

Ask Ronny

by Ronny Shaver @ Ronny's Garage

Answering Your Questions About Classic Car Care Service And Restoration

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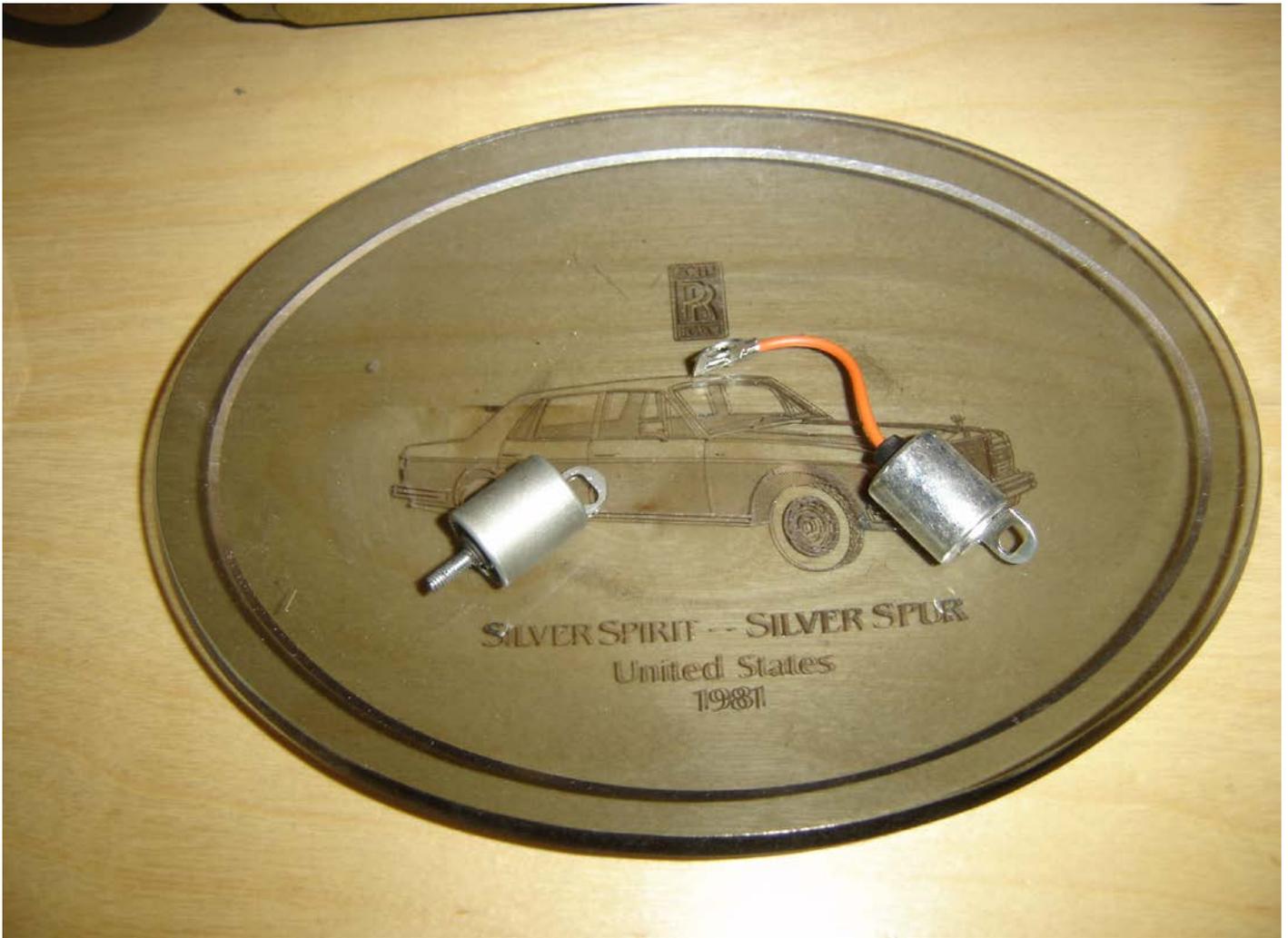
My Bentley S3 Runs Poorly and Won't Start When Hot.

by Ronny Shaver

I recently had a Bentley S3 towed into the shop that ran poorly and would not start when hot. The customer stated that he had the car at his "mechanic that took care of all his cars" who was an "expert" on SU carburetors but was unable to correct the problem. The previous shop had "gone through" the entire ignition system and carburetors but the car still would not cooperate. I road tested the car which ran edgy on the outset and progressively ran worse as it warmed up and nearly "failed to proceed" during my short test drive. Just to set the record straight, I have never claimed to be an expert, but I have been fortunate to spend 35 years working on Roll-Royce and Bentley automobiles and have accumulated some experience. I regularly come across problems that definitely test my diagnosis skills and this is one example.

As I usually do when "everything" has been replaced or adjusted, I start with the basics. I checked the timing and found that it was retarded so I set it to factory specifications. The car ran much better and didn't bog when revved. Next I removed the carburetor tops and air dampers to inspect. While they were off, I reached in to feel the butterfly positions and found that the left side was slightly open while the right side was closed. When the butterflies (throttle plates) are not synchronized the car will have a slight stumble when accelerating. I then synchronized the butterflies, cleaned the air dampers and installed them. The next step was to remove the float bowl covers and set the float levels using an SU gauge. The SU carburetors are very sensitive to float levels. Once they were set correctly I started the car and re-adjusted mixtures and idle speed. In the shop the car revved without bogging and idled smoothly. At this point, it would be easy to assume the car was fixed but my experience has taught me never to assume something is fixed without road testing multiple times. So I headed off on a longer road test, the car definitely ran much better with plenty of power but after about a mile I noticed a slight intermittent misfire under a load which progressively got worse until at one point I thought the car was going to quit completely. Once I nursed back to the shop I turned off the car and tried to re-start it with no success.

The problem seemed to be electrical so I removed the distributor to test it. The distributor was a Lucas dual point style and I noticed the points were new but the condenser didn't look new so I replaced it. I have over the years had bad luck with brand-new original style replacement condensers being bad and causing cars to run poorly intermittently. My solution is to replace the condenser with a different style (Lucas DCB101C), see photo below.



Note that the one on the left is the original that has a stud to connect wiring to instead of a "pig-tail" integral wire as the one on the right. Some re-wiring is required but I have never had one of these condensers cause a problem and have been using them for years. The distributor was removed and installed on a distributor machine for testing and setting. Once the new condenser was installed and the points reset I re-installed the distributor, reset the timing, adjusted the idle and let the car run for about 15 minutes to get it warm. Once it was warm I revved it and felt it misfiring so I turned it off and tried to restart with no luck.

Hmmm, what is causing this problem? I checked with a voltmeter to see if the coil was losing voltage, no problem there (12v at positive side and 6v at distributor side, this car requires an internally ballasted coil which drops the voltage to the points without an external ballast). The coil looked brand new as did the spark plug wires (which were aftermarket with some metal cased spark plug ends). Once the car cooled enough I started it, warmed it up and started looking around for loose or bare primary wiring. As I was probing I heard a tell-tale "ticking" noise from the spark plug region on the right side. I got my stethoscope with a piece of open tubing connected and started listening around near the spark plugs and found a couple were shorting out to the metal casing of the spark plugs. Not good, this would prevent the spark plugs from firing. I raised the car, removed the front wheels and removed the inner fender panels to access the plugs and wires (brilliant design, not!). Since the plug wires were new, I simply removed the

spark plug ends (see photo below), and replaced them with standard rubber ends and crimps.



These metal cased wire ends are resistors which reduce static radio interference and are used with solid wire instead of resistor wire so I had to replace the coil wire with resistor wire to maintain the static reduction. During the next road test the car ran great, no more misfire under load and it restarted immediately when warm. Problem fixed!

Thank you for the questions and keep them coming.

Please send your questions to Ronny at ronnyshaver@ronnysgarage.com.

Happy Motoring!
Ronny