

TEE ONE TOPICS

(An occasional bit of bumf distributed among owners and others interested in the maintenance and care of Proper Motor Cars)

Number 3 June 2001

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.

GETTING TANKED

I must confess that I do not know the reason/s for installing header tanks in modern day cooling systems. They do usually make for easier topping up, provide locations for level sensors often provide a visual indicator of capacity and they do ensure a solid mass of water in the actual radiator rather than a half empty header tank on top of the core with water pouring from the top hose in a cascade and stirring up a regular froth which is not the best for efficient cooling and of course they minimise coolant loss through expansion.



Ready for assembly

Rolls-Royce used the actual 'grille' to contain the 'radiator' until the war then switched to the universal practise of placing a pre-fabricated radiator core inside the grille. This feature is also a reasonable prophylaxis against bankruptcy when the thing needs re-coring. Until Ralph Nader and the environmentalists got into the act engines ran

comfortably at around the 78°C mark. Expansion of the water which occurs with normal running was accommodated in the top tank air space of the radiator and any that couldn't fit dribbled out the pressure controlled overflow. This state of affairs continued through the Silver Cloud and S series cars with the exception of those vehicles fitted with factory air when a conventional radiator cap was fitted without a separate steam valve.

The Shadow was born into the emission control world forcing engines to run much hotter, air conditioning became standard soon after the new model was introduced as well as hotter performing transmissions power steering and higher speeds. All this to draw your attention to the header tank on the Silver Shadow that must take the prize for the most inaccessible fixture of its nature fitted to any other contemporary cars. The usual problems with this item are leaks, rotted or lost sensor boots

leaking filler cap seals or pressure valve seals or the water level sensor light driving you crazy with its flashing.



All together. This tank is minus the wire clips which a previous fixit man presumably removed. New ones can easily be made and soldered to the tank

Remove the tank by first disconnecting the two wires to the sensor. These are held by two 6BA brass nuts each with two brass washers which actually sandwich the terminals on the end of the wires. If you haven't got a 6 BA spanner get one. Disconnect the 2 header tank hoses and undo the three 1/2" AF bolts and nuts mounting the tank on top of the radiator. Using proper circlip pliers (get them) remove the circlip holding the sensor prong mounting plate and draw the assembly out carefully. Unscrew the filler cap and

carefully remove the seal under it. Using a flat headed punch lightly tap each of the five 2 BA cheese head screws and liberally soak in Penetrene or similar. Carefully start to unscrew each screw. If you feel the screw starting to tighten up flood it with Penetrene and go to the next one. Recover the warning label and the two spacers under it noting that this has longer screws and recover the washers under the screws. If you have the misfortune to snap a screw/sdo not suicide – we need you to finish the car! If you are adept and reasonably careful drill out the broken screw retap the thread (2BA) and get new screws from your local nut man. Prise off the cover and remove the steam valve and rubber washer beneath it. Steam valves seem to be pretty reliable, if they fail you will get a noticeable coolant loss. If you replace one check that you get the right item as they vary somewhat through the run of the model.

If there is any evidence of leaking take it to a radiator man and get him to open it clean it out and resolder it. Shake the tank to ensure there are not either loose baffles or blobs of solder inside. Again these can be fixed by your radiator man. Ask him NOT to paint the thing. Meanwhile clean up the steam valve cap which is brass and take it back to clean metal. Red oxide the tank and cover and when thoroughly dry finish with black gloss acrylic. Get yourself a 2BA intermediate tap and holder and clean up the threads in the tank and a 2BA die to clean up the screws. Buy a gasket for the valve cover, a seal for the Steam valve and a seal for the filler cap. You will probably need a new sensor boot. If the cap is chipped on the sealing flange get a new one of those as well.

Resort to a good single malt scotch for a couple of stiff ones to get over the price of these items.

Tart up the screws and nuts with some spray can aluminium paint and reassemble the whole thing. Before replacing the sensor check where it sits in the coolant. If you have been distracted by the coolant light coming on every time you go around a corner, try carefully bending the sensor prongs down a little but not so as they will touch the bottom of the tank. Put it all back together replacing the 'U' shaped anti air lock hose in front of the tank and refill the system. Check that the wiring to

the sensor has not broken and ensure that it is neatly clipped to the tank. Also make sure that the overflow pipe goes neatly down the right hand side of the radiator.

V8 Engine Mounts

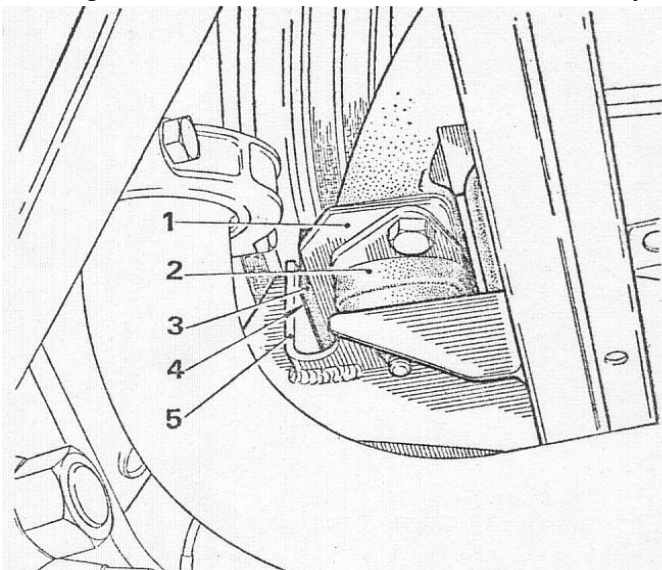
The Silver Cloud/S series with eight cylinder engines enjoyed three point mounting; one either side just ahead of the flywheel and one roughly under number 2 cylinders where the engine sat on a cradle. With the Dawning of the Shadows (?) the cradle was dispensed with and the lower timing case had a foot cast into it to sit on a two stud conventional rubber mount that in turn sat on the front cross member.



The new Mount at top the delaminated one beneath, the stop plate with a new bit of rubber at right

All engine mounts have a life depending on use time and temperature. They either go as hard as the hobs of Hell or they delaminate or simply rot. When I got my Bentley all those years ago I thought the engine 'felt' harsh and examination of the mounts showed that they were like bricks and when I jacked the engine up to change them they simply parted company with the interleaved steel reinforcing plates. This was after 25 years and not much work.

The Shadow enjoys an additional hazard in that the front timing case abuts the water pump with a cylindrical seal between them to keep the oil in. After a while it doesn't. The oil dribbles down and eventually rots the front mount. The nightmare material becomes available when you jam on the brakes, the nose dips violently and the engine stays where it is. The fan then proceeds to destroy itself on the cowling and the header tank with colateral damage. Quite spectacular and very expensive.



Recently I had occasion to change the drive belts on a Shadow and found they could not be extracted from around the crankshaft pulley. Seems the mount had rotted so much the pulley was almost sitting on the front cross member.

The mount is not difficult to see with the aid of a torch and for a further test try gently lifting the car with a jack cushioning the head with suitably placed bits of wood (don't dent the sump) and see if the mounts hold. Don't lift the car off of the ground just enough to reassure you that there has been no delamination.

An extra feature is the front engine stop which sits atop of the mount. This has a piece of rubber bonded to it. The idea is that in the event of a sudden stop the engine will lurch forward and the stop will hit a projection of the front cross member rather than proceed through the radiator core! The gap between the stop and the member is about .050". Check that the rubber strip is still on it, if not pull it out and glue a new bit on!

1. **The stop plate**
2. **The mount**
3. **The rubber pad**
4. **The 050" gap**
5. **The front member stop.**

If the mount and timing case is very oily, clean it well and keep an eye on the rate of the leak. To correct it involves removing the radiator, the bonnet, the water pump, the crankshaft pulley and the lower timing case cover. A fairly big job but quite simple the only special tool being a 'C' spanner which we have!

John W. Begg the Registrar for Silver Shadow, Bentley 'T' & Derivatives has sent out the following for interest.
email – johnbegg@bigpond.com

SELF HELP GROUP – NSW

Date	Saturday 30 th June 2001
Start	09:30 hrs prompt
Venue	Barry Solomon Steering Pty. Ltd. – 8/49a Anderson Road, Mortdale off Boundary/Bonds Road – see below
Leaders	David Gore – NSW Bill Coburn } George Shores } ACT T1 Group
Purpose	Preventative maintenance of Shadows – i.e., 12,000miles/20,000kilometer/Annual Service (Checklist provided)
Activities	Maintenance run through, demonstration, followed by participation
Bring	Necessary parts Tools– including the shifter Workshop manuals Work clothes/overalls RAGS (Lots)
Cost	\$20:00
Notes	Numbers are limited therefore please confirm your attendance by phoning me on 02 9580 1666 by June 26 th latest. Penrite representative will be attending with products for sale – payment by cash/cheque/Visa/Mastercard/Bankcard.
Lunch	Oatley Hotel

Racing, the Spin Doctors and Bankruptcy

Factory racing dates from the beginning of the last century. In those days million dollar law suits, fantastic safety provisions enormous track investment and support teams rivalling a small battalion were unheard of. Times have changed and now only the largest and most wealthy companies indulge in the sport. The 24 hour race at Le Mans is among the most prestigious and probably the oldest (dating from 1922). And Le Mans? Well it is roughly in the middle of France some 400K South West of Paris and 200K South of the English Channel.

With Volkswagen controlling the larder the money machine clearly cranked over and two cars albeit with Audi engines but under the name of Bentley raced last weekend. The spin doctors were in full flight and I found myself getting hourly bulletins on progress. The following collage may be of interest. The bottom line is that the surviving Bentley came in third after the two Audis. All three cars run by the same organisation!

16th June 2001

Team Bentley After One Hour

Le Mans, 16TH June 2001 5.00pm... One hour into the 69th Le Mans 24-hours and Team Bentley's EXP Speed 8 GT Prototypes have progressed quickly and safely through the appalling conditions of the opening hour with the number 7 car driven by Martin Brundle leading the race.

Dodging the carnage that littered the track and making the most of an early decision to fit intermediate tyres, Martin's Bentley took the lead just after half past four, following a lengthy safety car period. The second EXP Speed 8 driven by Andy Wallace was in 17th position after an hour, thanks to a second stop to fit dry tyres.

BRIAN GUSH, director of engineering operations and motorsport said 'The decision to go for the intermediates when we did was very good for us and both drivers did very well to avoid all the accidents while on slicks during the downpour. But it is very early days yet and we cannot always expect the weather to work in our favour.'



JOHN WICKHAM, team manager said: 'We're obviously very happy with Martin leading but the weather remains a constant concern. All we can do keep cool, not make any mistakes while pushing as hard as we possibly can.'

16th June 2001

Team Bentley After Four Hours

Le Mans, 16TH June 2001 8.00pm... Team Bentley's two EXP Speed 8 prototypes have continued to cope with the dreadful weather conditions, with the number 7 and 8 cars lying in 6th and 7th positions respectively. Both cars continue to run consistently through the rain, but are being hampered by poor visibility.

MARTIN BRUNDLE: 'It was just fantastic to lead the race for Team Bentley, but it is so easy to fall off and we have to be very careful. You have to anticipate the weather conditions a long time before you reach them or you have absolutely had it.'

ANDY WALLACE: 'The car is terrific, no major problems. I've been dodging spinning cars and when the Johansson Audi went off, I got clouted by bits of bodywork which loosened one of the wing mirrors, otherwise, everything on the car has been OK.'

RICHARD LLOYD, team principal: 'Conditions make this a real baptism of fire with our new venture, but I'm confident we're coping very well under the circumstances.'

BRIAN GUSH, director of engineering operations and motorsport: 'Our aim is to keep the car on the road. One issue with rain and a closed car is screen condensation and although much of the car's testing took place in the British winter, for once we didn't have much wet weather.'

-ends-

16th June 2001

Retirement Of Number Seven Bentley

Le Mans, 16TH June 2001, 9.40 pm... The Number 7 Bentley EXP Speed 8 prototype has retired from the race after becoming stranded with gear selection problems at the Porsche Curves on lap 56. The car, crewed by Martin Brundle, Stephane Ortelli and Guy Smith, had led the race in the first hour, but coasted to a halt at 8.45pm with Guy at the wheel.

Every effort was made to get the Bentley back to the pits under its own power, but after Guy spent 50 minutes working on the car, it became clear that its race was run.

GUY SMITH: 'At Indianapolis the car wouldn't change out of sixth and it wasn't possible to get around Arnage without slipping the clutch. Eventually the car stalled so I tried to get it back to the pits on the starter motor until I had white smoke in the cockpit and had to pull off. I am utterly gutted not just for myself, but also for my pit crew and team-mates who put so much effort into getting us here and deserved to come away with rather better than this.'

JOHN WICKHAM, team manager: 'Obviously we're disappointed but we will now concentrate all our efforts on number 8 which is running well with Butch putting in quick times.'

BRIAN GUSH: 'We didn't give up until we'd tried everything to get the car back. Had we done so we believe we could have fixed it. But this is Le Mans and that's motor-racing.'

MARTIN BRUNDLE: 'It is bitterly disappointing for us all. I have been thinking about what the original Bentley Boys would go and do now and I think I'm going to follow their example'

16th June 2001

Team Bentley After Eight Hours

Le Mans, 16TH June 2001 midnight... Following the retirement of the number 7 Bentley EXP 8 prototype, its number 8 sister is going well, running as high as third before stopping to change the electronics for its gearbox. This 20-minute stop dropped the car to fifth from where it has climbed back to its current fourth place.

RICHARD LLOYD, team principal: 'Butch suffered almost exactly the same problem with his gearbox as that which caused the retirement of the number 7 car. The only difference is that Butch was stuck in fourth rather than sixth gear so was able to get back to the pit. It's a problem we would probably have found during testing had we had the chance to run in wet weather. The good news is Andy, Butch and Eric are doing a great job and, with new electronics, the car is currently behaving.'

BUTCH LEITZINGER: 'These are the worst conditions I have ever experienced. There are rivers running across the track, cars off everywhere and people everywhere trying to recover them. The car is great considering what it's going through and the tyres are working well. The team did an incredible job changing the gearbox electronics, so at the moment we're looking OK.'

-ends-

Team Bentley After Twelve Hours

Le Mans, 17TH June 2001 4.00am... The number 8 Bentley EXP Speed 8 prototype has reached the half way point in good shape, setting consistent, quick laps in drying conditions with excellent speed being shown by all three drivers. At half distance the car lies in third position behind the two works Audis.

However the car was delayed when the compressor that supplies air for the pneumatic gearchange had to be changed, a feat achieved in just nine minutes by the Bentley crew.

ANDY WALLACE: 'The gear change is working properly now and the car is running as it should. The only annoyance is we still haven't got radio contact with the pit which means I can't advise the crew what tyres to have ready at the next stop.'

JOHN WICKHAM: 'Given the non-existent nature of our wet weather testing, we can be happy to have reached half-way with a car in third place. The track is drying all the time and that should mean we are on more certain ground. But with another twelve hours ahead of us, anything could still happen.'

RICHARD LLOYD: 'So far so good. Eric van de Poele is in the car and putting in a terrific performance. We are also spurred on by the Bentley flags that have been waved non-stop in the grandstand opposite the pit for 12 hours. The support we have received is incredible and makes what we are doing seem all the more worthwhile.'



17th June 2001

Team Bentley After Sixteen Hours

Le Mans, 17TH June 2001, 8.00am... During the last four hours the number 8 Bentley EXP Speed 8 has consolidated its third position, running without fault and extending its lead over the fourth placed car to five laps. It is also back in full communication with the pits.

TONY GOTT, chief executive: 'The way the team has got us through the night has been just magnificent. The drivers have not made a mistake in all the changing conditions while the pit work has been impeccable. I am full of admiration for them all, proud of what we have achieved so far and painfully aware of how much more remains to be done.'

ALISTAIR MCQUEEN, project manager, rtn: 'We re-established communications by putting a portable radio in a plastic bag inside the car. Not very Bentley, but it works.'

PETER ELLERAY, designer: 'Simple logic says a car this young should not be where it is now. We now have to do all we can to make sure it stays there.'

ERIC VAN DE POELE: 'I've been having great fun. The car is really good now and while it's still slippery, so long as you're sensible and know where to push and where to take care, the times come.'

BUTCH LEITZINGER: 'This is now the best car I've driven. It's running just how we want it and while you need to be careful on slicks, others on intermediates are sliding just as much.'

17th June 2001

Team Bentley After Twenty Hours

Le Mans, 17TH June 2001, midday... With four hours to run the number 8 Bentley EXP Speed 8 continues to run quickly and smoothly. It has consolidated its hold on third place, in the last four hours extending it's lead over the fourth placed car from five to eight laps.

RICHARD LLOYD, team principal: 'This is what we call the twilight zone of the race. Mentally we have finished the race, but in reality we have something like three Grand Prix distances still to cover. Focus is everything, the team is exhausted but rising to the challenge magnificently.'

BRIAN GUSH, director of engineering operations and motorsport: 'We're in a period where all most of us can do is sit and hope the weather doesn't turn. We are confident we can keep up the current pace if the weather holds and stick to our race schedule. It's impossible not to think of the finish but I wouldn't say we were yet anything more than cautiously optimistic.'

ERIC VAN DE POELE: 'I can't tell you how much I'm enjoying myself but you have to keep an eye on the conditions which can catch you out if you stop thinking for a second.'

BUTCH LEITZINGER: 'The car is perfect, as good or better than when I first got into it. The track is interesting as the conditions change every lap. There seems to be a shower going round with the rest of us, appearing in different places around the lap just when you don't expect it.'

17th June 2001

After 71 Years, Bentley is Back on the Podium at Le Mans

Le Mans, 17TH June 2001, 4.00PM... It's taken a lifetime but Bentley is back where it belongs, on the podium at Le Mans. During the toughest race in a generation, Team Bentley's number 8 EXP Speed 8 Prototype defied the conditions, its newness and a total lack of weather testing to let Andy Wallace drive triumphantly over the line, second only to the all-conquering works Audis.

TONY GOTT: chief executive: 'It is utterly overwhelming. I am lost in admiration for what the team has achieved today. For myself, I am relieved it is over, overjoyed by the result and proud beyond expression of the company and team.'

RICHARD LLOYD, team principal: 'The guys did a fantastic job. It was such a young programme I didn't dare dream of the podium. I expected the top six but this is unbelievable.'

ANDY WALLACE: 'The reaction was incredible, there is only one Le Mans and I feel fantastic.'

BUTCH LEITZINGER: 'The original Bentley Boys knew how to party but we're going to show them a thing or two tonight. A top ten would have been great, the podium's out of this world.'

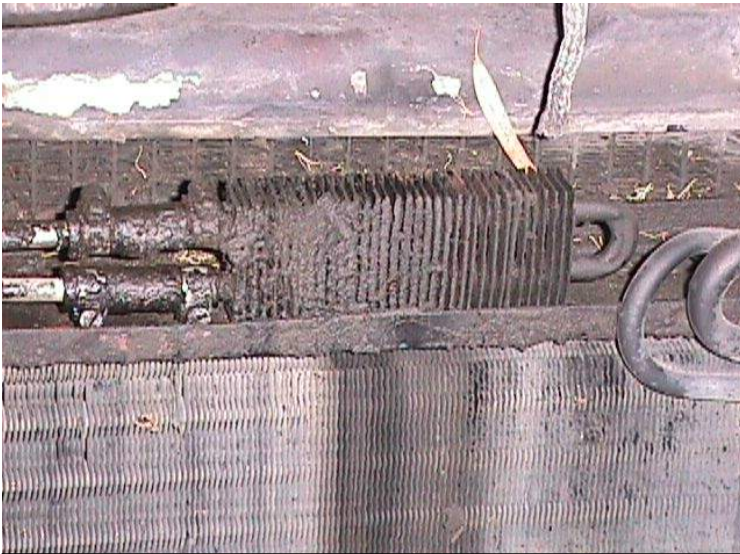
ERIC VAN DE POELE: 'I was the last man in the team - we just wanted to finish - and I can't believe this. I cannot say how much this means to me.'

Infectious isn't it?

Dirty Power Steering

The Silver Cloud was the first Rolls-Royce to be fitted with this feature and not before time. Nowadays the feature is as common as headlights. Most cars use the basic layout of a pump, a valve

system to tell the thing which way to push and a thing to do the pushing. The whole system runs on transmission fluid and is energised by a pair of fan belts driven by the crankshaft pulley.



The oil cooler with the leaking connectors.

The Cloud/S series cars were fitted with a pump with a large diameter reservoir which could and did accommodate a nice little paper filter to get the gunge out of the oil before it was pumped into the systems vitals. The Shadows however used a very common pump that had a smaller reservoir to make it easier to fit into the engine compartment and there was no room for a filter. Even though there is no combustion moving parts generate debris albeit very fine which circulates and circulates only normally being removed when the system is overhauled and necessarily drained.

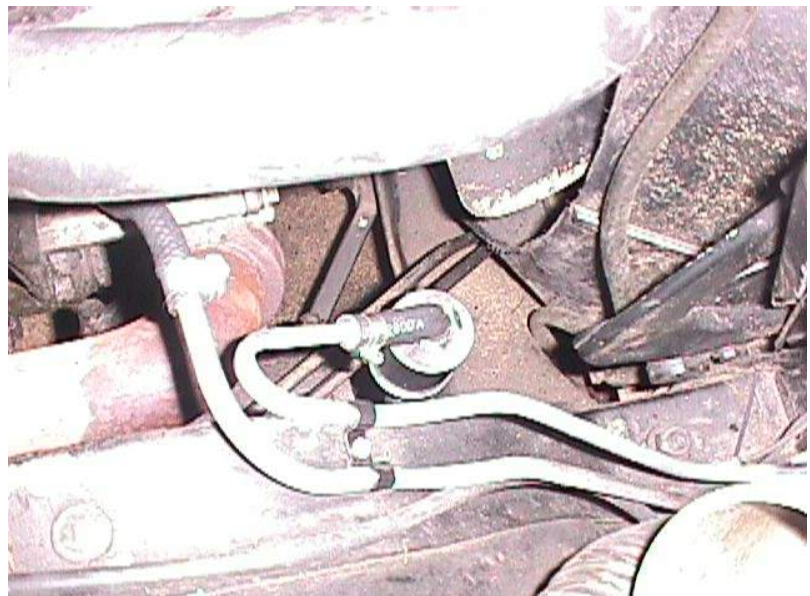
The Shadow uses a unique steering box in which the power cylinder is horizontal.

It follows that the gunge sediment settles to the bottom of this large cylinder and makes for a very nice grinding paste for the piston to work on the bottom of the cylinder. Eventually the box needs to be replaced.

An alternate approach it to fit a transmission filter in the low pressure return line which has an internal magnet that picks up bits of metal and the rest of the gunge is trapped in the folds of the filter. All for about \$25 compared with some \$2500 for the box.



The Question Mark Hose



The in line filter installed. Note the tail of the question mark pipe to the left of the picture. The two steel lines lead to the cooler behind the grille.

The Shadow II also has no filter but uses rack and pinion steering which is probably not as vulnerable. The installation of a filter however is more than advisable. In all case the sytem should be flushed with clean oil. This can be done by fitting a 3/8" plastic hose over the low pressure outlet from the rack/box. Disconnect the coil wire from the distributor cap to prevent the engine starting and

keeping the reservoir full have someone crank the engine over. Do not let the reservoir run dry. Do this until the oil runs clean.

If the above treatment is a new experience, remove the grille and extract the steering oil cooler and flexible 3/8" hose connectors. Clean and replace the connectors. At the back of the steering box there is the 'Question Mark Hose' than links the pump to the filter lines on the side valance pipes leading to the cooler. If there is any suggestion of a leak replace it like wise the low pressure rubber pipe from the box/rack. The latter is cut at a suitable location and the filter inserted in the gap. Ensure that the filter is placed the right way around. It is directional.

If the system drains, lifet the front wheels off the ground and with the engine running and the reservoir kept full turn the wheels slowly from lock to lock until all air is expelled. You will probably find that the system is not only cleaner but quieter.



'O' Group at MacDonaldis

The June Gathering.

Saturday the 13th saw a coterie at the Holt Service Station. John Begg arrived with Eric Hart in the latter's car from Sydney. Chris O'Rourke arrived in Bob Skillen's Silver Cloud which he has subsequently purchased, Greg Whellum arrived with Peter Smith in the latter's car, Wayne Wardman

and Warwick Grig brought their Shadows and John Beagle his immaculate 'R' Type. George arrived with the writer in his ubiquitous van and Lara the mascot looked on. The whole day of course was saved by the arrival of Laraine with lunch.



Chris O'Rourke, Wayne Wardman, George Shores and Eric Hart comparing notes



Eric Hart's Concours Shadow II being drained of its lifeblood



Greg Whellum about to offer some advice



Lunch courtesy of Laraine.

Peter Smith arrived with a pair of new Australian rear springs and inveigled the indefatigable Greg Whellum into helping him change them over. The finished job met all expectations as far as heights is concerned; we have yet to hear about the ride as Peter disappeared in a cloud of tyres smoke heading for town. Further bulletins will undoubtedly be issued.

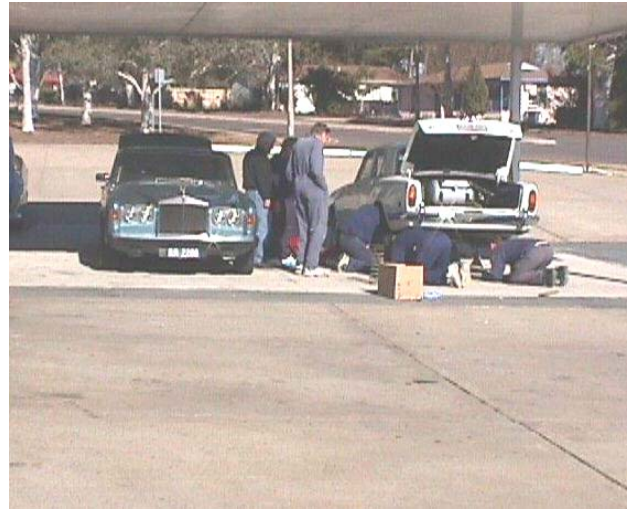


Eric Hart posed the problem for the day which concerned a knock in the rear suspension of his very nice Shadow II. The knock was caused by the rams returning to their datum position, the problem of their moving however allegedly had taxed the best technical brains in Sydney. We await further bulletins.

George showing something to Eric while John Begg adjusts the respiratory system of Eric's car.



John Beagle's Bentley cocked a leg on the nearest curb so that John could adjust the drag link rebound dimension.



Who said anything about Council Workers?

