

Upgrading Two-Way Power Seats

Adding Heat, Eight-Way Power and Memory Function

I suspect that most 986 model Boxsters were equipped with two-way power seats. That is how mine was built. "Two-way" refers to the ability to change the fore and aft tilt of the backrests. The other power options available were eight-way and twelve-way power seats. The eight-way seats add six additional power functions. These are forward and backward adjustment of the seat bottom and up and down adjustment of the front and back of the seat bottom cushion. The twelve-way seat adds lumbar supports that I presume adjust in four ways. However, I have never actually used a twelve-way seat so I will have to take Porsche's word for the claim that the seat adjusts twelve ways.

Heated Seats

In addition to the power options, Porsche offered other choices on the 986's seats. These include the sports seats with tighter bolsters, seat heaters, supple leather upholstery and memory function. As noted above, I started out with two-way power seats. They were unheated and did not have the memory function. My first upgrade occurred several years ago when I added heated seats using the excellent write up by Dennis Vogel as a guide. <http://www.dennisvogel.com/heatedseats/>

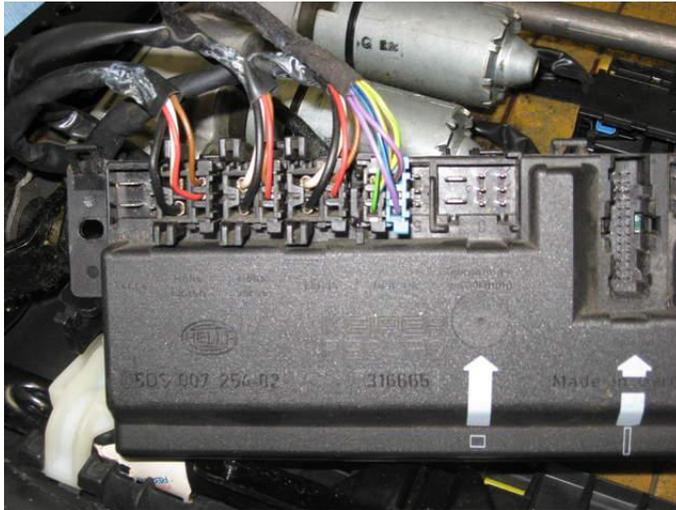
I'm cost-conscious when I add modifications to my Boxster so I didn't follow Dennis' instructions to the letter. I bought a set of heated seats with somewhat worn leather and had an upholsterer swap the covers from my seats onto them. This avoided buying the components from Porsche and saved a considerable amount of money. I was able to eventually sell the seats that I didn't need (the unheated seats with the covers from the heated seats) and I more or less broke even on the cost of the upgrade. You can read about that project here: <http://986forum.com/forums/general-discussions/49826-seat-heater-install-seat-leather-swap.html>

Eight-Way Power

I drive my Boxster a lot and I like to change seat positions on long drives. The manual seat height and fore and aft adjusters on the manual seats are cumbersome and imprecise. I found an eight-way power driver's seat base for about \$150 shipped. The driver's-side seat base is a fairly complicated piece of machinery. It includes three motors and a memory module that controls them. Here's a picture:

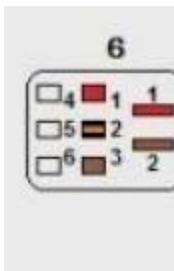


Here's a close up of the control module under the seat.



The issue that stumped many folks who tried to install an eight or twelve-way power seat in a car that came equipped with a two-way seat is running power to the seat. Here's a YouTube video that tells you how to do it. <https://www.youtube.com/watch?v=49ztXTpGGo>

Here's a wiring diagram. Red is power and brown is ground.



This is a thread that explains how to do it: <http://986forum.com/forums/general-discussions/58080-full-power-seat-installation.html>

If you need to disassemble your seats, here are the instructions: <http://986forum.com/forums/diy-project-guides/50255-boxster-seat-disassembly-procedure-part-1-2-a.html>

If you are only installing the powered seats and not the memory function, you will be OK using the seat back from your two-way seat. However, if you want to add the memory function, you will need to either use a seatback from a full power (8 or 12 way) seat or source a seat back motor from a memory seat. The reason is that the two-way power seat has a different motor and it cannot support the memory function. I retrofitted a memory seat motor in my seat back. It is not too difficult, but if you have the option of just swapping the entire seat, that is the easier path. The part number for the seat back motor that is compatible with the memory module is 404.335. The motor for the two-way power seat and the passenger side seat is 404.334 and it has a two-wire connector.

Here is the motor for a memory seat back. Note that it has four wires. The non-memory motor has two.



Here's the seatback motor mounted in the seat:



You need to peel back the upholstery from the bottom of the seat back in order to find it. It is attached to a rod that controls the seat function. You need to remove the torx fastener that holds the motor in place and then remove the retaining ring that holds the rod in place in order to remove the motor. Here's a picture of the rod retaining ring:



The problem I had was aligning the rod and the motor so that the rod would go into the replacement motor. I ended up powering the seat using a computer power supply and “bumping” the control until the motor aligned with the rod. It was a “fiddly” job. I recommend that you avoid it if you can.

Memory Function

The memory function is a neat feature. Although there appear to be at least two versions, I needed the version that works with the manual trunk releases. I was able to source two of the control units that fit in driver's side door sill. They both had some damage, but after some work I was able to make one unit that appears “like new.”

Here it is installed in the car:



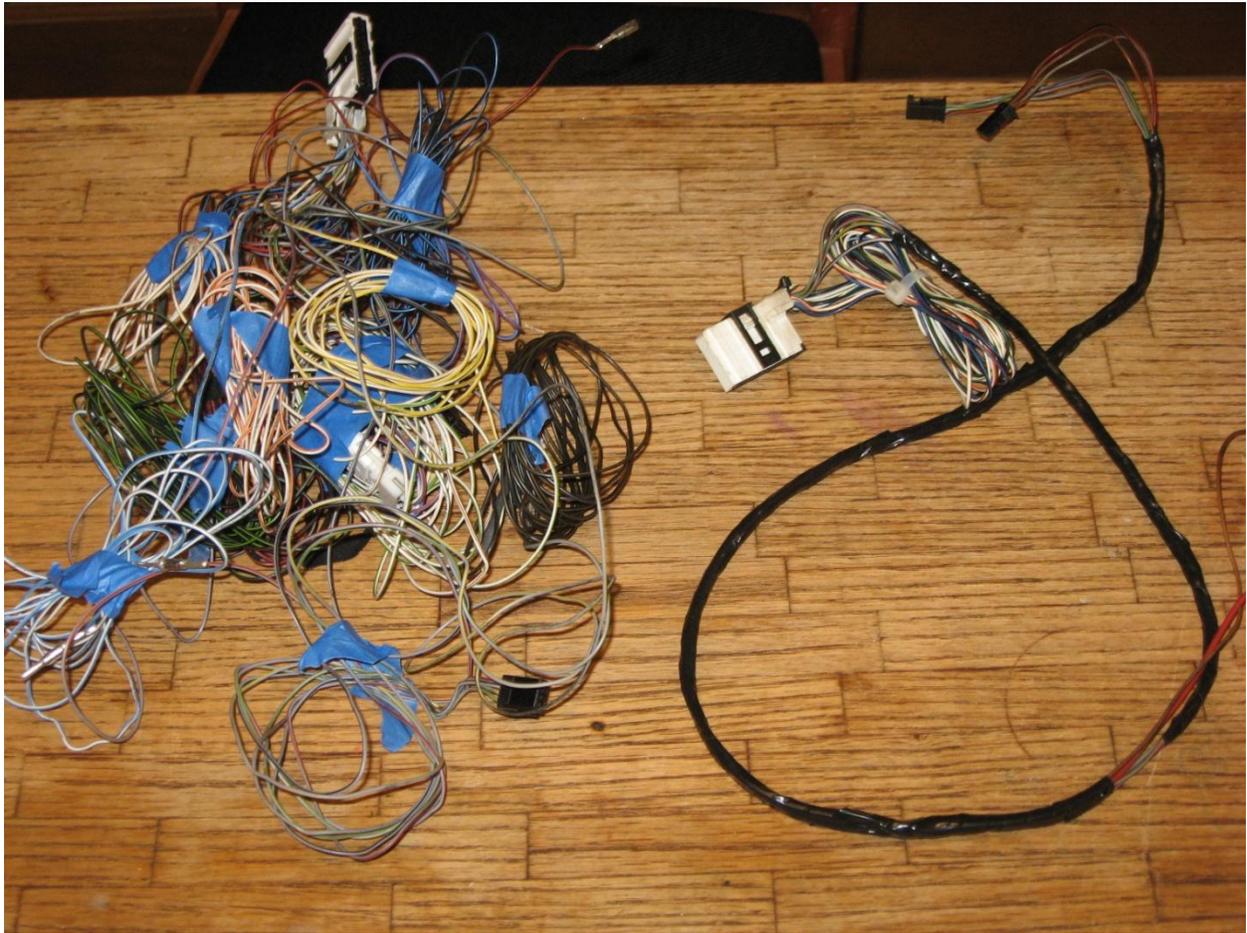
Here's a link to a discussion of the renewal process: <http://986forum.com/forums/general-discussions/59992-restoring-trunk-release-handles.html>

The memory function controls both the seat position and the mirror position. At this time, I have not been able to source a set of memory mirrors, so I have only installed the seat-memory function. The non-memory mirrors won't work because they don't have enough connectors and they are probably lacking a memory module. This is similar to the difference between the memory seat back motor and non-memory seat motor discussed above

I am including instructions for wiring the mirrors, but I have not actually done this job myself. I will keep looking for the components I need, but I may ultimately decide that the trouble and expense don't justify the added benefit I would derive from the mirror function.

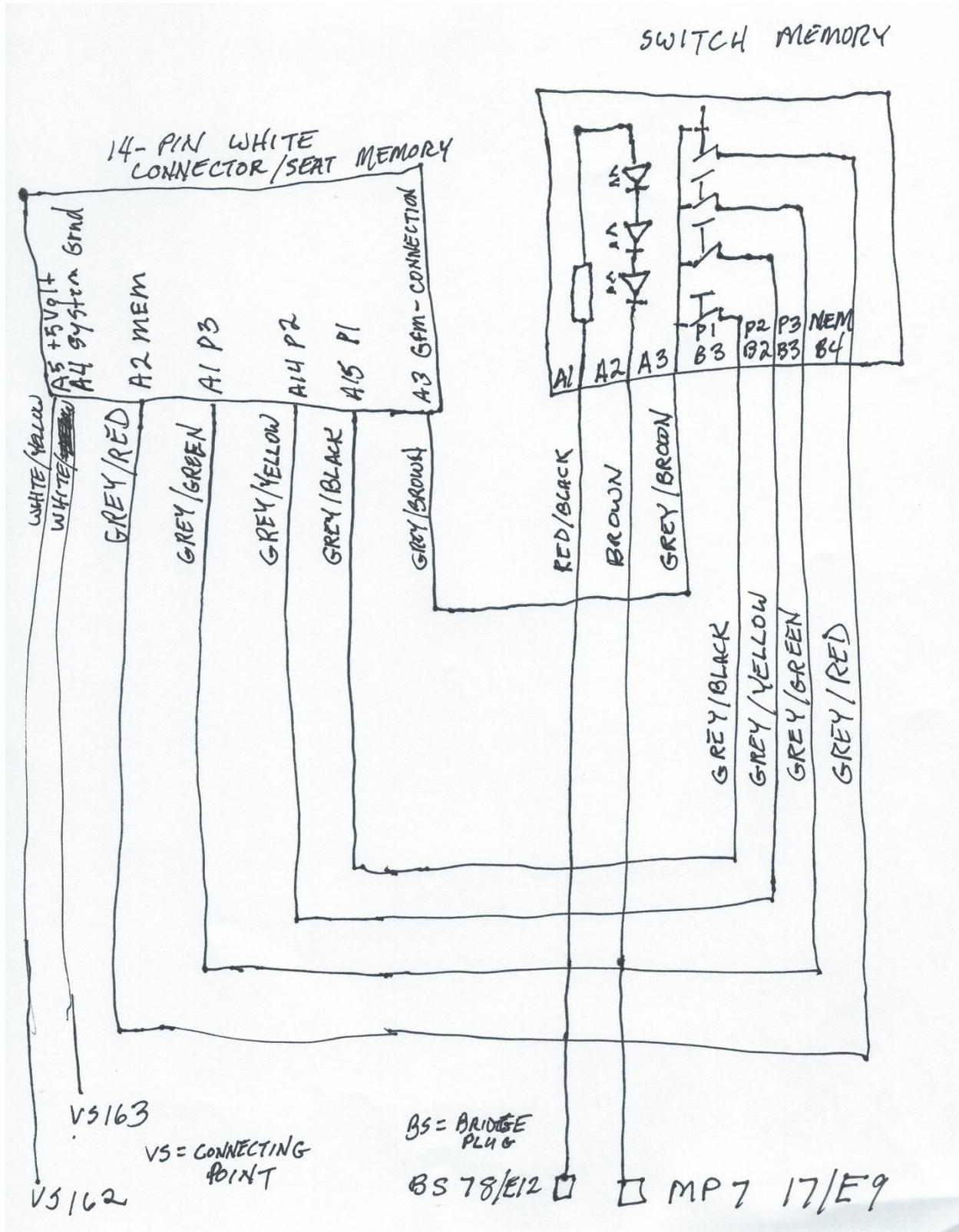
Note that the later cars (I believe 2001 and newer) with electronic trunk releases have a slightly different memory function and there will be some differences that you will need to discover if you have a newer car.

I ended up with two wiring harnesses that I bought from sellers (Itsnotanova/Woody and Qumulus) on the 986 Forum. The more complete harness is on the left in this picture. The one that I am currently using is on the right. If I add the mirror function, I will need the harness on the left. Although the harness on the left is much more complete than the one on the right, it is still missing several pins and connectors. If I am able to source some memory mirrors, I will need to obtain the connectors that fit at the mirror ends of the harness and do quite a bit of soldering. Fortunately, the wire is a small gauge and it solders easily.



The big white and black connector that you can see in the middle of the picture fits into the memory module under the seat. The two smaller black connectors at the top right of the picture fit into the control unit in the door sill. At the extreme right of the picture, you can see a brown wire and a red wire with a black stripe. These provide the power and ground for the illumination of the buttons in the door sill control unit.

Here's a basic wiring diagram that you need to power the seat memory:



To install the wiring, it is best to remove the seat. The seats are attached with four bolts that require a star socket to remove. Here's the set I picked up from Harbor Freight for a few bucks.



There are plastic covers over the front brackets of the seats that you need to remove to access the bolts. Mine were fastened with Phillips screws. A friend of mine's car had little levers that held them in place. Here's a picture showing removal of the front bolts.



You then need to move the seat forward to access the rear.

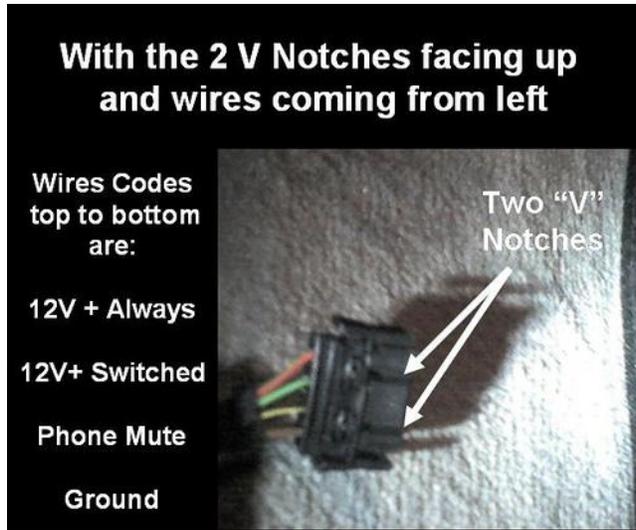


There is an electrical harness under the seat that you remove by opening a sliding lock and then pulling the connector apart. You will need to tilt the seat forward or back to see the slider.

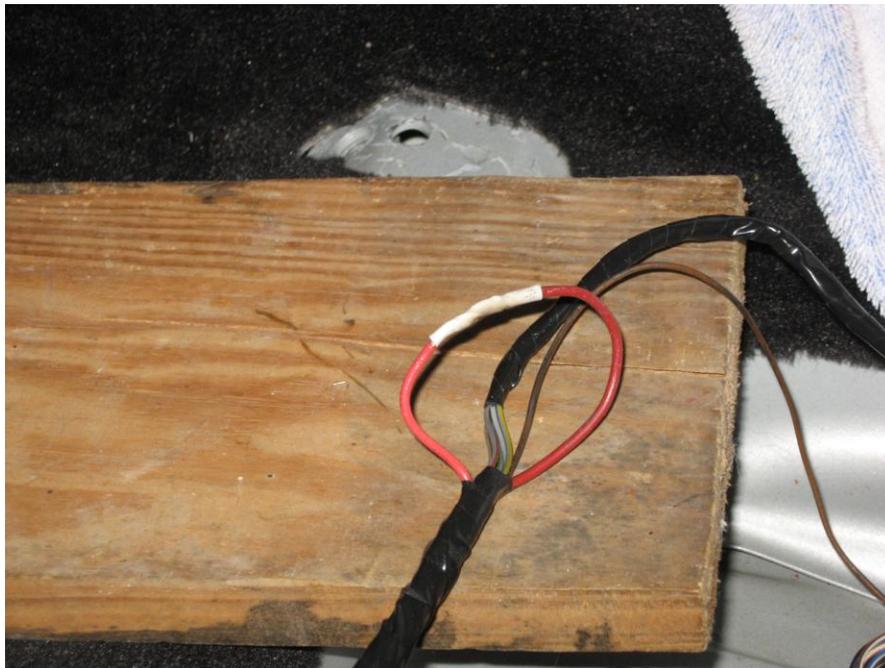
Once you have the seat out of the way, you can install the wire harness. I connected the brown ground wire to the ground point under the seat. I crimped a connector on the end, loosened the bolt and tightened it down. Here's a picture showing the connector on the ground point.



The red wire with the black stripe is supposed to be attached to a point on the relay carrier. I decided not to do that because I have removed the relay carrier in the past for other modifications and it is an annoying job. Instead, I connected it to the switched power socket on the unused telephone connector in the center console. The result is that the memory-control buttons are only on when the car is switched on. On the OEM set up, they probably illuminate when you open the car door which would be slightly more convenient. This shows the color coding for the phone connector. There is a male connector plug that fits into this with four wires attached to it. On my car, the gray wire with the black stripe on the male connector is the switched power, but your car may be different.



I soldered and shrink wrapped the connection to the power and then wrapped it in electrical tape.



I need to remove the control unit in the door sill in order to finish the wiring part of the job. There are three round plastic plugs on the inside of the door sill that cover the access holes for remove the control unit. Pop those out with a fingernail or screw driver. Then insert a hex socket into the holes. If I recall correctly, it is the 5mm size.



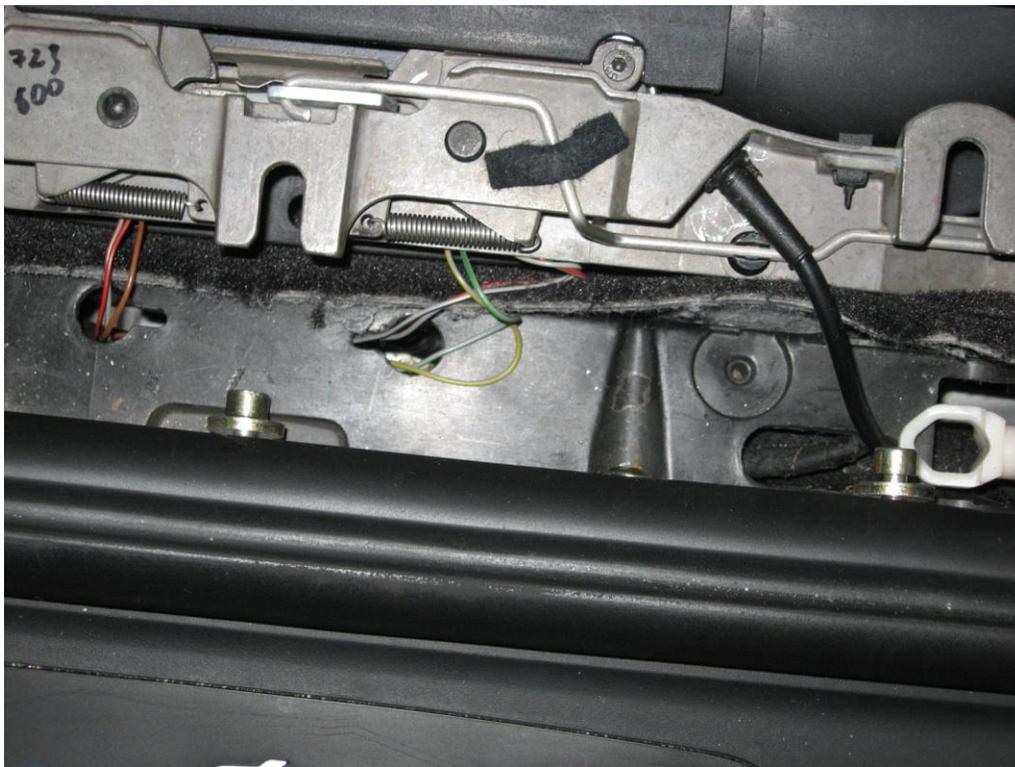
With a little fiddling, you will be able to insert the end of the socket into each of the three retaining bolts. Loosen, but don't remove them. When they are loose, you can pull the control unit out of the door sill.

Since you need to replace the control unit with one designed for the memory control unit, you will need to disconnect the unit from the car. Mine has the Bowden cables that control the front and rear trunks. You need to disconnect the end of the Bowden cable from the control unit and then pry out the rubber collar of the outer cable using a screwdriver. To remove the retainer hold the end of the Bowden cable in place, you need a 3mm hex key.

This picture shows the removal of one the retaining screws.



You then need to run the wires with the two small black connectors under the carpet and up through the base of the door sill. There are two holes in the correct location. The connector with the four wires is towards the rear and three-wire connector is towards the front. I used a fish tape to pull the wires.



Push the connectors into the corresponding spots in the control unit and then reinstall the control unit in the door sill. Reinstall the seat and check for proper operation.

General Instructions for Installing Mirror Memory

As noted above, I have not installed the memory function for the mirrors. I have obtained some general information on the process for those who would like to attempt this project. However, I have not confirmed that this will work.

1. Replace the mirrors with ones equipped with the memory function. Standard electric mirrors are no good. You can tell by the number of pins on the connector. The memory function (and heating) requires 10 pins. The standard electric mirror has 5 pins.
2. Install pins on the connector; get memory mirror pigtailed from a breakers yard or even a whole new door loom. The big connector at the door that separates the door loom from the main loom doesn't have the pins needed either, so adding pins to that connector is needed, or you have to run the wires as one piece down to the driver seat to the control module.
3. Make the connections for the mirrors in the control module under the seat. The connections are very simple once you have the wiring from the mirrors in place.

There are 9 wires to run to the driver's side and 5 to the passenger. On the driver side you need +5v, system ground, left/right, up/down to go to the mirror. There is also left/right drivers, up/down drivers, left/right pass and up/down pass to go the mirror control switch. There is also a common motor connection that runs to both the mirror and the switch.

On the passenger side you need +5v, system ground, left/right, up/down and the common motor connection. It may be possible to eliminate the common motor connection on the passenger side, as it is likely already there. If you want the passenger mirror to tilt when in reverse, you will also need to run a line from the 24 pin connector to the reverse lamp signal line.

Eight-Way Powered Passenger Seat

I also managed to source an eight-way powered base for the passenger seat. There is no memory function for the passenger side so the wiring is much simpler. I had to splice in the two wires for the backrest control, but if you are simply swapping in a seat, it will be "plug and play."