

Rolls-Royce Owners' Club of Australia

Ever Thought of Changing Your Polarity?

(You could be missing out on a lot of fun!)

By Tony Ward

If you make the decision you, too could be like the other owners and enjoy modern AM/FM radio, cassette and CD in your early post war chariot! Why persevere with that old value model HMV that gives very poor performance for all its bulk? Actually, you can use the timber fascia over your modern standard size Sony (or other make) with just a slight alteration to the opening.

I'm addressing this article to a large, but select, group of owners of Mark VI, R Type Silver Dawn and Silver Wraith models. You can't just install a modern radio outfit like I've referred to in these cars because they are wired to an unsuitable Polarity.

However, the remedy is simple. All Rolls-Royce cars built prior to the 1940 war, had the negative pole of the battery connected to the frame with black wire connections throughout to the frame. It is also called negative earth. For some reason, of which I am not aware, the company reversed this procedure when they resumed production after the war and, to the best of my knowledge, all the models that I have listed were wired + positive to the frame. Whilst the HMV radios were wired to suit this arrangement, modern radios, CDs etc. are all made negative to frame and are, therefore, incompatible to a car wired positive to frame.

With the S Cloud series and all models since, the Company reverted to negative pole of the battery to frame although their reasons had nothing to do with the radios. Let me quote from the RREC 1978 Technical Manual:

"...it has been found that cars wired positive earth tend to suffer from chassis and body corrosion more readily than those wired negative earth. The reason is perfectly simple, since metallic corrosion is an electrolytic process where the anode or positive electrode corrodes sacrificially to the cathode. The phenomenon is made use of in the "Cathodic Protection" of steel-hulled ships and underground pipelines where a less 'noble' or more electro-negative metal such as magnesium or aluminium is allowed to corrode sacrificially to the steel thus inhibiting its corrosion. Also, the radiators of post war cars wired positive earth have a tendency to become blocked due to electrolytic deposition of metallic salts, particularly in hard water areas. For this reason, it is important to bond these radiators to the chassis and bodywork with flexible copper braiding so that they are at 'earth' potential"

The RR Service Sheets dated 1960 detail the problems of radiators being choked by silt (mostly iron oxide from the block) being deposited by electrolytic action. A system of braided bonding straps was developed from the generator to the radiator to try and reduce this problem and finally the generator was electrically insulated. The cause of these problems was, of course, the positive frame so that is why the company changed polarity to negative frame.

So, if you change the polarity of your early post war model, you will not only be able to have all the pleasure of modern radio, cassette, CD etc. but retard silt formation as well. I did it in 1968 but not because I knew about silt problems. I had been filming three episodes of Hunter in Singapore and had brought back an air-conditioning kit and an eight-track stereo outfit. These necessitated my changing the polarity of the car to negative frame.

It is not a difficult operation, and I will now detail the steps:

1. Disconnect both terminal wires from the battery. Ascertain that they are long enough to permit reconnection later after you reverse them. If not, check if turning the battery around in the holding well will assist. If not, you will have to extend one lead. Incidentally there are batteries available with the terminals in the reverse position, which will solve the problem. Now is the time to disconnect your old positive frame HMV radio.
2. With ignition off now reconnect the battery terminals negative pole to frame. Depolarise the generator. Disconnect both leads from the generator and connect a bare, non-insulated piece of copper wire across the two terminals. Take a long lead from the positive terminal of the battery - a jump start lead is ideal - and using the insulated handle momentarily touch the piece of copper wire across the generator terminals a couple of times. Expect to see a few sparks! Reconnect the original wires to the generator.
3. Reverse the low-tension leads on the side terminals of the coil.
4. If you start the engine up at this point you will notice that the ammeter is showing discharge. With the ignition turned off, you will now have to reverse the connections on the back of the ammeter. To do this the timber facia has to be carefully unscrewed and removed to gain access to the instrument cluster so that the wires can be swapped over.
5. If there has been any build up on the distributor points, they should be replaced to remove either the build-up or a crater.

Now that your car is negative frame you can fit a modern radio, cassette or CD with four speakers concealed around the cabin for modern sound. Moreover, by fitting the old HMV dial timber, (with minor alteration to the window opening) it will look as if it is original equipment!

P.S. Make sure you put a little notice on the fuse box indicating that the car is -negative to frame.