power seat, mirrors and memory fix

For some years my 88 S4 suffered from intermittent power seat, memory, and mirror functionality. Often it was either all or none working. Strangely, sometimes the actual seat controls would not work, but the memory buttons would work to move the seat. Recently I reseated and, where possible, cleaned all the connectors for the seats, mirrors and memory, and I cleaned all grounds. Everything worked for a while, and I thought problem solved, but then the ghost came again and one morning nothing worked.

I wiggled connections to no avail. I studied the wiring diagrams and started to focus on the seat controller itself. I held down the seat forward button while reaching under the seat to manipulate the controller board. I found I got some power when I pressed on the board in a certain way. I checked the cost of a new controller, and then decided to see if I could repair my existing controller first. I read on these boards that someone experienced bad solder joints on the circuit board.

I pulled the drivers seat and removed the cover for the seat control module on the bottom of the seat (insert a flat blade screwdriver in the tab slots to gently separate the tabs). I inspected the solder points. At a distance they all looked fine. However, when I took a real close look I noticed the centers of the solder points for some of the plugs had a very small dimple around the pin center and faint circular cracks. I jiggled the plugs to see if I could notice any movement on the solder points. I didn't see anything, but still noticed the faint hairline cracks and I figured it wouldn't hurt to refresh the solder points as others have done. Starting with the points associated with the input power (plug #1 IIRC), I used a soldering iron and some extra solder wire to reflow the solder for the connectors. The ones along the top of the board were most suspect, but I wound up doing all of them because it was easy. Reflowing the solder took less than 5 minutes.

I plugged the seat back in, and everything worked and it still works. The memory panel light now illuminates too like it should. It had been so long since the light worked that I forgot it was even supposed to illuminate. All mirrors work too.

I suspect that the circuit board plug solder points see a stress cycle due to harness vibration over time, even though most of the wiring under the seat is fairly well secured. This may cause the hairline cracking within the pin solder points.

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