



WIDEBAND SENSOR INSTALLATION PROJECT TUTORIAL

2ND Generation Cadillac CTS-V (2009-2015)

Wideband Sensor Installation – Step by Step

(Tutorial courtesy of “random84” on ctsvowners.com)

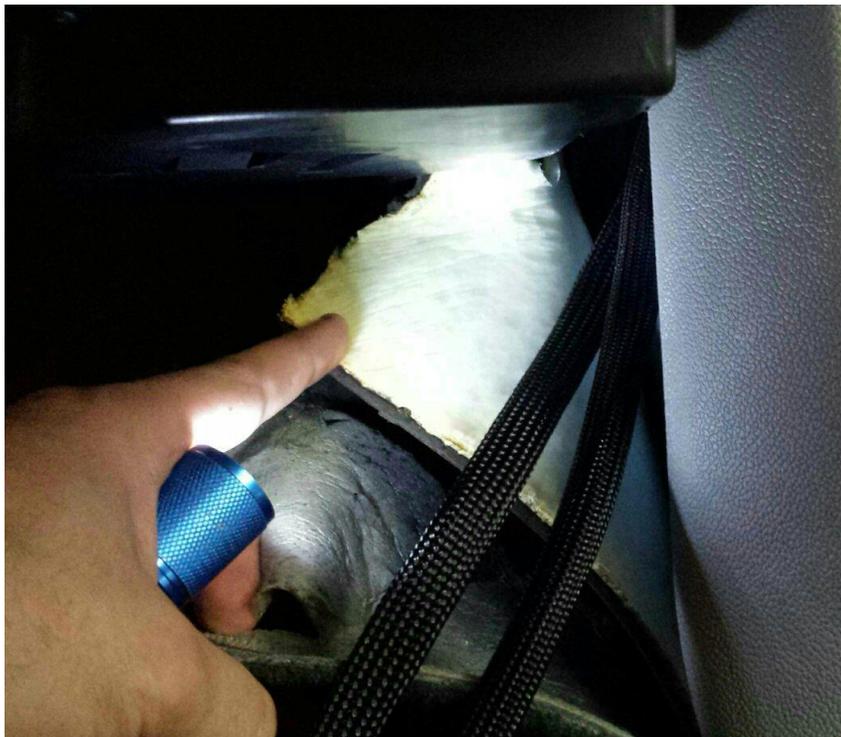
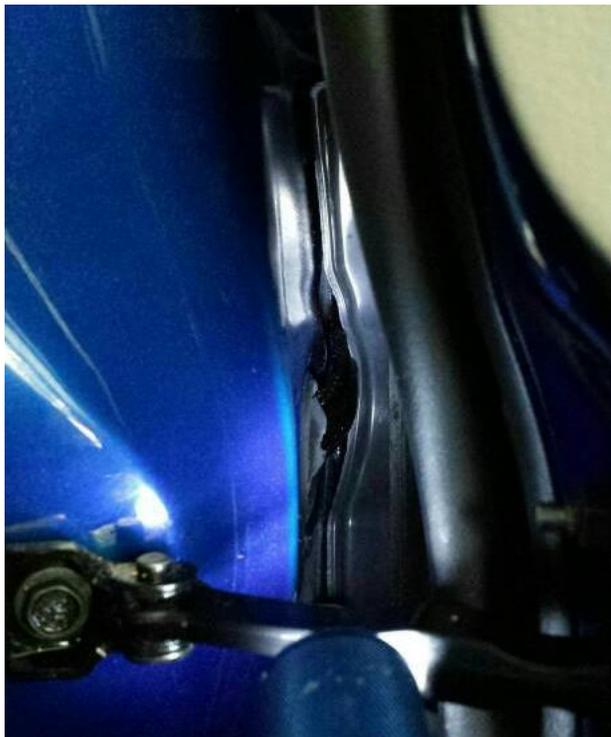
Step 1 - Mounting of AFR Box

- a. Mount the AFR box in the cigarette lighter cubby, however, the hard part is running the pigtail through the firewall to the engine bay, where the sensor and power connections go. You could run ground back to the battery via interior panels but I chose to avoid this. I also feel this method is easily reversible (as easy as snipping zip ties), because nothing needs to be removed, spliced, siliconed or disassembled.



Step 2 - Locate grommet for cable pull

- a. There is an unused rubber grommet in the passenger door hinge area that provides easy access to the glove box and passenger compartment, as well as the engine bay: pry out the grommet with a screw driver, cut it and fish the control box connector through it (that will be inside the car in the glove box, etc). You will need to pull back the carpet and padding in this area, prying off one plastic harness connector to gain access. Again, plenty of room to run the standard AFR harness anywhere you want to go. *Look closely, the grommet is already back in place with my harness poking through it. Inside of the passenger compartment - carpet pulls back easily.*



Step 3 - Pull Cabling Through

- Tape the O2 sensor connector and the power/ground terminals to a coat hanger. If you look between the door and chassis, there is a rubber weather-stripping that easily moves to the side - fish your coat hanger through there just below the upper door hinge, orientated north. You will pop out just beneath the hood hinge, inside the front fender near where a NorCal icebox would sit. **There is plenty of room and no need to cut or disassemble any connectors!** You will also have plenty of room with a NorCal box installed, as the hanger will "pop out" above the inner fender bracing. There is no interference from the door, either.
- Photo B - See coat hanger pointing towards the engine bay - there's quite a bit of room behind that plastic weather-stripping!
- Photo C - I taped everything to the coat hanger, leaving the large connector to dangle for easy maneuvering
- Photo D - See coat hanger popping out into the engine bay, ready to be pulled through
- Photo E - The O2 sensor harness dropping down past the ECM, next to the transmission and passenger exhaust. The power/ground portion of the harness is tucked under the fender and not visible. use plenty of zip ties to keep the O2 sensor harness from eventually dropping down onto the exhaust!



Step 4 - Electrical Power

- a. **DISCONNECT THE NEGATIVE TERMINAL AT THE BATTERY** in the rear of the car before touching ANY wiring!
- b. From here, it is easy to run your power and ground to the fuse box in the engine bay (which can stay tucked under the front fender), and the large grounding cable that runs directly to the battery. I used plenty of dielectric grease and an add-a-circuit to do this for the +12V. I did not have to cut, splice or lengthen any part of the wideband harness other than the +12v lead to the add-a-circuit. For the negative ground, I chose the easy way and again used plenty of dielectric grease: I backed out the chassis grounding bolt (to the big black cable next to the fuse box) just enough to wedge the grounding connector in between the washer, then tightened it back down. Super easy. Photo - The switched power source, add-a-circuit and ground.



Again, the O2 sensor cable falls down right on top of the passenger side exhaust - I used zip ties to secure it to the existing transmission wiring harness keeping it out of harms way. There is probably another 5-6 feet of harness left over, that will be coiled up and tucked away inside the footwell of the passenger compartment.



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