

Tech Talk with Brad Hillhouse

In the preparation of a 1960 Corvette for Performance Verification (PV) judging at the Heartland Regional, we spent hours testing all the functions of the car trying to get all the “bugs” out. As with any old Corvette, we found many issues that may have caused a PV failure and one of those that needed repair was the cigarette well lighter bulb.

This bulb provides illumination so that after lighting your cigarette during a night time drive, you could easily find the location to replace the lighter in its holder in the dash panel. We performed several different tests and found that the bulb stopped working by losing ground and breaking the circuit, not the actual bulb going bad. After taking the lighter assembly in and out of the dash several times, and then bench testing, we were able to determine that the ground failure was happening at the bulb holder to lighter well cylinder. The design of this is made as a “pinch housing” that allows you to pinch the metal that surrounds the bulb so that the legs will compress and then snap into two slots on the assembly. There is no attaching screws or hardware that tightens it, it is just a friction fit. The bulb holder was not always making good contact and would sometimes break contact causing the bulb to go out. Fiddling with the holder multiple times, it was apparent that the metal was not strong enough to spring back with sufficient force to always make a tight contact and work 100% of the time for a PV check.

The repair I chose was to use solder to hold the bulb holder securely to the housing. Solder is a good electrical conductor as well as keeping the two pieces of metal from separating. This made a 100% solid electrical connection. The cigarette lighter assembly was reinstalled and tested again to make sure the bulb was still good, and that was one more item off the list.

I hope this tech article can help you if you have an intermittent cigarette lighter that needs to pass a PV test.

Brad Hillhouse



This is the bulb holder on the top and the point it attaches to the housing. This one is dirty and has corrosion but the one we were using was clean. The bulb holder would just lose good contact from time to time causing lack of ground and light bulb going off



This is the lighter housing and shows how the clips of the light bulb holder attach. This is also where the light from the bulb enters the cigarette lighter housing and it glows in the dash at night when the dash lights are turned on



This is where I added solder so that the bulb housing would make good electrical connection. You can see the holder is stamped "PRESS". You pinch both sides and it compresses so it can be removed from the lower housing. After replacing the bulb, the holder would not spring back strong enough to maintain good connection to ground



You can see the newly soldered joint. This maintains 100% electrical connection. When installed in the car, this solder is not visible for inspection by the judges.