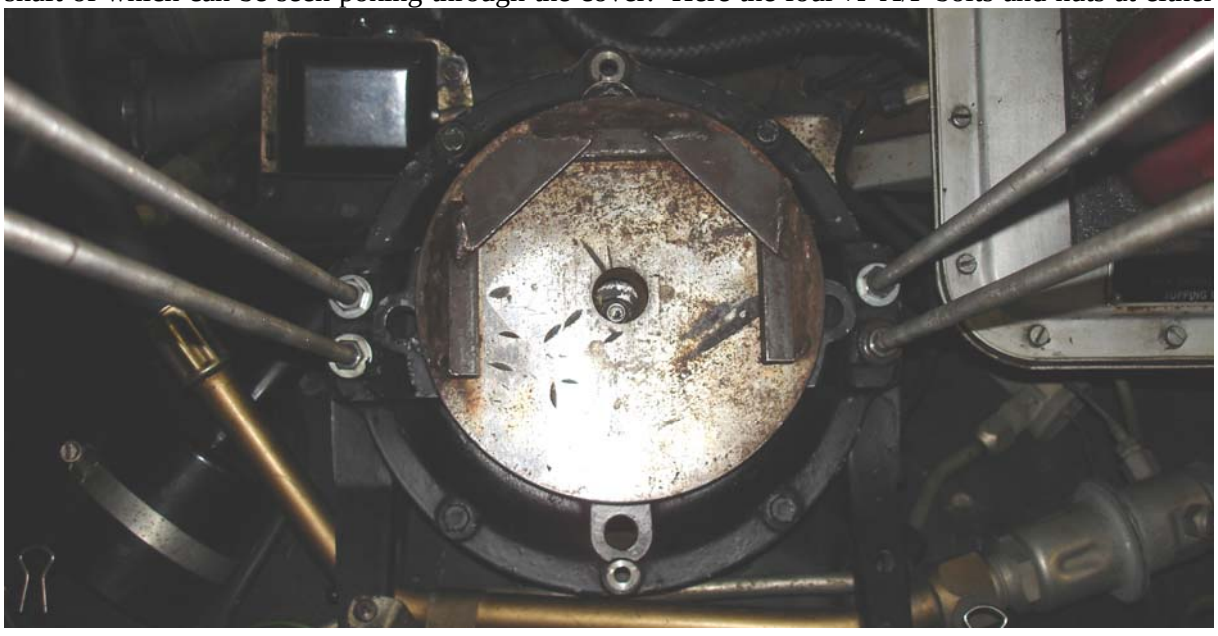
Have you seen the new Sir Henry Royce Foundation web site? Among other goodies they are offering copies of any documents concerning your car that may have been raised by the old York Motors. There is an application form and a fee.

REMOVING THE FRONT SPRINGS FROM AN SZ OR SY CARS

You do not need to be a Rhodes scholar to appreciate that this is a dangerous task. The spring, even with the wheels off the ground exerts an enormous force on its cover and base. If you are going to dismantle the lower joints of the suspension you either have to remove the spring or confine it. We



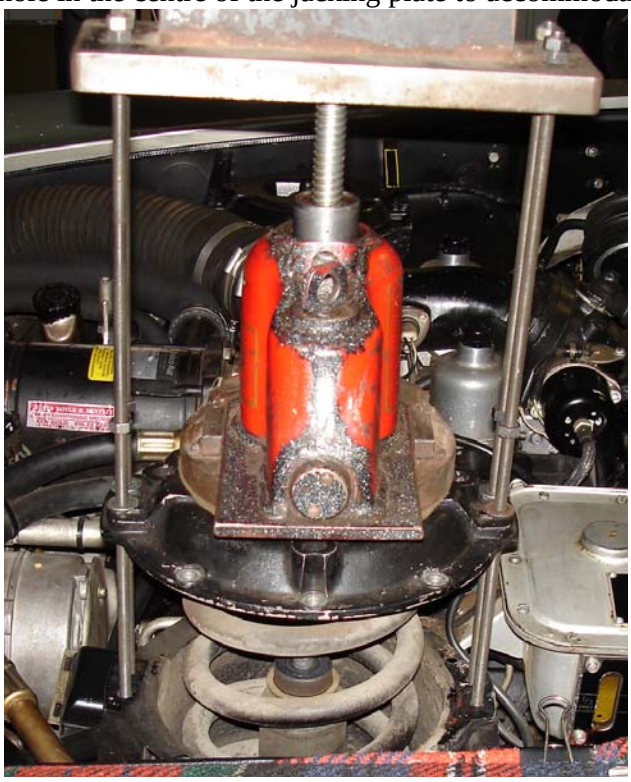
will see how the former is done. The spring pot cover you see above literally holds the car up since it confines the spring under it. The lower end of the spring sits in a cup on the shock absorber the shaft of which can be seen poking through the cover. Here the four ½"A/F bolts and nuts at either



side of the cover have been removed to fit equipment to release the spring tension.. In addition to these there is one more ½" bolt at '12 o'clock' and then five 7/16"A/F bolts to complete the job. In true Rolls-Royce style these are adequate to contain the spring but I would not gamble on removing more bolts than the above until the holding equipment has been installed. There is still alive, a gentleman who allegedly undid all the bolts except one of the small ones. When he commenced undoing that, the cover snapped, missed him and the rest of the car and finished up two houses away in the next street!

The lower photos show an inch thick plate with retaining guides to house an hydraulic jack. High

tensile threaded rods have been screwed into the vacated holes at each side. In doing this use the reinforcing drilled plates under the lip of the pot and use two nuts to secure the rods. The three 7/16" bolts nearest the mudguard are very awkward to replace unless you are ET's brother and have triple jointed fingers. I use an 'L' shaped piece of flat steel to hold the nut and washer under the lip while I carefully thread the bolt down from above. If we didn't have these little crosses to bear we would be bored! Note the hole in the centre of the jacking plate to accommodate the shaft of the shock absorber.



The largest practical two throw jack I could buy was adapted to the assembly. Even with the adjuster at the end of the plunger fully extended, the last ½" of spring travel has to be released with the nuts. A very substantial crosspiece fits over the four threaded rods and there is a recess drilled on the underside of it to accommodate the head of the jack.

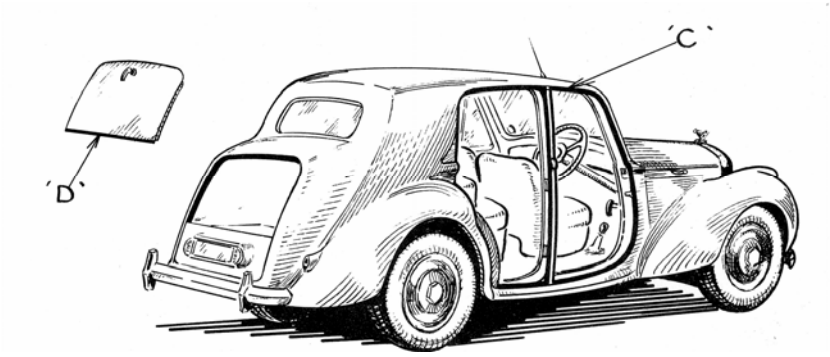
More nuts secure the cross head to the rods and are tightened down. At this stage you can start removing the remaining bolts and nuts from the covers. At this stage from a safety point of view the only way the spring can go is straight up even if the jack failed. At right the jack has been released very slowly. The spring tends to have a mind of its own and lurches as you see in the picture but can be easily corrected by screwing the nuts down on either side.

OUTER DOOR SEALS FOR IMMEDIATE POST WAR STANDARD STEEL BODIES

By dint of population these pages seldom address matters Mark VI but I came across a 1948 Factory Service Bulletin patiently describing the replacement of outer door seals. The writing alone is to be marveled at which was common in those days. I could never work out whether they were patronizing me or considered the average reader so stupid that a style bordering on pedantry was necessary. Times certainly have changed. By contrast similar writings at the turn of this century from the old Factory machine are brief to the point of wondering quite what they meant! Anyway I have chopped out most of the fulsome language and left the bits and the picks which hopefully will be of assistance to those trying to quell the inflow of water and freezing air around their apertures!

Every one knows that there are a whole variety of seals now available which vary mainly in composition. Needless to say, stay away from very hard seals lest you demolish the car trying to shut the doors! The lengths quoted in this Bulletin should also help in knowing how much to by and where to cut!

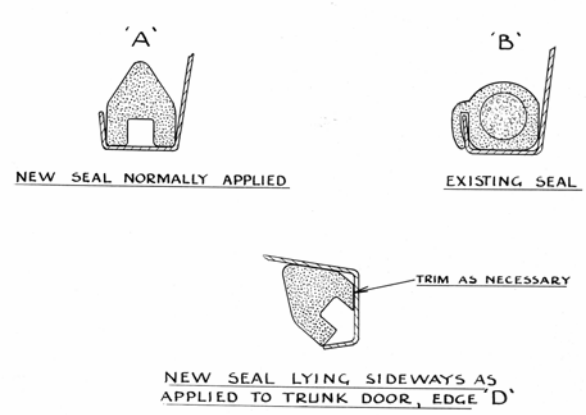
"A new type of sealing rubber for the outer edge of all doors in the standard saloon has been developed, and it is desired to fit this new seal to customers' cars if trouble with the existing seals is encountered..



The new seal is a very soft, white, sponge rubber, roughly triangular in section, as shown at on the diagram and the apex of the triangle forms the contact point for the door, except in the special instance of the trunk door (see later). Owing to its spongy nature, the rubber is very susceptible to oil or grease,.

The seal is held in position by the ordinary Batik 'C' adhesive and it is essential when applying to make sure a liberal quantity enters the groove in the base of the seal. The adhesive should be applied both to the seal and to the channel in the body which is to receive he seal The best results are obtained if the adhesive is allowed to get tacky before finally pressing the two surfaces together.

Part Number	Location	Number required	Length
RB4357	Front door outer	2	108"
RB4358	Centre Post Centre	4	16"
RB4359	Centre Post Lower	4	10"
RB4502	Centre Post Upper	4	24"
RB4360	Rear Door Outer	2	111"
RB4361	Trunk Door Upper	1	74"
RB4362	Trunk Door Lower	1	40"
RB4363	Spare wheel, door	1	64"

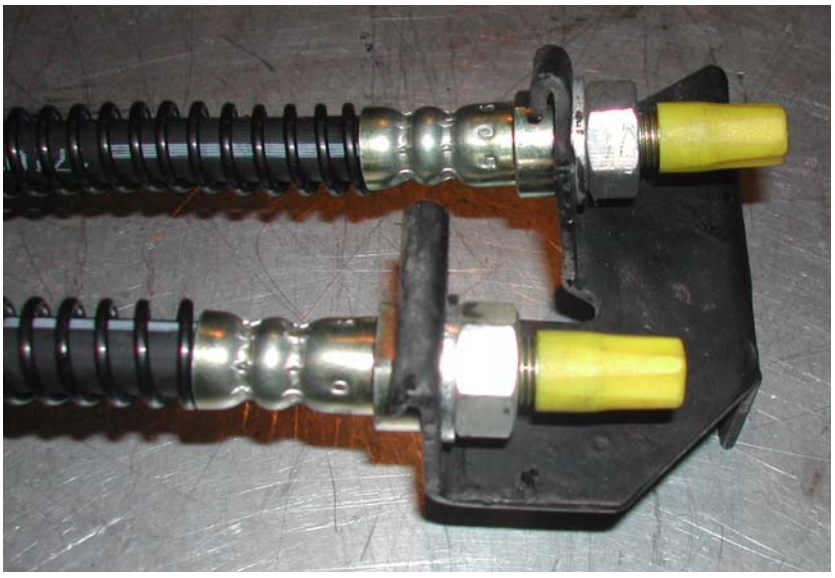


When applying the rubber to the main doors, start at the centre post at the top corner (C) where a mitre joint is essential, then work downwards a short distance at a time, making sure that the apex of the section is lying in a straight line, owing to the extreme flexibility of the rubber this requires care. Only right angle bends need a join˙ as the rubber will accommodated ˙the others. The action of the door shutting tends to push the seal sideways, particularly on the length above the top hinge on the centre door post, so it may be found necessary to reduce the volume of the rubber by cutting a thin layer off the base of the triangular section with a pair of scissors., This operation must be carried out before the adhesive is dry and the seal must pulled away carefully as it readily tears. The lower edge of the trunk door (D) which makes a joint with the upper edge of the spare wheel compartment lid requires the special treatment shown on the diagram whereby the rubber is applied lying sideways, as there is insufficient room for the rubber to be applied normally if the spare wheel compartment lid is to shut properly. Although the new rubber has greater flexibility than the old (B), it may be necessary to adjust he door striker plates to obtain good matching of the doors with the body shell and a good door shutting action.

LOW PRESSURE HYDRAULIC HOSE PROTECTION

For some reason the Factory decided that the low pressure hoses from the reservoirs to the pumps on SZ cars need a bit of protection from heat. If you buy the genuine hoses, the cladding is extra but the more resourceful will note the insulation used by plumbers on hot water pipes.

Trying to insert a dry rubber tube into a dry foam plastic sheath is nigh impossible until you first fill the hole with dishwasher detergent!



SAVE THOSE LITTLE COVERS

One of the nice things about spares for these cars is the care with which spares are packed. One of the obvious ones are the many hoses that we seem to need and they all come plugged or capped. These little bits of plastic are very handy for

blanking off lines that you have disconnected and hopefully taken care to see that dirt doesn't get in there. They also stop that drip which makes a mess on your floor while you are deciding what to do next.

So throw these little bits in a tin and hoard them. You never know when they will come in handy.

REMOVING THE 'A' BANK HYDRAULIC ACCUMULATOR

The spectacle of having to remove this assembly is usually sufficient to bring the new enthusiasts to utter depression. It need not be so. Voted as being one of the more difficult jobs to do on a Shadow II it can be removed with forethought and care. The accumulator is held in place at four points, two of which can be seen in the picture. The third is at the left more or less behind the upper suspension arm mount, seen at the forefront of the picture. In addition there should be a double bracket at the base of the accumulator, steadying the assembly although more often than not this has been removed by some vandal before you and discarded. The difficulty of removing the accumulator and valve assembly is holding it while you bolt it up/undo it and getting the bolts started at the same time. In addition there are three hydraulic pipes attached to the valving and these all have to be disconnected. The most important one is the braided high pressure hose feeding the contents of the accumulator to the chassis pipe network and thence the rattrap under the floor. This pipe currently procurable for about 4 full tanks of petrol is very durable but in old age does not take kindly to rough handling.

Best it be removed first and stowed out of the way. The second pipe to be removed is the low pressure return, the smaller of the two pipes emerging from the top of the valve. If you are dextrous and lucky, loosening the pipe nipple from the valve and jiggling the pipe a little you may be able to unscrew the nipple with your fingers otherwise it is a laborious 1/8th of a turn with a spanner 28 times or so. The nipple and the pipe can be seen through in the picture below. Can I suggest that the remaining pipe – the larger one and the one that feeds the pumped oil from upstairs to the valve – be left to last. But first loosen it. Note that there is a large nipple which can be seen in the picture which screws on to an adapter. If you try to unscrew the nipple the adapter will unscrew. If you keep going you will surely break the pipe! So you have to hold the adapter while you loosen the nipple. Note from the picture the thinness of the spannering flats on the adapter. Most spanners are thicker than that and will engage the nipple at the same time. The solution is to get a spanner (from memory ¾" A/F) and simply thin it by grinding on your emery wheel.

Having loosened the nipple consider undoing the three bolts that hold the whole assembly on the engine block! They are all 7/16" A/F. Be prepared to purchase small ¼" drive extensions and sockets and a universal joint and corresponding ratchet. The 'third' bolt seen in the above picture and the one at the top simply unscrew but the remaining one has a packing piece under it to allow for the curvature in the crankcase.

When all three bolts have been removed your assembly will be left hanging by the large pipe from the brake pump. You are then able to support the accumulator with one hand while you unscrew the nipple and allow the assembly to be lowered and withdrawn.

Installation is the reverse. Firstly hooking up the pump line to the top of the accumulator valve at least hangs the whole assembly in a conveniently position while you wrestle the various bolts through the thing.

🛠

A SMACK IN THE EYE FOR ME

A denizen of Canberra and a member of the Canberra branch of the Australian Club called to say that he had bought a Shadow and could I please have a look at it. This was my first glimpse of the car mentioned on page 612 'The car that wouldn't move!'. After that visit I wrote a rather discouraging letter to the owner suggesting that a quick trip to the nearest wrecker was admissible. In defence of my attitude only months before I had in the company of others more experienced than I, had sadly told a new owner who had forked out some $17K for a white Shadow that had everything originally supplied with the car but also had a quote for $10K just to sort out the hydraulics alone! He finally sold that car for $3000 which was not a bargain but was a good price for an enthusiast !

But foolish me I had not seen the maniacal glint in his eye. He had a Rolls-Royce in his garage and that was where it was going to stay! He was fortuitous in having an immediate relation in the auto repair business and between them and supportive wives they attacked the specimen and converted it. At least to date the body is well finished. Now to the mechanicals.

The following pics are but a glimpse of 2 years work so far. I am still trying to get the egg off my face!

WEB SITES YOU SHOULD HAVE ON YOUR COMPUTER
(In no particular order!)

http://www.rrocavictoria.org.au
The Victoria Branch of the RROC of Australia
http://www.rroc.org.au/
Rolls-Royce Owners' Club of Australia
http://web.rroc.org/
Rolls-Royce Owners' Club of America
http://www.kda132.com/
A site dedicated to immediate post war cars. The owner is a member of the RROC of A.
http://www.BritishStarters.com
An American site offering Nippondenso Starters for all Rolls-Royce vee eights.

http://www.nzrrbc.co.nz/
Our New Zealand enthusiasts web site
http://www.rrec.co.uk/
The British RREC.
barbarawestlake@rrec.org.uk
The address of the lady who will send you the build sheets for your car.
www.enginesaver.com.au
The people who make the sensor to warn you about the loss of coolant
http://www.rachapmanautomotive.com.au/
Supplier of after market manufactured parts as well as comprehensive service
http://www.sumidel.com/
The Australian home for all SU carburettors and parts
http://www.magnecor.com.au/Default.html
Thundercords who will make up your high tension leads.
http://www.vinwire.com.au/
A family business from Bellingen NSW and now sold and moved to Ringwood Victoria. These people will make up wiring harness' for any car.
http://www.natspring.com.au/
A firm that will make virtually any spring needed on a car.
http://www.classicfasteners.com.au/
A South Australia concern that has a very wide range of fasteners detailed in a very comprehensive on-line catalogue
http://www.ppc.au.com/
Permanent Painted Coatings make probably the most durable and heat resistant paints this side of Cape Canaveral.
http://www.rrbew.co.uk/
The Rolls-Royce and Bentley Enthusiasts' Website run free by John Westcott from the UK. This site has a well moderated forum and carries the whole series of Tee One Topics.
http://www.royce.org.au/
The Sir Henry Royce Foundation. The Australian web site recently opened. From here you may be able to obtain past servicing records of your car!
http://www.vintagecarparts.co.uk/
Where you go to get new gaiters made for you leaf springs –formerly Wefco.
http://www.rachapmanautomotive.com.au/
Service for the Southern owners but spares supply for us all. Large range of high value remanufactured parts.
http://www.royce.org.au/
The Sir Henry Royce Foundation – repository of many interesting records, memorabilia and York Motors servicing records which can be copied and supplied for a fee.