# TEE ONE TOPICS

## Number 14 June, 2002

# THE PLUGS IN THOSE THERMOSTATS

We all know that thermostats are stamped with a temperature rating, usually these days with



the Shadows and Spirits, it is 88°C. This is the opening temperature. Full opening is usually between 99° and 102°C. The water doesn't boil because it is under pressure (remember Boyle's Law?) The base of the modern thermostat moves downward as it opens shutting off the bypass outlet beneath it.

The plugs are fusible and melt at approximately 124°C if the temperature gets to that level or the thermostat fails. Thermostats are not adjustable and probably should be replaced about every two years. Never run an engine without one. They usually fail open which shows up on the

temperature gauge if you have one. The other indicator is poor heater performance until the engine has been running for a long time.

I found a newsletter dated 18 October 1962 informing service personnel of what to expect in the new S3 model as they refer to it. The following is an abbreviated version.

### SERVICE INFORMATION FOR THE ROLLS-ROYCE SILVER CLOUD III AND BENTLEY S. 3.

The purpose of this News Letter is to present in a concise a manner as possible the technical difference between S. 3 and S. 2 cars.

The following information, although to some extent descriptive, is intended to cater mainly for servicing checks and is published in an endeavour to help Service Personnel responsible for the maintenance of Rolls-Royce and Bentley cars until such time as more comprehensive service literature for S. 3 is published.

## **ENGINE**

The most significant change in the engine specification is that the compression ratio has been raised to 9:1 on cars operating in countries where premium grade fuel is obtainable. In countries where only low octane rated fuel is obtainable, the 8:1 compression ratio is retained.

The crankshaft is nitride hardened and incorporates sludge traps similar to those fitted to the S. 1. The connecting rods have been strengthened and 1. 000 in. diameter gudgeon pins are fitted. The gudgeon pins are off -set . 062 in. in the piston towards the thrust side, on both the 8:1 and 9:1 compression ratio engines. In fact it is true to say that the only difference between the two engines is the configuration of the piston crown.

The torque loading for the cylinder head nuts has been increased to 42-45 lbs/ft, the tolerances in the valve gear train have been tightened up and a strengthened camshaft gear is fitted. The timing gears are lubricated by a flow of oil which is directed between the gears at the point of me sh'.

An enclosed breather system is fitted between the oil filler and the fresh air side of the butterfly in the induction manifold on all S. 3 engines.

#### **Engine Specification**

Т уре	Over square 90 0 V formation, liquid
cooled.	
Number of cylinders -	Eight - in two banks of four
Bore	4.100 in.
Stroke	3.600 in.
Displacement	380.2 cu. in. (6230 cc.)
Compression Ratio 9:1 or 8:1	

Compression Pressure 9:1 ratio = 145 Ibs. sq.in. approx. Compression Pressure 8:1 ratio = 120 lbs. sq.in. approx.

#### Carburetters

The carburetters fitted to the S. 3 have been increased in size.

Data

Make & Model	Twin SU HD. 8. (side draught)
Choke size	2. 000 in.
Jet size	.125 in.
Jet needle	us

#### **Ignition Distributor**

The new ignition distributor contains twin contact breakers which are so arranged that their actions overlap. In this way, one set of contacts connect the low tension circuit, while the second set of contacts breaks the circuit to initiate the high tension spark. The contacts are operated by an eight-lobe cam.

The timing of the spark is controlled with centrifugal governors and a vacuum operated diaphragm. The vacuum tapping is taken off W bank carburetter at the throttle edge. The diaphragm is exposed to the low pressure obtained in the induction manifold and automatically advances and retards the ignition according to engine loading.

An octane selector is fitted to enable one to adjust the ignition timing to suit low octane rated fuels. The octane selector is initially set in the fully advanced (W not '0') position to suit 95 or 100 octane fuels for 8:1 and 9:1 compression ratios respectively, For lower rated fuel the lock-nut should be released and the eccentric pin should be turned anti-clockwise retarding the ignition until a satisfactory performance is obtained.



Only the Americans could do this to a Silver Spirit!

All timing operations should be carried out on the contact breaker set furthest from the vacuum advance unit. The ignition timing should be set to the 'Al ' timing mark on the flywheel and not to the 1B41 flywheel marking.

#### Make & Model

## Lucas 20. D8

Ignition Timing	2° Before top dead centre
Contact Breaker Gap	.014 in016 in.
Dwell Angle	31° - 37°
Mark Location	Flywheel
Cent. Starts. R. P, M.	200-270
Cent. Ends R.P.M.	1,500
Max. Cent. Advance	17° - 19°
Vac. Starts Hg.	5.1/2
Vac. Ends Hg.	8
Max, Vac. Advance	7° - 9°
Direction of Rotation	Anti-clockwise
Firing Order	1,5,4,8,6,3,7,2.
Contact Arm Spring Tension	18-24 oz.
Condenser Capacity	.1825 Mfd.

Ignition Coil

Lucas HA. 12

#### Sparking Plugs

Make & Type

Make & Model

Champion RN. 8

#### **Cooling System**

A new thermostat has been introduced to provide a more accurate temperature control. The new thermostat which is rated at 82°C is wax filled and is not pressure sensitive. This means that this thermostat 'cracks, open at the actual temperature stated thereon. In the case of the gas filled thermostat used formerly, there was some delay in the opening, over the temperatures stated, as with this type the pressure in the cooling system retarded the opening of the thermostat.

#### POWER ASSISTED STEERING

The S. 3 is fitted with a development of the S. 2 power assisted steering system. The power assistance provided has been increased by

(a) reducing the steering wheel rim load after which assistance is received from llb. to 1/2 lb.,

(b) reducing the rim load above which very much more steering effort is supplied by the power-assisting system from 8 - 10 lb. to 6 lb. and

(c) by increasing the power -assistance received between these two points. These modifications have the effect of increasing the assistance received by the driver especially under parking conditions.

In practice, this has been achieved by omitting two of the four reaction plunger pairs, along with their associated springs and spacing pins and reducing the number of springs in each secondary spring pack from twelve to six. Two anti-judder modifications have been introduced

- (a) providing a spool valve with swashed lands and
- (b) fitting restricted banjo-bolts in the steering-box to ram feed lines.

The spool valve housing was produced initially with four bores for the reaction plungers, as on the S 2, but two of these bores were blanked off with aluminium pins. At a later stage the housing was produced with the two redundant bores omitted.

The front end geometry remains the same as for the S. 2.

#### **HEADLAMPS**

The S. 3 is fitted with a four headlamp system to provide more effective lighting which inevitably reduces the strain on the driver.

The four headlamps are sealed beam units. The two inner lamps which are single filament light units are focused as 'main beam' for fast night driving and extinguish when the dip switch is operated. The

two outer lamps are double filament light units with one filament set slightly out of focus to act as a supplementary main beam which also extinguishes on dip; while the other filament is focused for driving on dip and extinguishes when driving on main beam.

On all cars except those destined for the U. S. A. the direction indicator switch is wired so that it acts as a combined direction indicator and headlamp flasher switch. With the main lamp switch in the 'OFF' or 'S & T' position or driving with dipped headlights the flasher switch operates the main beam in each headlamp.

## **INCONTINENT VALVE COVERS**

Ever since Rolls-Royce started leaning their engines over with the advent of the vee eight they have been beset with the problem of leaking covers. Traditionally a thick cork gasket has been set into grooves cast into the underside of the cover and that in turn is judiciously tightened down evenly to effect a seal. Unfortunately the cork with heat and time shrinks and further tightening is required until the cover is actually jammed onto the head. Further tightening is not only useless but is likely to crack the cover.

To check for leaks examine the crankcase from below. The leaking oil will run down the sides of the engine and sump. Not only will the oil leak from around the seal but as happened to me recently when filling the engine the oil literally ran out of the seals around the mounting



bolts on a 1985 Spirit. Some little time ago a neoprene type gasket was introduced which overcomes the shrinkage problem and provides an excellent seal. The leakage around the securing bolts was cured by fitting flat washers under the mounting bolts which have neoprene faces bonded to them. Owners of earlier cars will notice the larger blind bolts securing the cover on the Spirit. Tubular spacers over the studs prevent the cover from being over tightened.

## CHANGING THE AIR PUMP BELT

The air pump was one of the innovations strapped onto the hapless engine of our cars in the



seventies to reduce emissions. Basically the pump, sitting in the middle at the front of the engine drew in air behind its pulley and pumped it via pipes to the exhaust manifolds diluting the output just outside the valves. They give little trouble and keeping a good belt onthem seems to be the only maintenance required. But getting the belt off is a challenge since it is very small and will not fit over the fan. The fan and viscous coupling can be removed as a unit but depending on the water pump hub used this can be very difficult. Another

approach is to unbolt the actual fan from the coupling and thread the belt throught the space between the fan and the hub.

## THE TURBO BENTLEY WHICH COULDN'T

One of these cars found its way into Canberra with a gearbox that wasn't quite sure whether it



The usual had a top gear. diagnosis of a faulty modulator unfortunately didn't fit so up in the air and out with the box. Various labels on it suggested it had been overhauled at least twice in its young life by well advertised specialists from another State. Stripping showed a lot of clutch dust in the pan which was not unexpected. But the reason was not immediately apparent.

These GM400 boxes have two sets of clutches and in this case the front set were almost worn to their base metal yet the rear ones were in excellent condition as shown in the picture.

The centre bearing of the box which carries the whole rotating mass, showed peculiar wear around its mounting bolt.

The picture shows three holes on the periphery. The centre one is threaded and receives the



retaining bolt which passes throught the base of the main casing in the control valve area and the other two are the repective feed holes to the front and rear clutches.

Examination of the main casing showed that the area where the above retaining bolt passes through the box was significantly distorted most probably through over tightening. This allowed the central carrier to move around in the box losing oil pressure to the front clutch and allowing

the it to slip. Fortunately this was overcome by a thick bearing washer in the mounting hole, a new bolt and a replacement central bearing carrier. The finished job was reportedly excellent.

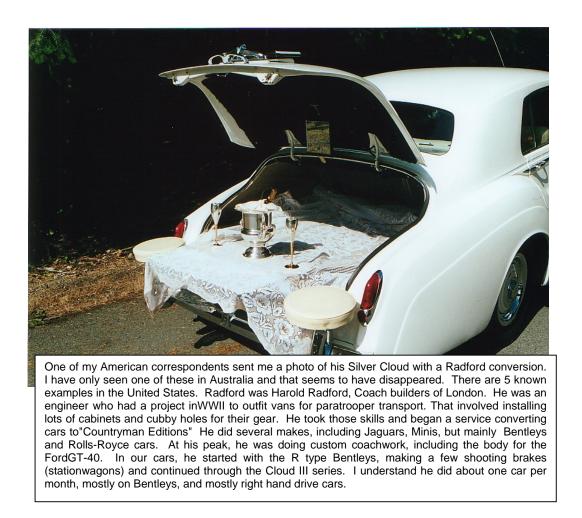


# A LITTLE MORE HOUSEKEEPING

No prizes for identifying this as the after removing space left the windscreen washer reservoir on the right hand side of a Spirit engine bay. These little nooks harbour all sorts of things that work their way up from the road and from droppings by people working on the engine. A good vacuum and then a careful wipe with a metho soaked cloth should be beneficial. It also allows wiring to be

checked for chafing and loose connections. This car also had both mounting lugs broken off the reservoir which were glued on with a standard cyanate glue. Whilst out the reservoir was cleaned of 16 years of sludge and sediment. The pump intake for the washer was found to be partially blocked with this stuff and the lines to jets benefitted from a good blow out.

# **STYLE BY RADFORD**



From "The Cape Times" (Cape Town) "I have promised to keep his identity confidential,' said Jack Maxim, a spokeswoman for the Sandton Sun Hotel, Johannesburg, "but I can confirm that he is no longer in our employment". "We asked him to clean the lifts and he spent four days on the job. When I asked him why, he replied: 'Well, there are forty of them, two on each floor, and sometimes some of them aren't there'. Eventually, we realised that he thought each floor had a different lift, and he'd cleaned the same two twenty times. "We had to let him go. It seemed best all round. I understand he is now working for GE Lighting."

## SHADOW RAMS



For those that have not seen them these are the gadgets that lift the rear of your shadow. The cylinder on the right screws onto the ram and in turn sits on the road spring suitably separated by an isolator that insulates and locates the coil. It also allows shims to be placed above the spring to adjust the height.

George Shores had most of the rear end out of his Shadow II recently when I managed to get some

interesting shots – this is but one. More has been promised!

## **ONE APPROACH**

A police officer pulls a driver over for speeding and has the following exchange:

Officer: May I see your driver's license?
Driver: I don't have one. I had it suspended when I got my 5th DUI.
Officer: May I see the owner's card for this vehicle?
Driver: It's not my car. I stole it.
Officer: The car is stolen?
Driver: That's right. But come to think of it, I think I saw the owner's card in the glove box when I was putting my gun in there.
Officer: There's a gun in the glove box?
Driver: Yes sir. That's where I put it after I shot and killed the woman who owns this car and stuffed her in the boot.
Officer: There's a BODY in the BOOT?!?!?

Hearing this, the officer immediately called his captain. The car was quickly surrounded by police, and the captain approached the driver to handle the tense situation:

Captain: Sir, can I see your license? Driver: Sure. Here it is. It was valid. Captain: Who's car is this? Driver: It's mine, officer. Here's the owner's card. The driver owned the car.

Captain: Could you slowly open your glove box so I can see if there's a gun in it? Driver: Yes, sir, but there's no gun in it. Sure enough, there was nothing in the glove box.

Captain: Would you mind opening your boot? I was told you said there's a body in it. Driver: No problem. Boot is opened; no body.

Captain: I don't understand it. The officer who stopped you said you told him you didn't have a license, stole the car, had a gun in the glove box, and that there was a dead body in the boot.

Driver: Yeah, I'll bet the lying bastard told you I was speeding, too!

# A LIFTING COMPARISON

A friend of Doug Bindon-Howell, John Wyers turned up in his very smart Citröen. When he opened the bonnet there was a very familiar sight. The accumulator on the right is one of eight fitted to his car, the one on the left is one that I had removed for replacement from



Doug's Spirit. Dimensionally they were identical as were the charged pressures. Apparently the spheres differ throughout the Citröen by the use of restrictors in the neck of the unit which are swaged in. The other difference is that the Citröen units are a third of the cost of the RR items! And the enthusiasts re-charge them!!

Doug Bindon-Howell, despite my most venemous threats refuses to delve into the intricacies of his car, a magnificent 1985 example of a Silver Spirit. The car had covered some 42,000 kilometres in 16 years and if anything, had perished rather than worn in the interim. But he loves the car with a passion, particularly the way it drives. And he also appreciates the provenance of the breed, something that seems to be completely lost on the younger driver. Recently Doug came across a 40 year old article by Laurance Pomeroy one of the UK's then more notable social commentators. It is offered for your enjoyment.

# **On Running a Royce**

BY LAURENCE POMEROY

WHEN SURVEYING thirty-five years of adult life the missed opportunities are all too clear. If in 1927, following a rather good report on the six-wheeler motor coach situation in Germany, I had taken the offered job with one of possibly the managing director, of one of Britain's leading industrial concerns; if 1 had followed the advice to stand as a National Liberal candidate in 1931 I might have possibly been in the Cabinet today; if 1 had pursued and married the heiress whom I met at the Conservative College at Ashridge in 1936 1 should now be prominent in potted meat; most significant of all, if 1had not been excluded by a car accident from joining the Navy in 1920 1 might today be one of their Lordships. Mercifully there are credits as well as debits, and I count this day of writing, June 22, 1962, as the first anniversary of an indubitably wise decision. This was to spend £1,350 in the purchase of a 41/4 litre Silver Wraith Rolls-Royce, Chassis No. WFC 83, with an undivided H. J. Mulliner four-seater saloon body which was delivered to its first owner by Jack Barclay in 1950 and had since put 91,346 miles on the clock. The vendor was Harry Martin, who assured me that the engine was not yet run in after a complete overhaul, and that the front suspension unit had been reconditioned. Despite this and the generally excellent external condition of the car I was aware that for this sum 1 could buy a new 3-litre car with disc brakes and an automatic gearbox, capable of 100 m.p.h., with ample enclosed luggage space and an all-round fuel consumption of 17-19 m.p.g. Bearing in mind that at least half my hourly motoring is in London, I was somewhat apprehensive about the driving of so large a car in London traffic and parking it in London streets. It could not fail to cross my mind that the running costs, after such a considerable mileage, could be expensive in terms of petrol, oil, maintenance and repairs.

Putting these prudent doubts resolutely behind me I had little hesitation in closing the deal after a two-mile road test round Regent's Park. Now, after twelve months, I can make a report which may be interesting to the general reader and of value to persons who contemplate following in my footsteps. The main merit of the car has been its unfailing reliability. With 106,299 miles now on the clock the mileage in the past year has been 14,753, and the only mechanical failure a leaking exhaust manifold gasket, which, annoyingly enough, spoiled a 100 per cent record a week ago. The mechanical chassis lubrication system eliminates monthly maintenance and the only required service attentions, for items which have become less than 100 per cent, but which have left the car completely driveable, have been the replacement of a rather tired electric wiper mechanism; relining the brake servo; eliminating stickiness in the horn button; replacing the electric clock; and fitting a distributor arm of the right make in place of the foreigner mysteriously in its place when the car was bought.

There have been three regular service attentions and four new Dunlop tyres, which still have another year's use in them. The coachbuilt body has also needed attention from time to time, more especially in clearing the drain pipes from the sliding roof and in striking the right balance between doors tending to stick and others producing a slight rattle. During a day's work Mr Fred Connolly had his men bring the hide upholstery up to a condition barely discernible from what it had been twelve years previously. In round figures the cost of maintenance and mechanical work has been £75; on the body £30; the electrics £15; and the tyres, say, £30. Total maintenance had thus amounted to £150 This would have been less if a new car had been bought, but in their first 5,000 or 10,000 miles new cars can be subject to endless teething troubles and it would have been exceptional to have had the use of such a vehicle for more than forty-nine weeks out of fifty-two. Even if all the work were done free under guarantee, there would still be a bill of £50 for hire of a substitute, a half worn-out set of tyres (around £20), so that in sum one has a figure for a new car of about £100, together with the misery of many minor ailments which it seems almost impossible avoid. A motor car is an assembly of 20,000 pieces, and if put together with an external accuracy of 99.9 per cent will be delivered to the customer with twenty things wrong. In my youth it was commonplace for every chassis to be driven on the road with a soapbox body for a week or two before being fitted with its body then for a further week in order to seek and rectify minor defects before the buyer had the car. Such procedure would be prohibitively expensive today and the owner of a modern car who complains of unreliability should bear in mind that he has paid a basic price of £1000 for a car superior to one which in pre-war periods would have cost him £4,000 in terms of modern money. In the Royce any journey, however long or short, is rewarding.

Starting from rest, a slight whine on the first gear (belying the fact that the designed life is one and a half hours at full torque) soon changes to a barely audible hum on the two indirect ratios which are engaged with the utmost smoothness by small movements of the short right-hand gear lever. Clumsiness with the clutch or gear lever brings immediate protest, but reasonable skill gives superlative response. The driving position is as near perfect as can be and, although this is not a car intended to be hurled through corners at sports-car speed, the steering in itself is, from the hand-wheel to the road-wheel, made to such a pitch of efficiency that it constantly signals to the driver the equation of cornering force and road surface, and reflects without perceptible loss in time or effort every response of the driver. Thus, whether one is threading one's way through traffic leaving bare inches on each side, or sweeping round a main road curve, the Royce sets an example which is rivalled by no more than half a dozen models of today, of which four are made in Italy.

From the viewpoint of the driver the elevated seating position is of value in evaluating the traffic as well as giving a good view of the surrounding country. On the open road, and since Sir Henry Royce adapted the Hispano Suiza braking system for his cars in 1924, the stopping power of these vehicles has been rightly renowned for low pedal pressure, even response and absolute consistency; but minimum stopping distance has been less remarkable, and it would be absurd to pretend that my 1950 car can equal the all-round merit of a 1962 design with disc brakes on all four wheels. This notwithstanding, in city work the braking system must be rated excellent, and on the open road it is more than adequate in relation to a true maximum speed of around 80 m.p.h. and a normal cruising speed of 70 m.p.h.There may be many who would regard road speeds of this order, with an inability to out-accelerate a Minx or Victor, a genuine deprivation, but this is something which is 'all in the mind', and a level of performance acceptable on a car which is running safely, silently and smoothly might be a misery on a low-priced production car which was short, brutish and nasty. Compared with a new car of comparable price one must, in given circumstances, be prepared to sacrifice 5-7 miles in each hour of running time, so that if you were to start on a new car at 9 a.m. and stop for luncheon at 1.00 p.m. I and my old Royce would be twenty miles or so away, and would arrive about half an hour later. To offset the depressing prospect of thus missing two or three aperitifs is the fact that the Royce is not just a restful car; it is a positive therapeutic. 1 have often (truthfully) said that certain cars could be driven 400 miles in a day without physical exhaustion, but the Royce is the only one I know in which I can start in the morning physically exhausted (from causes into which we need not enter) and finish the day's run wholly revivived

This thaumaturgy I explain by the fact that cruising at 70 in silence is restful; the steering and brakes combine to give a sense of continuous security; the succession of views from the high placed seats is intellectually stimulating; and the general respect that is paid to the car is emotionally satisfying. The music from the Radiomobile transistor radio is reproduction of a very high order and the comfort of the seats is at least the equal of the armchair from which I am now dictating this article. These pleasures on the journey are greatly fortified by the practical picnic equipment. The pull-down tables are sufficiently big to permit a tablecloth with plate, knife and fork, and a glass, with a bottle of fizz placed upon a supplementary shelf which opens up below. Sunshine and fresh air can pour in through the sliding roof and can be enjoyed both when stationary and at any speed. It has well been said that every gentleman's house should have a gallery in which he may walk in the afternoon should it rain. I feel that no car is complete without some form of opening head. A further joy of the

Mulliner body of WFC 83 is the ease with which one may move, 1 had almost said walk about, inside it. A matter of moment is that the 'B' pillar is sufficiently behind the front seats to make possible the insertion of parcels between them and the rear bootrest without opening the rear doors. Only when picnicking, and taking an occasional nap by the side of the road, have I myself had cause to appreciate the exceptional legroom in the rear compartment, but my adult passengers have waxed enthusiastic at being able fully to extend their legs, and when visiting my daughter's school I have found it quite easy to take her and four friends to make a seven-seater load. important than the somewhat exiguous enclosed, lockable luggage space, but if one has any faith in human nature it is possible to divide the load by an ingenious Mulliner refinement.

Having first stowed any delicate personal effects or tender luggage, these can be isolated from wind and weather by pulling down a roll-top after which a full-sized cabin trunk can be strapped on to the nearly horizontal luggage platform, distance pieces being swung up so that the bodywork cannot be harmed, and the tail itself held at an angle for added security. In this fashion it is probable that more luggage can be carried on the car than with a current design, but, taken all round, I do not pretend that the efforts of the engineers at Crewe in the past dozen years have been wholly in vain. The latest cars enjoy power steering and can sustain far higher road speeds; they are immune from the small draughts which it is almost impossible to eradicate from an elderly car and they have an altogether higher standard of heating and ventilation. Moreover, suspension has come a long way since the immediately post-war period. A wheel encountering a manhole cover sends a shock through the relatively flexible frame of WFC 83, which is in turn followed by shake through the hand-made structure of the Mulliner body, and certain kinds of wavy road surface will promote a strong pitching motion. The wise man will, with such a car, slow right down before traversing a passage ~ niveau in France; it is manifestly incorrect to translate this phrase by the English 'level crossing'. However, the general behaviour of the 1950 car's suspension on rough French roads is far better than one might expect it to be from isolated examples of poor British roads. One thing remains common, irrespective of the country in which one is motoring, or the model one is driving. This is 'The Magic of a Name'. Very soon after I had bought WFC 83 a friend said that he assumed I had been animated mainly by the initials on the radiator. This is not true, but 1 agree that the prestige of the car is an added attraction, more especially as I conceive it to be snob in the French, but not in the British, meaning of the word.

Certainly no car could be further removed from presque cad. This instant and well-nigh universal recognition of top quality has many practical advantages as well as being an occasion for personal pride. Egress from side turnings is eased by the way in which other traffic halts; police assist; attendants at car parks which look full find that extra little space; when visiting factories one is waved on to the director's entrance. Also important to many people, including myself, is that a car of this kind is 'neutral' in the sense that one is not insulting any other manufacturer by failing to run a car of his make.Last, but by no means least, is the attraction of first-class detail. The throttle, the ride control, a fuel gauge accurate to less than half a gallon, companions in the rear quarters, subtle interior lighting, and front seats by which after being pushed back to ease exit subsequently latch on to a pre determined position when moved forward, are minor items which in all give a major feeling of satisfaction. And all these good things are to be had for nothing even after allowing the extra £50 as compared with a modern car in respect of maintenance and using 100 gallons more fuel and 10 gallons more oil to give a total cash 'premium' of £80. For in fact this £80 is turned from a loss to a profit by the movements of the second-hand market. These fix the depreciation of the possible new Blank or Dash at £525 during the past twelve months, and for the Royce at £350, so that I emerge from the wholly satisfactory deal with a benefit of £95. Even friends who said that my purchase of the Royce was an extravaganza crowning a lifetime in which I have been continuously suspended over the abyss of bankruptcy by the cantilever of credit, cannot deny this to be a good thing. Thus with reason 1 drive this splendid memorial to a man who was one of the world's great mechanics, in a state of euphoria which enables me to reflect that perhaps all does turn out for the best in the long run. 1 do not have the instinct for profit which is the hall-mark of the first-class businessman since, in the words of the good Queen, 'we have gone sliding down into Democracy' politics have become a dreary, as well as a traditionally dirty game; zeal for potting meat might well have been short lived; and an alternative to Admiralty could well be lying full fathom five, my bones of coral made.

# **FILTERS**



Neat paper filters have been fitted to all Shadows and Spirits and not infrequently tired mechanics have discarded them on the basis that the under floor primary filter will do all that is necessary. They are a standard commodity and should be available from your friendly local carburetter shop. Don't forget to replace the 'O' ring. The plug is extracted by a standard 7/16' AF bolt.



# **Bonnet pads**

These get pretty crappy with time. They are designed to be fire proof sound proof and heat proof so if you are having them remade select your materials carefully. They can usually be removed and cleaned with care. The retaining clips have been re-designed and are readily available.

# WAYNE'S WORLD

Wayne Wardman has been a busy owner over the last couple of months as will be seen by the following contributions.

# **Upgrading Silver Shadow II Front Roll Bar**

Not being a lover of body roll I have just replaced my front roll bar with a replacement obtained from Kellow-Falkiner in Melbourne. (I replaced the rear two years ago and this has been documented elsewhere.)

I removed the protective paint and re-did it in POR 15 for a more lasting protection.

The new bar necessitates upgrading the rubber bushes, which are from the Turbo R. They are however far from a perfect fit and considerable effort went into widening the internal diameter from the 27mm standard to 31mm.

I did this by heating a copper pipe and burning away the rubber – vernier in hand. A laborious task. (George Shores, on hearing this, purchased an abrasive flapper and fitted it to a drill – making that part of the task one of a few minutes only!)

The outer dimensions needed some trimming to fit in the retaining catch. This I did by careful use of a grinder.

Once in position some ritual application of POP 15 was undertaken on exposed metal and she was ready for a trial.

The result was wonderful, body roll being decreased by about a third. The bar cost \$170 and each bush \$14, so it is a reasonable exercise for the considerable gain.

# **Replacing Scuttle Foam on Shadows**

The foam air filter under the Shadow bonnet scuttle deteriorates with time and replacement is simple and inexpensive.

Go to a rubber and foam supply shop and ask for 3mm foam - take a sample if in doubt.

The scuttle is 3 feet by 4 inches.

To remove the scuttle, raise the bonnet. This gives access to the five 2 BA retaining screws.

Release these and refurbish if necessary – treat rust and repaint etc. The scuttle with its water hose can be inverted. (This is also a good opportunity to ensure that the drain hole is clear.)

Carefully separate the old foam from the scuttle and use this as a template to cut a fresh piece of foam.

Site the new foam making sure it fits properly at the rear side.

Replace the 5 screws and the job is finished.

# Fitting the high brake light to a Shadow





This is now getting to be an S.O.P. in these cars.

If undeliverable please return to Post Office Box 8 MAWSON 2607 ACT AUSTRALIA

POSTAGE PAID AUSTRALIA