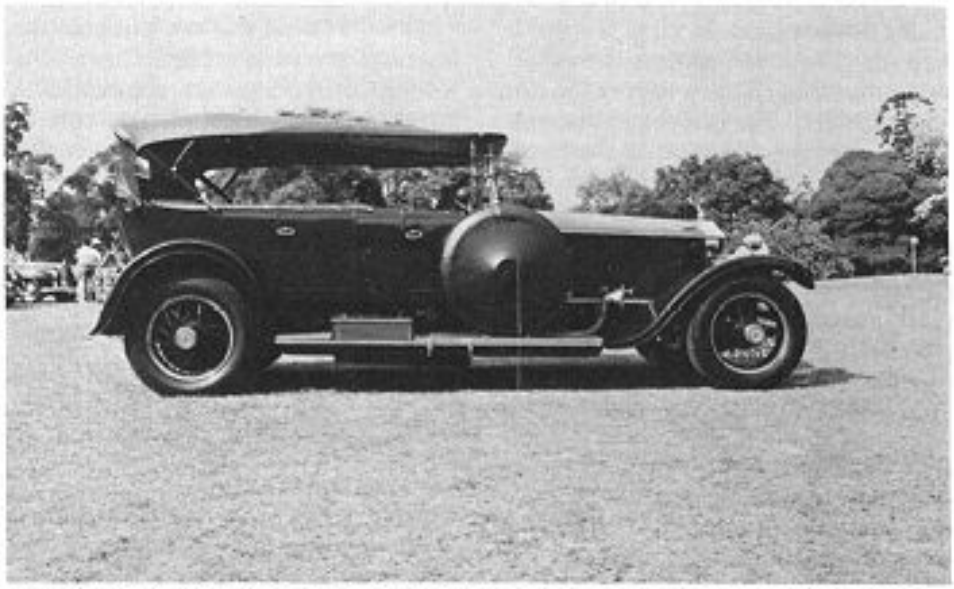
History of the Silver Ghost

Post-World War I Modifications

by Bert Ward



12HG, owned by Brian Inder (N.S.W.), is a fine example of a post-WWI Silver Ghost. The tourer coachwork is original and was built by Smith & Waddington.

World War I started on August 4th, 1914, and the last pre-war Silver Ghost, fitted with a Barker Touring body, arrived in Sydney in 1915 (Chassis No. 17CB). This was for the Alexander Bros. of Bulga N.S.W. It was sold in 1923 to R Falconer of Western Australia, and they still own same.

There were also five more chassis on order, but due to the War and the stop of production these orders were not fulfilled until 1919-1920. The first one to arrive was the 3rd Ghost chassis produced after the war and was chassis number 3PP; it was fitted with a Barker Touring Body and painted dark blue and was for a Mr. A.E. Phillips of Darling Point, Sydney.

I would say the last cars produced before the War were nearly perfect and lovely cars to drive.

It is sad to say that the first cars produced after the War gave a lot of trouble. First was the trouble we had with the Engine. Firstly, it was the Pistons. Previously, Rolls-Royce had fitted lightweight cast iron pistons fitted with three rings. After the War they first fitted an aluminium solidskirt flat top piston with four light piston rings and the top ring was about 1" below the piston top. Now, with this type of piston a large clearance had to be allowed on the skirt due to the expansion when hot, consequently when the engine was started up cold the "knocking" sound was very bad for a Rolls-Royce.

R-R decided to change the pistons and supply pistons with a split skirt, otherwise the pistons remained the same. When these pistons arrived, we had to get 3PP in and dismantle the engine and fit the new parts. As I said, 3PP was the third chassis produced, so this one was the only one to arrive with the solid-skirt pistons. The later ones to arrive had the change-over carried out in England. Again, we had trouble with the pistons (as I said, the top ring was 1" below the top of tandn) when it was found, due to this clearance, that after a period of running the carbon that formed on the top of the piston tore this part of the piston and also scored the top of the cylinder bore. So again, new types of pistons were sent out. These pistons had a longer skirt, six piston rings and the top ring was close to the top of the piston which had a dome top. The pistons were sent out 15 thou. oversize, so it was necessary to bore out the blocks.

Another modification we had to carry out was to the Gudgeon Pin Bush. Before the War this was a Bronze Bush pressed into the top of the Conrod and pinned - then we had to ream out to suit the gudgeon bush. After the war they just left this bush floating in the conrod. It soon started to wear and caused knocking, so new bushes were supplied, and we returned to the old method of pressing same into the rod and ream out to suit the pin. I must say, this latest type of piston was used afterwards until production of the Ghost was stopped.

Until the new type of pistons were supplied, we did, on some engines, (if the bore was not damaged) machine out two extra piston ring grooves in this 1" space at the top of the piston; this saved the re-boring of some cylinder blocks.

At the same time as the piston trouble, we had trouble with the Valves. On these postwar cars R-R changed the type of valves. Before the War the valves were a solid flattop valve and on a 45-degree valve seat; on the post-war cars, the valves were a light tulip-top 30-degree seat. We had trouble in that we started to get burnt out exhaust valves, so the valve seats had to be re-machined to 45 degrees. In some cases, the tuliptop valve would not stand being remachined due to insufficient metal, so then it was necessary to fit new flat-top valves.

The next trouble we had was Steering Wobble.

These new chassis still had the same type of road wheels, also the same size tyre (895 x 135) as the pre-war chassis, yet on the old cars there was never any steering trouble. The only difference was the R-R had changed the length of the King Pins, yet the size of the pin, also the type of top and bottom bushes was the same. The top bush also carried a thrust race that took the load. The top bush was like this /-/_/-/ and carried the balls and a top washer with a groove to take the balls and a castellated nut held same onto kingpins. To cure the wobble R-R redesigned the top bush on the steering side and cut out the ball race and fitted a red fibre thrust washer and this took the full thrust and was only used on the left side; this cured the trouble.

As these post-war cars were the first fitted with self-starters some had more trouble. These starters were chain driven. The drive was through the second motion shaft of the gearbox to the engine and this type was used up to the production of the Phantom II.

The starter operated thus; when you pressed the starter button on the dashboard, the main switch operated an actuator switch which put a dog-clutch into mesh at the rear end of the second motion shaft and at the same time gave power to the starter motor which would then turn the engine through a clutch on which was the sprocket on the second motion shaft; this clutch was there in case the car was left in gear. If so, damage would otherwise be done to the starter. Well, to get to the trouble we had; this clutch would slip and not turn the engine, so a stronger starter drive clutch had to be fitted, and it was not an easy job.

Next, we had Rear Spring trouble. Again, before the War, the cantilever rear springs that they fitted worked well in every way. The first ones were on the L to E models and the rollers that the springs operated on were located under the rear axle tubes. Later the rollers were on the top of the axle tubes, then the springs were made up of thin leaves and gave good riding. After the War they changed the rear springs to a thick leaf type and the main leaf at the rear end which operated in the roller was split up to about half way to the centre bolt and the split was about □" wide and the roller on the axle tube had a flange in the centre and the idea was that the split in the main leaf of the spring would operate between the centre of the roller. The idea of this was to try and stop rolling when taking a corner at speed.

We must remember that we had no shock absorbers on the rear at this time. Anyhow, this wasn't a success as the main leaf started to break at the end of the split, so all new springs were sent out, same type, thick leaves but no split, so we had to change the springs, also the rollers on axle tubes which had no flange. this was O.K. for a time, then we had the thick main leaf starting to break. So once again we changed the springs back to pre-war type.

Then of course, the Hartford shock Absorber came into vogue which stopped the corner rolling.

What I could not understand was that up until they started to fit the cantilever rear springs, they did fit a friction shock absorber the same as fitted to the front, mainly on the chassis that had the open type of propeller shaft arid fitted with the radius and torque rods.

Now to the Rear Axle.

Up to the 1914 War all chassis had a straight-tooth Crown Wheel and Pinion and the pinion-housing housed a large ball-race and a single thrust-race which took the load of the drive.

After the war they changed the crownwheel and pinion from the straighttoothed gears to the Gleason Bevel type tooth; this type of gear gave more bearing surface; also could be machinelapped and was very quiet. What they did not realise was there was just as much load on the overdrive as the drive with this type of tooth thus with only a single thrust-race

and the extra loading the thrust-race distant piece which controlled the gear setting (this was behind the thrust-race on the rear end of the propeller shaft) started to move the wear, so much so that the pinion and ball-race started to float back and forth which not only caused a noisy axle but also a lot of end play. R-R then designed a new type of pinion housing which had a large nut on the rear end to hold the ball-race in the housing. This was a success to a certain point, but still did not take the load which was put on the single thrust-race and the distance piece still started to turn on the shaft and cause trouble. So at last another modification, a completely new pinion housing which carried a double thrust-race and a new distance piece was keyed onto the shaft and could not turn and with the double thrust-race the load was even on the drive and overdrive. You can just imagine how we got sick and tired of setting up rear axles!

It was very good getting those post-war cars with all their new ideas into a condition we could call a "Rolls-Royce Car".

I cannot just remember how many of these I had to do and there were also a lot of small modifications to be done.

At the start of this article I said that five new chassis were on order in Sydney when World War I started and 3PP was the first to arrive after the war. The next was a chassis for a Mr. Anschau of Windsor NSW who owned a tannery. He had a touring body built on same by a coachbuilder of Randwick NSW. This was chassis 18TW and arrived in 1920.

Then Mr. R.E. Buckingham, who had a large department store in Oxford Street, Sydney, who also owned the Surrey Coach and MotorBody Building Company at Parramatta Road, Petersham had ordered three chassis. Three men who worked at the "Surrey" and were all good tradesmen, were Jackson, Jones and Collins, who later left the "Surrey" and started on their own.

One of the three chassis that came out for Buckingham was 28TW and a touring body was built on same and sold to a Mr. W. Westbrook who was a high-class Boot and Shoe Manufacturer near the Sydney Railway Station.

Then came 34FW This had a hard-top touring body built on same by the "Surrey" for a Mr. I. Mitchell, a large wholesale grocer in Sydney in those days.

Strange, but the first time I met George Sevenoaks was in 1938 when he drove to the service station of Appleby and Ward in Balfour Street, Chippendale in 34FW the first Rolls-Royce he owned. If you check PRAECLARUM August 1975 page 75 you will see 34FW outside the R-R service station at Nickson Street, Surry Hills.

Now the third chassis that came out for Buckingham was 75AE and this had a touring body built on it and was used by Buckingham himself for a long time, then he sold it to a George Adams, a cake manufacturer in a big way in those days in Sydney,- then to a Mr. Hewitt and a

few others until Peter Gargett of Brisbane bought it and still has the car. The last time I saw it; it was just as I first saw the completed car.

The first chassis to arrive for the new agents Dalgety and Company of 136 Phillip Street, Sydney was Chassis No 64PE and it had a touring body fitted. By whom? Jackson, Jones, and Collins!