

## 991 O2 sensor replacement

The pre-cat O2 sensors are a bit tricky to replace in a 991. One might think that since they just screw into the pre-cat portion of the exhaust, they would be easily accessible at the bottom of the rear of the car. However, the O2 sensor wire snakes its way up the side of the engine to plug into an area that is not accessible unless a lot of parts are removed. Specifically, you will need to remove the rear bumper cover and the air box. None of the individual steps are very tricky, but altogether it is honestly a tedious job.

Total time: 2.5 hours if you're properly motivated. Dealer quotes it as a 5 hour job.

Parts needed:

- Bosch O2 sensors x2

Tools needed:

- Torx sockets T25, T30
- 11mm socket
- 22mm O2 sensor socket
- Jack, stands, 19mm lug nut socket, torque wrench for rear wheels

**Step 1: Remove the rear tail lights.** Raise the rear spoiler. Small black plastic covers need to be removed, one on each side, just above the taillights. These covers hide the two bolts holding the lights in. These covers have tabs that can easily break. Note there are reverse-threaded adjustment nuts that set the level of the light, so use a flat screwdriver to hold the adjusting nuts in place while using a Torx socket to remove the bolts. The lights swing out, and the electrical connection can be removed.

**Step 2: Remove the rear bumper cover.** There are 16 black Torx screws all around and 1 silver Torx bolt on each side by the registration pins that hold each side in. Disconnect the electrical that serves the license plate light. Slowly remove and carefully set aside.

**Step 3: Remove the top engine cover with fans.** First remove the rigid ring inside the top of the accordion-like air intake, then remove the top cover and fans. These are just held in with rubber grommets that easily pop out. Disconnect both electrical connections to the fans so they don't accidentally turn on. **WARNING:** If your engine is hot these fans can turn on and you should be very careful to avoid the fan blades before you disconnect them. **NOTE:** If you do an oil filter change, this is the step you need to do to access the oil filter!

**Step 4: Remove the air box.** Two 11mm bolts are on the bottom, and a hose clamp holds the air box to the throttle body. There are three small hoses that need to be removed on the right side - two black and one blue. Carefully note which goes where. Two valve switches are clipped into the air box side that can be removed as well. There is one more hose that is the sound induction noise - that unclips easily. Now carefully grab the entire air box and gently convince it to slide out from under the spoiler deck piece. It's tricky and a tight fit, but it'll come out without having to remove the spoiler.



Step 5: **Remove old O2 sensor.** Jack up one side of the rear, and remove the rear wheel. Remove the O2 sensor from the exhaust. Note that the O2 sensor has a green wire. Use a 22mm slotted O2 sensor socket. Follow the green wire up as far as you can to unclip the wire from various clips along the way as it disappears up into the side of the engine. Now move around to the back of the engine and unclip the electrical connector, which is just above the engine mounts on each side. Follow the green wire down, unclipping it from various holding clips as you go. Carefully note how the wire is snaked around, under, and through various parts, because you'll need to put the new one in the same way.

Step 6: **Install new O2 sensor.** Thread in the new O2 sensors, then start to feed the wire up through the same place the old wire ran. Go around the back of the engine now and start to pull it through. Small hands help there. Feed it around and through where the old wire went, making sure to clip it into the holding clips as you go. Reconnect the new electrical connection. Replace wheel and lower jack. Torque wheel bolts to 118 ft lb.





Repeat steps 5 and 6 for the other side. The driver side O2 sensor is more difficult because of a tighter fit with where the wire was routed.

Step 7: **Put things back together.** Reattach air box, top engine cover and fans, bumper, and taillights. Be careful about the leveling bolts in the lights so you don't move them. Everything is just installed in reverse order of removal.

Step 8: Go for a test drive!