

TEE-ONE TOPICS

Number 27 August 2003

WEEP FOR ME

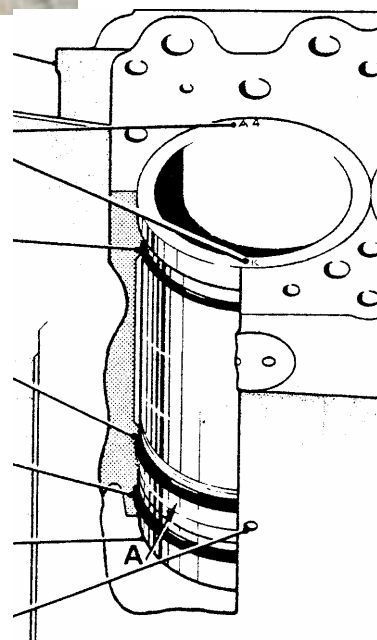
This is the symptom that we all dread, coolant leaking from the 'Tell-Tale' holes. The bottom



of the cylinder liners on all our vee eight engines have two 'O' rings to seal them in the cylinder block. The bottom one keeps the oil in the sump and the top one keeps the coolant from the sump. The space in between should be empty and dry. Given the vulnerability of 'O' rings generally, the Factory in its wisdom drilled a hole in the block casting midway between the

two 'O' rings. And so if either leaks into the no-man's land' between the 'O' rings it should dribble out the tell-tale hole. And here we see that very symptom possibly set off by using a cleaning agent in the block. As the word seems to have come into modern social usage 'BUGGER'. The drawing to the right shows all three 'O' rings on the liner and the tell take hole between the two lower rings. But before you condemn the use of a cleaner be aware of the ravages of corrosion in these blocks. The net result on some blocks is a build up to the point where the block has actually been destroyed by cracking through the concretion of corrosion. This is a common sight near the seashore where old bolts through wood will rust and build up a deposit of rust that will split the wood that it may pass through.

An added hazard exists in removing the liner. With the build up of corrosion in the narrow spaces around the liner it can well split a block if its extraction is forced.



TODAY'S WORLD

Bespoke once signaled the most exclusive and personal of services – tailor made clothes to fit your every bend and bump. It seems these days that preserving these bends and bumps from the ministrations of terrorists is more relevant. The following article was kindly forwarded to me by the RROC of America and is offered for a little thoughtful reading

Bentley Mulliner leads the way in Security Protection

Crewe 14 April 2003: Forget the Kalashnikov AK-47 assault rifle, probably the most recognised terrorist weapon in existence. The latest B6-specification Bentley Mulliner protected limousine can cope. It offers ballistic protection from even more significant firepower and will protect occupants should high-powered hand grenades detonate above the roof even while two detonate simultaneously below the floor.

Bentley Motors' Mulliner division, the company's specialist bespoke department, now offers the most comprehensive armoured protected vehicle service in the world. Work includes anything from simple 'smash and grab' toughened side glass, to bulletproof glass, to full armour plating designed to pass the world's toughest security standards.

Bentley incorporates the armour plating and energy absorbent materials into the vehicle at the initial production stage. This is unusual. Most other manufacturers offer armour added as 'bolt on' extras, usually by third parties.

"Bentley makes armoured cars, not cars that have been armoured," says the director of Bentley Mulliner, John Killick. "It is a crucial difference. We not only do the vast majority of the work in-house at Crewe, but we also do it to the quality levels expected from a Bentley."

The suspension, brakes, traction control and stability programmes are re-engineered and upgraded to match the armoured body shell and to make sure the vehicle still stops and handles like a Bentley. The whole vehicle is more durable than an after-market conversion. Performance, road behavior and durability are also improved. The cars also look 'normal', as opposed to being overweight and bloated. Five armoured prototypes were specially built and subsequently tested around the world in representative high and low ambient conditions.

The protected limousines, based on the Bentley Arnage saloon, are offered in 250mm, 450mm or 728mm extended wheelbase guises, and are individually tailored to the owner's choice. For full B6 protection, the typical cost is about £200,000 on top of the normal car - but this depends on the degree of personalisation.

Further safety options include an oxygen supply system and exploding door hinge bolts that blast open doors allowing a quick exit. Driver training is also offered.

Bentley Mulliner is newly launched but can trace its ancestry back more than 200 years. It is formed out of the old Mulliner Park Ward coach-building division that once serviced both Bentley and Rolls-Royce, but now has a broader remit and a bigger workforce.

Apart from armoured protection vehicles, Bentley Mulliner personalises vehicles in virtually any way that the customer wants. This includes handcrafted cabins, long-wheelbase limousines and even unique one-off vehicles. Last year it built the State Limousine, as used by Her Majesty The Queen to celebrate her Golden Jubilee. About half of all Bentleys are personalised by Bentley Mulliner in some way.

"No other motor manufacturer offers the level of bespoke hand-made service provided by Bentley," says Mr. Killick. "We do not just change trim colour or materials, we can completely reconfigure the interior. Imagine an empty room...we can build-in whatever 'furniture' and technology the customer desires...every car is unique".



WINDS OF CHANGE

There is a saying in the popular argot 'What planet are you on' or words to that effect. I often wonder myself. For fifty years I have worked on a variety of models of Rolls-Royce and Bentley cars and despite the fact that I have finally dispelled any belief whatsoever in the masses of tripe put out by the Factory spin merchants, I still love the beasts. The great trials held at the turn of the last century to prove the invincibility and reliability of the Marque bred a faith in the vehicles that seems to have been almost mystic. And yet in this last week I have had two Spirits fail to proceed for quite mysterious reasons – both electrical, three older cars with failing power steering and a collage of other chassis with quite extraordinary problems. Yet we persevere.



These grotty things are the caster bushes that stop the front wheels falling over . Simple to replace, they seem to last 60 – 90K and can be replaced without disturbing the wheel alignment.

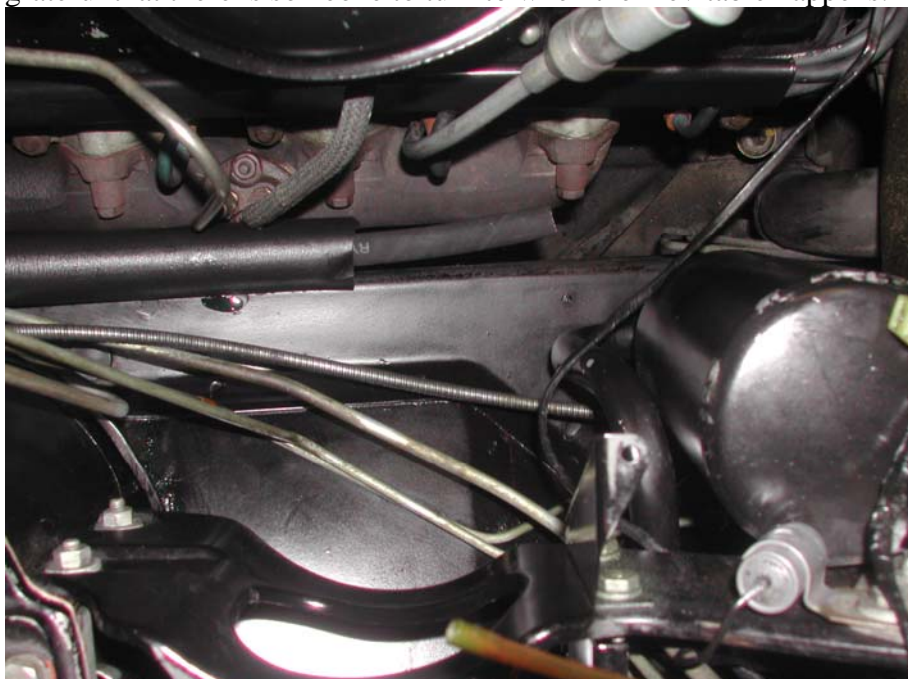
The solution to this situation as I see it is for owners to work together, share their problems and help each other. George Shores for some years when he was a member of the local Branch of the Club bullied and prodded fellow members to take an interest in what was happening under the bonnet. He got members to come together and actually work on their cars. Not all chose to do so but even the remainder took an interest in what was being done. Extraordinarily a well entrenched group within the Club clearly did not approve of these activities and looking

back, appear to have raised subtle objections to self help activities as they became known. The final weapon was the dreaded public risk insurance problem probably precipitated by Osama's activities in Wall Street. The objection was so strong that George offered to hold the self help activities remote from the Club – an offer which was quickly accepted.

What started out then as a small group of enthusiasts working on their cars steadily grew. Technical detail and procedures were offered, explained and shared, cars were examined and criticised far more stringently than any local inspection scheme and most importantly, the cars, and I am numbering these at about 12 in this little town, showed a significant improvement in condition. During all this time not an iota of interest or concern was shown by the local remnants of the Club and so we went on our own way doing what we originally joined the Club

to do. Inevitably the camaraderie of our group of people welded us together and we found ourselves having the odd social get together and having simple drives in the cars on which we worked so hard.

Because there were so many snippets of information dropped at the self help get togethers I took it on myself to record them in a news sheet which quickly ran to a monthly paper cynically titled 'Tee-One Topics'. The latter is now about to hit 400 pages, and is distributed around the world as well as to members and owners all over Australia. The self help concept has spread to New South Wales, Victoria and Queensland and regularly I get thanks from outlying owners who are grateful that there is someone to turn to when the inevitable happens.



One innovation with the Spirit was the insulation of the lower pressure brake fluid supply lines from the reservoir to the pumps. The material is the standard foam 'rubber' tubing used for hot water pipes in this country. Near the top of the picture to the left of the dipstick tube are the inlet and outlet pipes to the exhaust heat exchanger for the automatic choke. Here they have at last given away lagging the inlet pipe which can only carry ambient air!

With a couple of exceptions all physical participants in these activities are members of the Club, and recipients of the newsheet in the main are members of one of the World's RR Clubs. We started our activities by declaring us as separate from the Club largely for self preservation but with the other Branches picking up and organising their own self help activities we ceased declaring our 'independence'. Since we are clearly unwelcome in the local Branch most of us are now members of the New South Wales

Branch. We have always extended our invitations for activities to Branch members which so far have not been accepted. But that seems to have annoyed our local Branch and complaints have been laid again about our activities. In short no matter what we do or say, this group is determined to denigrate us for what reason I have no idea. After all I would have thought that our aims and actions are precisely what the Club should be about rather than rejoicing in 80 year old advertising copy or wondering at the experiences of drivers and owners of yesteryear. Perhaps I am on the wrong planet.



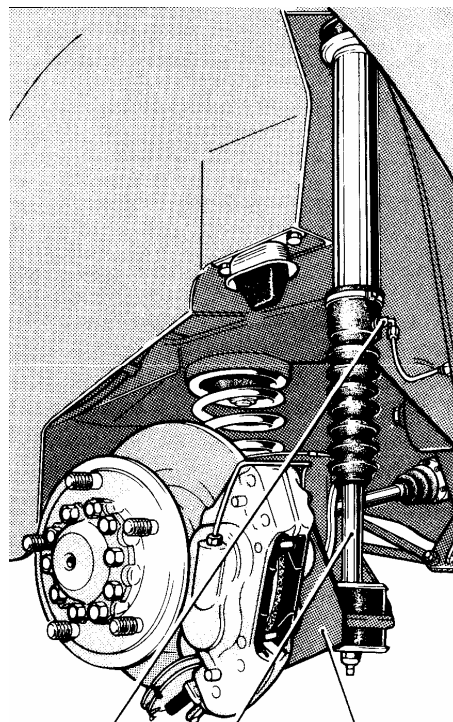
Rear levelling on the Spirit and Spur

I don't know how many times I was belted as a child for using things until they broke – purely in my mind as an experiment. My son Simon followed the family tradition and when things did break the reply was inevitably 'you don't think I broke it on purpose did you?'

And so I have sold my own house and need to move. There in the garage toilet is over half a ton of Italian tiles that I bought 12 years ago to do the bathroom etc. Well I do not rush into these things. Remembering when I purchased these items I loaded them into my XF series Ford Falcon and remembering that I lowered the car with the weight until the whole suspension front and rear was barely off of the rubber buffers, I thought 'I wonder how the Spur with its gas springs will handle this?'

The boot full of tiles (over half a ton) the back sunk to well over covering the tires half way to the white side-walls. I started the engine and left it idling so that I could stand back and watch. The dear old thing paused then slowly rose to the occasion and reverted to her original height. Furthermore, when the weight was removed the height remained the same.

This highlights the important difference between the Shadow and the Spirit. The latter sits on struts whereas the former sits on springs. Even so the nitrogen in the gas springs must eventually be fully compressed in which case the car would be sitting on a column of inelastic oil. I would like to try it but not with my car. The Shadow incidentally will carry about 600 lbs by which time the rams are fully extended and the springs simply start to squash down further. Lastly, the small pipe that drains any excess fluid from the strut seen here above the convoluted sleeve, is plastic and fatigues. If you have a damp patch at this point get a kit from the agents and fix it. It is not under pressure and merely requires a couple of spanners and the rear wheel off.



SMART GROUP DOES IT AGAIN

Dick Donnelly and Robin Hickman organised some 17 cars and 44 people to get themselves to Griffith New South Wales for a very relaxing weekend at the end of August. As usual we were all booking diet sessions on our return. The weather while cold was clear until coming home on Sunday when it rained for us all the way to Canberra. Dick organised us to see one of the pioneer farms in the area that produces mind numbing quantities of grapes and enough orange juice to float the QE2! Lunch followed at an enormous winery where we threw suitcases away to make room for more booze.

Mid afternoon practically everyone turned up to a technical session run by Bob Chapman and myself and only one attendee nodded off – a record!!! Bob recovered our recalcitrant student very quickly when he described in his talk dealing with safety, the kinetic effect of a head on collision. Always having had a weight problem I was singularly distressed to find that at 60 kph my body assumed a potential weight of 2 ½ tonnes should I have an immediate halt. Then there was the story of the most dangerous weapon on the road – motor cycles. Apparently as he recounted, a rider, intent on achieving a 0 – 60 kph acceleration in 2.3 seconds failed to notice a car turning across his path. The combined mass of the bike and the rider by now a lethal projectile easily penetrated the car through the front door and he, together with the car driver and the passenger beside him along with the bike all managed to fit themselves into the front

seat. As people filed out to get ready for yet more eating that night, phone calls were heard booking cars back to their garages on the back of a truck!



Buckingham Palace on the other hand doesn't have trees like this.

Sunday morning we all hoped for a little lay in but not a bit of it. RSM Donnelly had us up and away for a short drive to one of the most palatial homes I have ever seen although Buckingham Palace is a bit larger! The owner and his wife made us most welcome with a sumptuous morning tea and let us sticky beak around the place. Peter and I tottered out of there a little before midday made quick farewells and fled home frantically

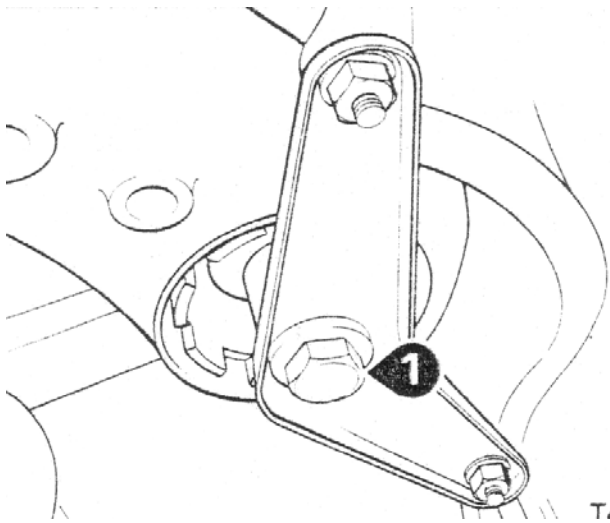
trying to raise the after hours number of Jenny Craig. The more capacious however went onto yet another farm and yet another lunch. Others will chronicle this event in far more detail but the whole weekend showed what can be done when you have stalwarts who get in there and get us organised. Long may they live!!



As many owners will know the variety, uniqueness and ubiquity of sounds in a Rolls-Royce motor car are without peer in the automotive annals. My Spur has a toilet in it somewhere apparently, since every morning after travelling some hundreds of metres there is the clear sound of a toilet lid being dropped shut. There is a case for exorcism with some of these cars! John Elmes owner of a sumptuous and disturbingly virile Bentley Turbo has brought one of these sounds to boot heel it seems.

GETTING FRAMED – ONE APPROACH

Several years ago Ian and I saw an Italian movie made if I remember correctly by Zeffereilli and starred the lovely Gina Lollobrigida. Well she not exactly top billed but played a supporting role to a Silver Shadow. The film's opening scene was from the driver's seat with the Spirit of Ecstasy gently guiding the way through the streets of Rome, the radio softly playing music and the driver's thoughts being the only other sound. After leaving the city the driver picks up a handsome stranded motorist. Before long she offers him a drive of the Rolls and when he allows the car to run up onto the median strip she berates him, telling him that you just don't treat these cars like that. They are "Jewels" she says.



This is one of the two rear mounts of the front sub frame. I asked Andrew just how tight he thought he was making these bolts given that the Factory recommended some 80 ft lbs. He thought he had applied an 'elegant sufficiency'. Which reminds me that Henry Royce once opined that a trained fitter with a plain spanner was superior to any tension wrench!

Now the point is, every time something goes wrong with my car I remember that movie and try to consider how delicate or jewel like they are. Recently the Turbo R developed a nasty clunk when turning to full lock. Suggestions were offered such as loose rack, wheel bearings, etc etc.

At that time Andrew Gibson called to have some of his wife's jewellery altered. I told him of the symptoms and wouldn't you know when he drove it there wasn't an errant sound to be heard. However Andrew said notwithstanding he knew what the clunk would be. The sub frame was no doubt loose. He asked if I had long tommy bar and I showed him one which I thought was a reasonable size. He said when he comes back he will bring one. A week or so later Andrew produces a tommy bar about a metre long. We put the car on the hoist and

with this huge tommy bar Andrew put all his weight behind it (he's no midget !) and turned each of the 4 nuts securing the sub frame. Two nuts turned about one and a half turns and the other two about half that. No more clunks ! Thanks Andrew. He also said that sometimes tightening the frame isn't enough. On some occasions the bolts have to be packed with grease to stop the noise.

Now if you also have what you think might be the same condition, check it out. Don't bother using a 3/4AF socket and the handle which comes with the set. You wont get anywhere. You'll think they are tight. We're talking serious leverage here. This is the water pipe over the handle stuff. These are no jewels, Get stuck into it.



Well we finally stopped tinkering and went for a drive to Bungendore. All went well pleasant company no breakdowns and finished up at Steve and Michelle Crocker's place at Wamboin.

STOICHIOMETRY

I did think my days of chemistry and physics were at an end but apparently not so since this extraordinary word lunged into my conscience. Some of my more devoted readers will recall my swearing that I would never tackle a Silver Cloud after my Silver Dawn as they were far too complicated. Then it was the Shadow and then it was the Spirit. You would think I would learn! The Silver Spirit sailed onto the Australian market in 1980 and in those great days the Sydney agents would drive up to Canberra for a great weekend with the Club with everyone getting a drive of the new product. In 1986 Spirit engines suddenly grew lots of pipes and plumbing never seen before and life in the engine compartment became beyond comprehension. Fuel injection had arrived! Actually it was not new to Rolls-Royce, the system had been installed on Silver Shadow It's destined for California, the smog capital of the world, for some years. 'That is it' I said 'Never will I touch one of these monsters'. And so it came to pass that a charming local lady decided that she couldn't continue without owning one of these cars and landed in Canberra with a very nice 1987 model with moderate mileage and obviously little used. As a token gesture I changed the car's oil just to let it know that I was in charge in the technical department and that any nonsense would be dealt with very promptly.

Driving for the owner was delightful except she enquired whether it really was necessary to have about 10 cranks before the engine would start when hot. Fearing the worst I approached a long standing friend with the problem to be told that the solution is simple, the thing is losing fuel pressure while it is standing. I contemplated this over one of my better single malts and discovered to my discomfort that the



Filters are so easily forgotten. They are easy to change inexpensive and so vital to keeping the car proceeding. Before starting to change one get yourself a clamp to squeeze an upstream flexible line and hold the fuel while you do your job.

fuel injection system pressures hover around the 70 psi mark. Compare this with 2 ½ psi on my dear old S2! But then I learnt about a fuel accumulator which was adjacent to a new fangled fuel pump over the back axle, that somehow absorbed a good dose of this pressure and when you switched the engine off retained it for the next start.

The catch it seems is that the fuel pump only operates when the engine is running or the starter is starting. Well this gadget turned out to be not holding the pressure and the problem was compounded by yet another valve inside the pump which also allowed the highly pressured fuel to dwindle away and wander back to the tank. Cold starting was no problem as another squirter in the system then sprays fuel and gets the revs going.

It was all too much and after waiting three weeks for the parts to come from Germany (it is a Bosch system) my friend installed the bits and the engine starts as it should. But I felt vulnerable and begged to borrow a book on the system which I am now trying to follow.

We all know that carburettors are devices for mixing fuel and air before it is sucked by the pistons into the engine to do its work. Even the best have been fairly crude contraptions – equivalent to squirting a garden hose across an exhaust fan. But the eco-terrorists insisted on minimising the unburnt fuel coming out of the exhaust pipes as well as the soot and various other nasties which we seem to breath all day. The solution you will have guessed was to inject a precisely measured squirt of fuel into the ingoing air stream in the hope that it would all be burnt. And so we at last come to the startling term stoichiometry. Stoichiometry is figuring out how much stuff you need to make something. For example, if you are going to build 100 cars, how many wheels do you need? This is a (nonchemical) stoichiometric problem. It can be solved using Unit Factor Analysis by introducing the wheel/car ratio:

Given the car has four wheels, then

$$\text{the number of wheels} = 100 \text{ cars at } 4 \text{ wheels per car} = 400$$

If we want to know how many wheel nuts we need, this becomes

$$\text{nuts} = 100 \text{ cars } (4 \text{ wheels/car})(5 \text{ nuts/wheel}) = 2000 \text{ nuts}$$

Just as a factory owner is concerned to have the right number of wheels and nuts available for the number of cars he is making, the Crewe people tried to work out the quantities of air and fuel to achieve maximum efficiency with minimum pollutants. If they use more fuel than is needed, some will be left over. Not only is this wasteful and polluting but too much fuel can cause a different reaction from the one intended to take place. Factors that have to be taken into account include the molecular weight of the fuel, its volume at given temperatures and its temperature at the time of squirt. Are you still with me? I thought not but I hope you have the general idea. For a novice such as myself the whole system is horrifying yet if these cars are not to finish up on the local tip, we will need to have at least a basic understanding.



GETTING UNDER ONE'S GUARD(S) - Wayne Wardman

My Shadow aerial motor recently expired. The fix proved very easy – just removing the front right wheel and then the stone guard gave ready access to the defunct unit. Alas, it also gave ready access superficial rust on the outer panel and a considerable amount of dirt and small stones. So out came the vacuum to do its part. I then applied rust converter to good effect, followed by my favourite POR 15.



Applying the logic that the left side of the car was exposed to more potential risk I chose to remove the guard on that side and repeat the process. This was much more difficult. The factory used self tappers with Phillips heads of too small a dimension

to loosen easily 25 years after manufacture. (The driver's side had been removed in the past to fit the aerial so the self tappers were freer.)

After much scratching and application of Penetrene I had to resort to grinding the heads off three self tappers. On removing the guard there was a bit more rust and debris than on the drivers' side. A culprit here was the windscreen washer fluid overflow pipe being too short. It missed the outside world by a good 6 centimetres and had clearly deposited its flow into the sill!

The rust was converted and POR 15 applied and a new hose of proper length sited. The guard was repositioned with self tappers that had decent sized heads and sealant applied to prevent debris or water passing the guard.

On the passenger side, an overflow drain hose for the windscreen wiper container was found to be well short of its exit point. A suitable extension was made from garden water system hose so that any overflow would in future exit the car's body work. A simple but fiddly job that proved very worthwhile!



THE ROLLS-ROYCE PHANTOM

(Continued)

Electrical systems

A holistic approach to customer peace of mind, as typified by the PAX tyre system, can also be seen in the power supply, which features two liquid-cooled generators and two separate batteries, one for the main vehicle systems and the second for the starter.

Automatic charge management means that even if the vehicle's entertainment systems are used over an extended period without the engine being run, there will still be sufficient power left in the starter battery to fire the engine. Once the V12 has been started, the generators will recharge both batteries to their full capacity.

If the vehicle is left in storage for an extended period, a charging socket located behind a side panel in the boot allows simple and secure connection for a maintenance trickle charge.

Transferring communication and entertainment data across the motor car's systems is down to the use of advanced multimedia network electronics. Called MOST (for Media Oriented Systems Transport) it uses a ring system of optical fibres, transmitting control commands as well as audio, video and graphics signals.

By using optical data transmission a high degree of information – 22.5 Mbits/sec – can be transmitted at one time. MOST integrates information from the instrument panel, controller, telephone, navigation, voice control, television and audio systems.

CRAFTSMANSHIP

“Accept nothing nearly right, or good enough.”
Sir Henry Royce

A Rolls-Royce motor car never has, and never will be, mass produced. More than 260 man hours go into each Rolls-Royce Phantom with many of the traditional features – such as the coach lines – still completed by hand.

The Phantom is, however, a 21st century motor car and the finest craftsmanship is augmented by advanced technical solutions used in automobile manufacture: the result is a marriage of traditional skills and modern machinery, of human endeavour and technological achievement.



The complex aluminium space frame, for example, is produced at the world's most advanced facility of its type using measuring equipment accurate to +/- 0.1 mm. A complex material control system links suppliers and logistics enabling the management of all material movement within the Goodwood plant while the wood and leather workshops there house the most up-to-date milling machinery and laser measuring equipment.

But there is no substitute for human involvement. Ensuring the correct detail in the preparation of the up-to-60 separate wooden interior elements is a painstaking and

highly skilled operation that owes as much to craftsmanship as it does to the latest technology. A five-axis CNC milling machine might give the dimensional accuracy required for the interior trim, but cannot ensure the veneer grains and patterns are aesthetically matched.

Similarly, using a laser to guide the hide cutting machinery or computer-controlled sewing machines to stitch the upholstery might be far more accurate than conventional methods, but neither can detect defects in the leather.

Only the trained human eye and the sensitivity of human finger tips can ensure the highest quality hides and finest veneers are used in the Rolls-Royce Phantom.

Hand crafting also allows much greater scope to satisfy individual customer demands. Such is the choice of colours, textures, veneers and equipment that it is highly unlikely that two absolutely identical Rolls-Royce Phantoms will ever be produced, unless deliberately commissioned to be the same, of course.

The Rolls-Royce Bespoke programme takes this theme of individuality even further, with skilled craftsmen capable of creating personalised interior features such as cocktail cabinets or ladies' make-up compartments. While there are 18 exterior colours leading to 68 basic colour combinations, the Bespoke programme effectively allows an almost infinite colour choice.

When recruiting for Goodwood, Rolls-Royce appreciated there was no substitute for experience, expertise and skill. Such was the enthusiasm for the project that there was no shortage of skilled and experienced applicants: there were 15 candidates for every position advertised locally, in an area with no unemployment problem.

While many of the specialist craftsmen were recruited from within the UK motor industry – perhaps the world leader when it comes to working with wood and leather car interiors – others came from the non-automotive world and were involved with the manufacture of yachts, musical instruments and furniture. All are industries that demand the highest levels of quality and craftsmanship.



Just to prove that we are not entirely set on Shadows and derivatives here is an interesting feature of an imported 'R' type Bentley. And I refer to the taillight with a reflector beneath it. Most if not all cars prepared for this country came with simply the tail light and no reflector at all. As it was the tail lights were about as bright as the nose on Rudolf. I really wonder whether designers in those days actually used a little lateral thought in the realm of safety – OK the mass produced models were on a close budget but Rolls-Royce???

EQUIPMENT AND OPTIONS

“The quality remains long after the price is forgotten.”
Sir Henry Royce

A Rolls-Royce Phantom is one of the world's most comprehensively equipped cars with features that complement the relaxed control of the driving experience and the technologically advanced nature of the car itself

This is perfectly encapsulated in the unique sound system developed for Rolls-Royce by Lexicon, a division of renowned audio specialists Harman International: 80 per cent of all music companies world-wide

use Lexicon processing equipment for mixing and mastering recordings.

The audio philosophy behind the Logic7 system is to create acoustic realism and tonal accuracy in the notoriously difficult automotive environment. Surround sound provides an aural experience in a domestic environment, but in the confines of a car, each passenger is restricted to sitting near to just one multi-channel signal and so cannot experience the full effect.

To overcome this limitation, Logic7 includes an algorithm specially created for the car which recreates the original soundstage independently of the reproduction environment. Logic7 can

produce a 7.1 channel surround output from any source, without the need for special encoding, recreating a full musical balance inherent of the original master recording. By enlarging the 'sweet spot', Logic7 has the ability to 'place' sound sources and increase the perceived depth of the auditorium.

Using a 7.1 channel playback matrix, the sound processing equipment extracts surround sound from all dual or multi-channel audio formats. Perceived volume is maintained across the entire road speed range.

Standard equipment includes a high-end tuner and an in-dash single CD player which are augmented by a six disc changer mounted in the lower glove compartment.



Another piece of history. When the MkVI Bentley came to Australia a lot of farmers riding the crest of the wool boom bought it and having heard the pronouncements of the Factory spin merchants believed the cars to be invincible. And so they took to the paddocks or belted down country roads at incredible speeds and guess what? the chassis cracked. Much navel gazing and according to the late Bert Ward who had to defend the cars to the new owners nothing was forthcoming from Crewe. So Bert decided to take matters into his own hands and designed strengthening plates for the chassis one of which can be seen above capping the spring tower. Up to or about the advent of the 'R' type the chassis were riveted – a common practice since welding had not quite got to the state of the art as we see it today, as many a passenger on the American liberty ships could testify. Largely as a courtesy Bert sent drawings of his plates to the Factory and through an extraordinary co-incidence when the cars went to welded chassis the identical plates were included. There was never the slightest acknowledgement of Bert's initiatives.

The system uses no fewer than nine amplifiers with a total maximum output of 420 watts powering 15 Metal Matrix (MMX) speaker transducers. There are six 25 mm tweeters (one in each door and two in the hat shelf), seven conical 100 mm mid-range speakers (one in each door, two in the hat shelf and a centre speaker on top of the instrument panel) plus two large 217 mm central bass speakers mounted under the front seats, each with its own 16-litre under-floor resonating chamber. Each sub-woofer employs a double-neo, long throw motor

structure for greater efficiency and dynamic control at all volumes.

Sophisticated satellite navigation is matched by a fully integrated telecommunications system and supplemented by voice recognition to make control as instinctive and easy to use as possible.

The 6.5 inch full colour monitor for the satellite navigation also doubles as the screen for the on-board television in markets where permitted. It is discreetly stowed away behind the classically styled central analogue clock on the dashboard when not in use. Once activated, the veneered panel holding the clock swivels to reveal the monitor.

Fine control for the navigation, communication, entertainment and vehicle settings is achieved via a fold-away controller located in the centre console. Intuitive major controls for the entertainment and air conditioning systems remain on the dashboard itself so it is possible to operate and enjoy the car without needing to use the controller and monitor at all.

Although the telephone equipment varies depending on the market for where the car is destined, the system incorporates hands-free operation controlled from the steering wheel, with a phone keypad located in a drawer within the dashboard.



The Cloud series cars used along with most others, moulded plastic tail light lenses. These were tapped and threaded to permit their being held onto the chrome surround. Colours in any plastics are difficult to maintain in ultra-violet and these lenses are no exception. The lenses come in two pieces to cater for different markets and for Australia the lower lens above was red and upper amber. The amber seems to be the most vulnerable to ultraviolet and fades quickly to an almost clear lens. Conventionally one would replace the lens with a new item however they are not easy to obtain and are in the \$80 bracket if you do get them. For some years I have used clear modelling amber lacquer liberally coating the inside. It dries quickly and gives an excellent lasting result. The tail light assemblies on the Cloud are about as accessible as the reverse side of your navel via your throat but we persevere. Having opened the little hatch behind the light, disconnect the wires which either clip or push and get them out of the road. A big hunk of light coloured cloth then goes down the hole Daddy! The whole assembly is held to the body by 4 x 2BA nuts and washers which you very carefully undo without dropping them down the body cavity. If you do – they drop on the cloth!!!! With the assembly off remove the cloth and invariably you will find a collection of nuts and washers from previous careless operators. Should you follow their example an extendable magnetic pickup is the best extracting gadget. The lenses are held on to the base with self threading screws. When you remove them and lift off the lens, apart from the dirt you find the rubber gasket between the lens and the body has turned to dust. Buy rubber sheeting and make a better job than I did above! The last part of the job having put it all back together is to fit new globes. Don't go mad and fit small quartz halogens which are now available – they will simply melt the lenses!

Depending on the motor car's ultimate destination, the system can be used either hands-free or via a separate cordless handset in GSM-equipped cars or, in other markets, via a Motorola V60i cellular phone which can be placed into a docking station in the centre console.

The television tuner uses an antenna system integrated into the rear window to receive terrestrial broadcasts. For safety reasons, it can only be used when the car is stationary.



With the demise of Lara the former mascot on 19 December last year, Peter and I have been hankering for another. We succumbed and here to take up her position is Tuppence on this occasion minded by Angelo Baker – one of the many minders pressed into service during the SMART weekend at Griffith.

Other standard features to be found on the Rolls-Royce Phantom include hand-crafted folding picnic tables for the rear passengers, lambs wool floor rugs, umbrellas stowed in each rear coach door and discreet drinks holders front and rear.

All the doors and the boot lid have automatic soft closing which ensures they are securely fastened without the need for them to be slammed shut. The coach doors also have a courtesy closing feature which allows a rear passenger seated in the rear to close the doors without having to stretch out to reach a handle.

Parking is made easier by the standard fitment of parking distance sensors at the

front and rear while the door mirrors can be electrically folded from the driver's seat. The exterior mirrors automatically dip at night to prevent the driver being dazzled, while the way ahead is lit by bi-xenon headlamps.

The interior of the Rolls-Royce Phantom has six temperature zone adjustment and individual fan controls for all four vehicle quadrants. Directional air distribution is supplied via no fewer than ten solid metal air vents, while in some markets the climate control system can also be operated remotely when the car is parked, enabling the interior to be cooled down or heated up prior to departure. The glove box is also air conditioned.

Climate comfort glass, which reduces heat build up by reducing infrared radiation penetrating the cabin, is used throughout with heating elements embedded not only in the rear window but also in the front side windows for efficient and silent demisting.

There are two final items of standard equipment that cannot be found on any other production car and show the attention to detail that characterises the design and development of the Rolls-Royce Phantom. The first concerns that long serving symbol of Rolls-Royce, the Spirit of Ecstasy, which can automatically retract out of harm's way into the radiator grille when the car is parked or at the owner's discretion. The second concerns aesthetics. Synchronised wheel centres ensure that the interlinked RR badges on all four wheels are always in an upright position, just as you'd likely find on a motor car on display on a motor show stand or in a collection. With a car so comprehensively equipped, the options list is relatively short. Aside from personal preferences on colours, veneers and two-tone treatments, there is the option of single or twin hand-painted coachlines if desired.

Perhaps the most significant option is the individual theatre configuration in the rear. As well as a rear centre console with storage compartments, controls for the power seat adjustment and

audio system, the option also incorporates a dedicated DVD-based entertainment system. Two adjustable monitors are housed in the backrests of the front seats with manually operated sliding covers concealing the screens when not in use. One of the few other listed options is the availability of foot rests in the rear compartment. These can either be stowed away to leave the floor flat, or reversed to provide the foot rest facility. In truth, however, the options list is virtually as long as an owner's imagination. Thanks to the Rolls-Royce Bespoke programme, individual requests ranging from cabinetry and marquetry to different interior and exterior design themes can often be accommodated.

A LITTLE ADMINISTRATION

As this little rag is mine I have decided to take back its administration including posting and managing the subscriptions. Some of you received truncated copies of Issue 26 with associated demands. I will endeavour to replace these and apologise for the error. There remains the problem of the distribution list which seems to be corrupted although I have a list current to issue 24. I will be putting a notice in the public forums for people that will not receive this issue and if the reader happens to know anybody else that has missed out please have them get in touch with me. Please note my new address

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