

Thank you very much for your purchase of the CEC (Catalyst Eliminator Computer) from MaxVolt Performance! The following information will help you to understand how the CEC system connects and interacts with your catalyzed marine engine.

Applications

The CEC kits are applicable to all recreational pleasure craft that use a four wire oxygen sensors at all locations:



Figure 1 - Four wire oxygen sensor and connector

If your craft does not use this style of connector on all of the oxygen sensors, this kit is not the correct one for your application!

Kit Part Number 121-1200 is applicable to MerCruiser big blocks (with four wire sensors) and 3.0 liter engines.

Kit Part Number 121-1205 is applicable to MerCruiser small block and V6 engines.

Please contact CP Performance for help with other applications.

Pre Catalyst and Post Catalyst Oxygen Sensors

All applications will have two oxygen sensors per cylinder bank, with one sensor located before the catalytic converter and one after the catalytic converter. It is common to call these sensors “pre-sensor” and “post sensor”.

- a. Exhaust port
- b. Pre-catalyst oxygen sensor (located in the exhaust manifold collector)
- c. Catalytic converter
- d. Post catalyst oxygen sensor

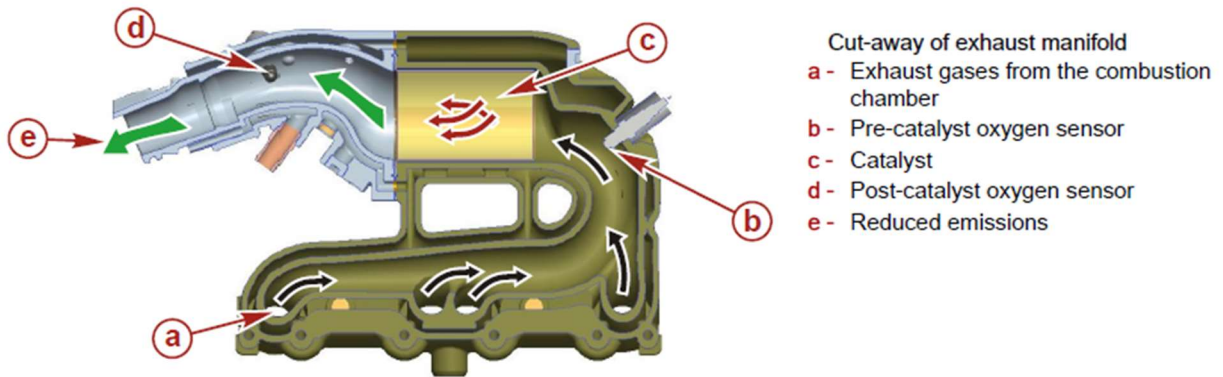


Figure 2 - Exhaust gas flow path and oxygen sensor locations, typical small block engine

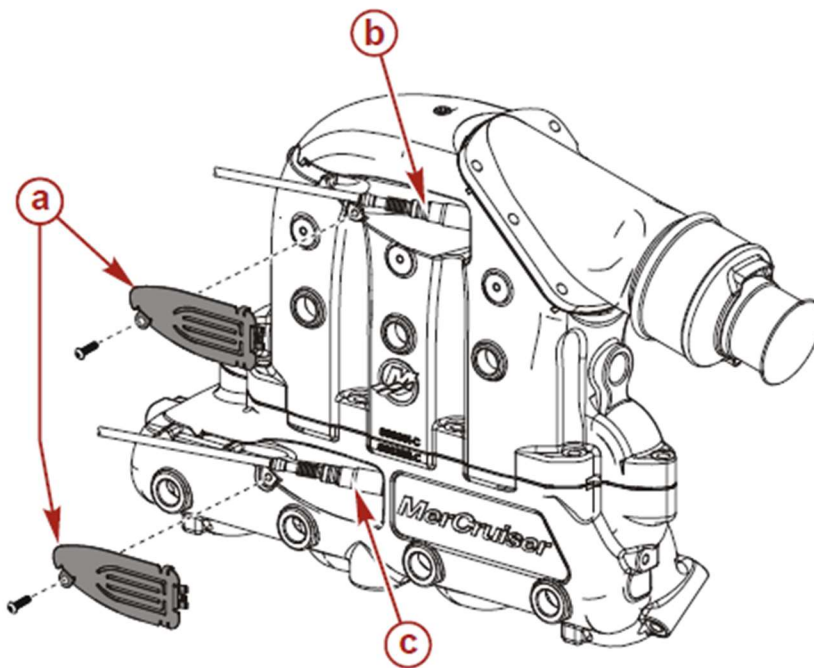


Figure 3 - Locations of Pre-Catalyst "c" and Post Catalyst Oxygen Sensors "b", typical big block engine

Purpose of the CEC

The CEC will allow faults from the post oxygen sensor(s) or the catalyst(s) to be corrected such that the engine will run properly without turning on the Check Engine light due to these failed components. The Check Engine light will continue to function for all other faults. After the installation of the kit, the post catalyst oxygen sensor is no longer used and can be left in place as a plug or it can be removed and a steel plug inserted in its place. The system will also function with or without the catalyst(s) in place.

The pre-catalyst oxygen sensor must function correctly in order for the CEC to work correctly. Prior to the CEC kit being installed, if the engine has a fault for the pre catalyst oxygen sensor(s), the fault will

continue to be present after the CEC kit is installed. A pre catalyst sensor fault can usually be corrected by replacing the fuse for the heater for this sensor or replacing the sensor itself. Pre and post sensors are interchangeable as are port and starboard.

The Catalyst Eliminator Computer Kit

The CEC kit includes one computer and two wiring harnesses. The computer has two electrical termination points, one with five electrical pins and the other with six electrical pins. Each harness has a mating five pin or six pin electrical connector, known as the five pin and the six pin harness, respectively.

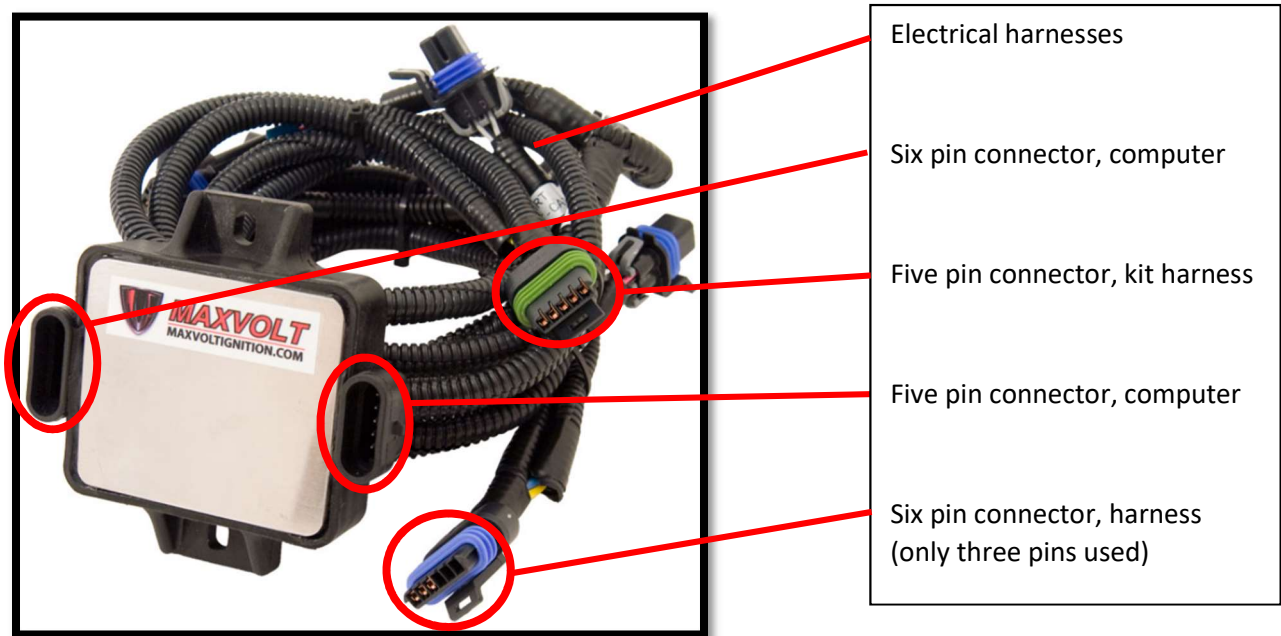


Figure 4 - The MaxVolt Catalyst Eliminator Computer Kit from CP Performance

Kit Part Number 121-1200 will have green electrical tape below the five and six pin harness connectors.

Kit Part Number 121-1205 will have black electrical tape below the five and six pin harness connectors.

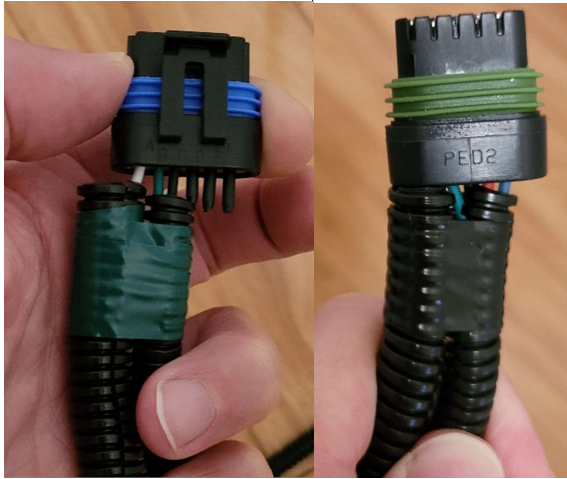
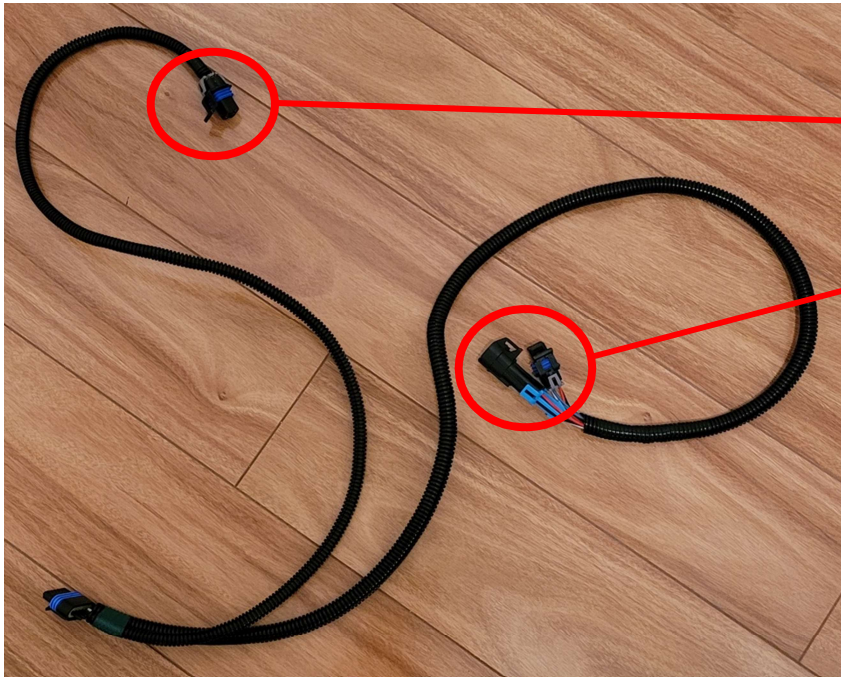


Figure 5 - Green tape used on P/N 121-1200 (left) and black tape on 121-1205 (right)

Installing the CEC Harnesses to the Engine

Each harness of the CEC Kit is made up of two branches. Both branches must feed only one bank of a V8 or a V6 engine.



Single connector will plug into the engine wiring harness where the post sensor use to connect

The double connectors will plug into the pre-oxygen sensor and it's mating connector from the engine wiring harness

Figure 6 – Both sets of circled connectors must go to the same engine bank



Figure 7 - Each harness of the CEC Kit must feed one engine bank

General Method for Connecting the CEC Kit to the engine – V8 and V6

1. Connect the five pin CEC harness connector to the five pin computer connector

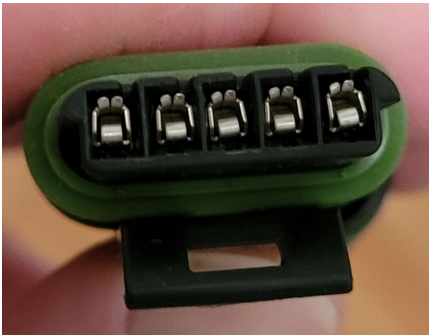
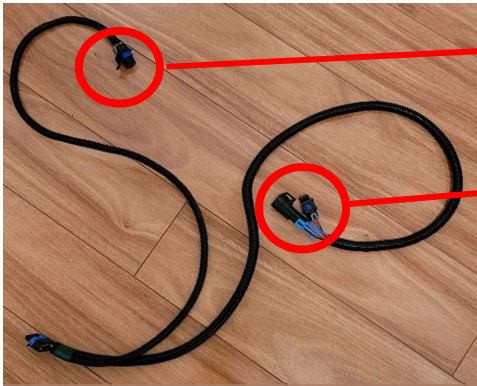


Figure 8 - Five pin connector, part of the five pin harness

2. Route the five pin harness to the left or right (port or starboard) side of the engine



Single connector will plug into the engine wiring harness where the post sensor use to connect (step 5 below)

The double connectors will plug into the pre-oxygen sensor and it's mating connector from the engine wiring harness (step 7 below)

Six pin harness for steps 11 and 13

Figure 9 - The single connector and the double connector are routed to the same side of the engine

3. The following picture is applicable for all connections to any of the oxygen sensors



Figure 10 - Four wire oxygen sensor connector, "a" is the engine harness connector and "b" is the sensor connector

4. Disconnect the post oxygen sensor from the engine harness and discard the post sensor
5. Connect the single connector into the engine harness where the post sensor was disconnected from
6. Disconnect the pre-oxygen sensor from the engine harness
7. Connect the double connectors to the pre-oxygen sensor and to the pre-oxygen sensor engine harness connector (they can only go together one way)
8. Connect the six pin CEC harness connector to the six pin computer connector



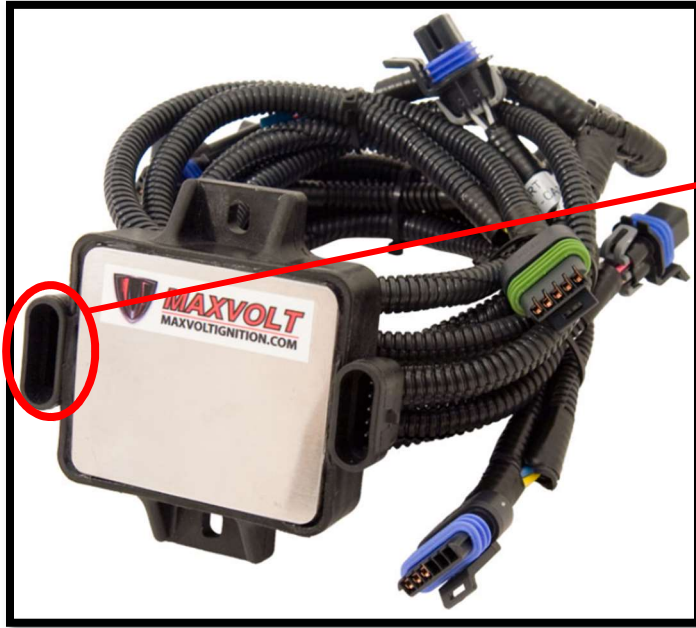
Figure 11 - The six pin connector uses only three pins

9. Route the six pin harness to the opposite side of the engine of the five pin harness
10. Disconnect the post oxygen sensor from the engine harness and discard the post sensor
11. Connect the single connector into the engine harness where the post sensor was disconnected from
12. Disconnect the pre-oxygen sensor from the engine harness
13. Connect the double connectors to the pre-oxygen sensor and to the pre-oxygen sensor engine harness connector (they can only go one way)
14. Mount the ECE computer to a cool location using the two mounting holes

15. Zip tie the wiring harnesses such that they will not interfere with moving or hot components

General Method for Connecting the CEC Kit to the engine – 3.0 liter

As the 3.0 liter engine has only one bank, it will utilize only the five pin harness from the ECE kit. The six pin connector on the computer should be filled with RTV to keep moisture out. All other steps outlined for the V8 and V6 engines should be followed, except for one bank. The six pin harness can be discarded.



For the 3.0 liter application ONLY, the six pin connector on the computer will be filled with RTV

Figure 12 - For 3.0 liter applications ONLY, the six pin connector on the computer will be filled with RTV