

Boxster/996 Optima Battery Replacement

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Over the last year or so I have noticed a very high incidence of battery tray corrosion on Boxsters and 996s. I have tried to find a reason for the corrosion, such as overcharging or some other malady, but have found none. The only other reasonable explanation is that the acid vapor released by the battery is causing the corrosion. The factory installed lead-acid battery naturally expels acid vapor as it charges and discharges during its daily duties. There is a breather hose that is supposed to let the vapor escape out of the trunk area into the right fender well, but sometimes the hose will leak or fall off causing a vapor leak. Whatever the reason for this corrosion, we can definitely say that it's not desirable. What we need to do is find a way to eliminate this from happening.

The best way to avoid any battery-related corrosion is to replace the standard lead-acid battery with a completely sealed gel battery, such as an Optima battery. Optima batteries produce no acidic by-products, are lighter than some lead-acid batteries and they have an extremely high starting capacity. The one downside is that they do not easily drop into many Porsche models. Boxsters and 996s are two such models with this problem.

Fortunately, installation into one of these cars is not too difficult. The two changes that need to be made are construction of a mounting adapter and installation of a longer positive battery cable

The procedure for replacing the stock battery with an Optima battery is as follows:

- ➔ Remove the plastic pieces covering the battery and climate control particle filter.
- ➔ Disconnect the battery negative cable.
- ➔ Disconnect the battery positive cable.
- ➔ Unbolt the battery-mounting bracket on the right side of the battery.
- ➔ Remove the battery and set it aside.
- ➔ Remove the four nuts holding the battery tray in place.
- ➔ Remove the tray from the car.

- ➔ Clean the tray with a baking soda/water mixture. Paint the tray if necessary.

NOTE: All battery components and associated hardware must be 100% free from battery acid or the corrosion we are trying to avoid will return even with a dry cell battery in place.)

At this point, we need to prepare the Optima battery for installation into the car. Due to the configuration of the bottom of the Optima battery, we need to make an adapter plate to bolt the battery in place. This piece will be made out of 1/4 inch aluminum plate measuring 6.25 x 12 inches.

To mount the plate to the car, a 3/8-inch hole needs to be drilled in one end of the plate. The hole needs to be centered on one of the 6.25 inch ends and must be 1.25 inches from the edge. (All remaining measurements will be made from this edge). Four additional holes need to be drilled (1/4 inch in diameter) to mount the battery to the plate. These holes need to be 3/8-inch from the long edge. The first set of holes will be drilled 4-3/8 inches from the edge of the plate and the second set will be drilled at 7-3/8 inches. After the four mounting holes are drilled, they must be countersunk so as not to cause any interference with the bottom of the plate and the car (See figure #1)



Figure #1

Notice the orientation of the plate-mounting hole as well as the countersunk battery mounting holes.

Taking four countersunk 6x30mm screws, washers and locking nuts, attach the battery to the mounting plate. The

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battery positive post should be nearest the plate-mounting hole. (See Figure #2)



Figure #2

With the mounting plate in place, the battery will slide directly into the mounting bracket of the car.

Install the clean acid free battery tray back in the car. Use new locking nuts to hold it in place.

Install the battery by setting one end of the mounting plate in the mounting clip. Then tighten down the other end of the plate with a new 8mm mounting bolt and lock washer.

You will now notice that the positive battery cable is not long enough to reach the new battery positive terminal. (See Figure #3)

Figure #3



The red arrow shows the car end of the cable (eyelet connector). The lack of total positive cable length can be seen at the top of the battery.

To correct this situation, we need to install a longer positive cable. The new cable must be at least 24 inches long. I use a 30-inch long, 1-gage cable in this case to ensure there will be no routing or current capacity issues. The cable needs to have an eyelet on one end and a standard battery-clamping terminal on the other end.

- ➔ Place the eyelet end of the new cable in a vise and create a 45-degree bend in the connector (look at the old cable for a sample).
- ➔ Install the new positive battery cable and protection cover to the body mounted positive stud (see red arrow in figure #3).
- ➔ Attach the positive cable to the battery positive terminal.
- ➔ Reattach the original battery negative cable.



Figure #4

New Optima battery installed with new, longer 1-gage positive battery cable.

After the cables are securely tightened, the two plastic covers over the battery and climate control particle filter can be reinstalled. (See Figure #4). You now have a reliable high capacity starting battery that will not corrode battery terminal connections, body panels, or expensive electronic components.