



Trifecta Performance, Inc.

EEPROM Repair Kit

Trifecta Performance, Inc. (<http://www.trifectaperformance.com>)

Rev 1.0

Thank you for your recent order with Trifecta Performance! We're glad to be able to have served you in providing parts to repair your OBD1 LT1 Powertrain Control Module (PCM).

This document describes a few details about the parts included and the repair process.

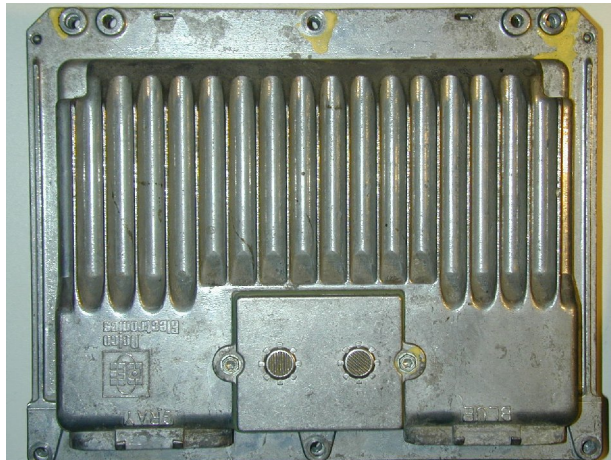
Notes pertaining to which EEPROM goes where:

It is important to note that this particular PCM requires two EEPROM chips. This is because the PCM is actually two computers in a single housing. When you disassemble the PCM, you'll note there are two circuit boards connected by a ribbon cable. GM named one side the "Time" side, and the other side the "Event" side.

It is important to understand which side is which, because the EEPROM chips are programmed specifically per side. Each chip is labeled with either a 'T' or an 'E' to indicate whether it was programmed for the "Time" side or the "Event" side. If the chips are mixed up, the PCM will not operate.

After removing both PCM boards from the case, note that each of them has two connectors. One has a BLUE and WHITE (or GRAY) connector, and the other has a RED and BLACK connector. The side with the BLUE and WHITE (or GRAY) connector is the "Time" side, and the side with the RED and BLACK connector is the "Event" side. The following figures illustrate these concepts.

Figure 1 (OBD1 LT1 PCM assembled):





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Figure 2 (Two halves of PCM):

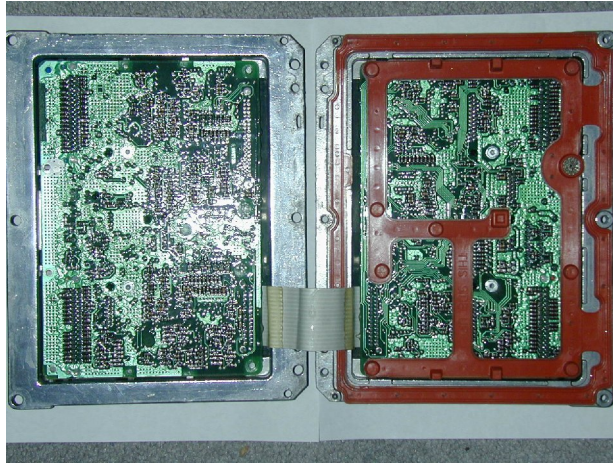


Figure 3 (“Time” side of PCM and EEPROM location):

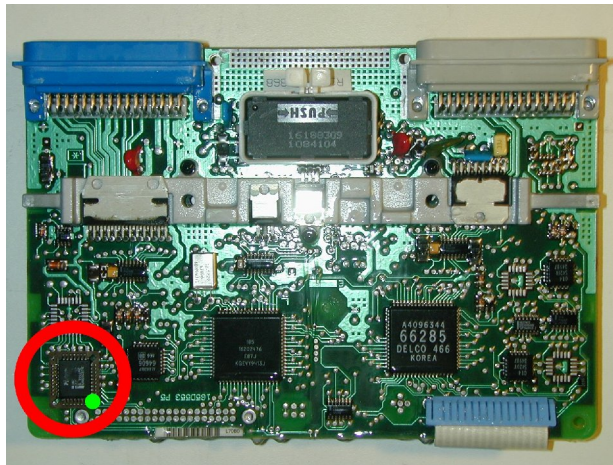
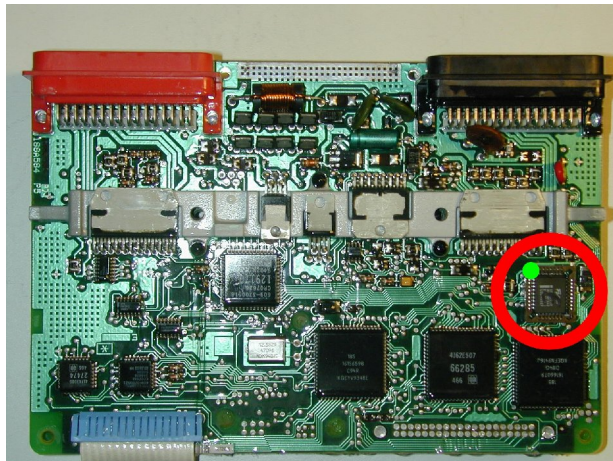


Figure 4 (“Event” side of PCM and EEPROM location):





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Notes regarding removing the original EEPROM chip:

The best way to remove the original surface mount EEPROM chip on the PCM board is to use a heat gun (at 800F) to get the EEPROM chip hot enough to melt the solder. This is a delicate process. Heating other components on the board can damage them. It is recommended that adjacent circuit board area be covered with aluminum foil as demonstrated in the following photographs:

Figure 5 (LS1 PCM board):

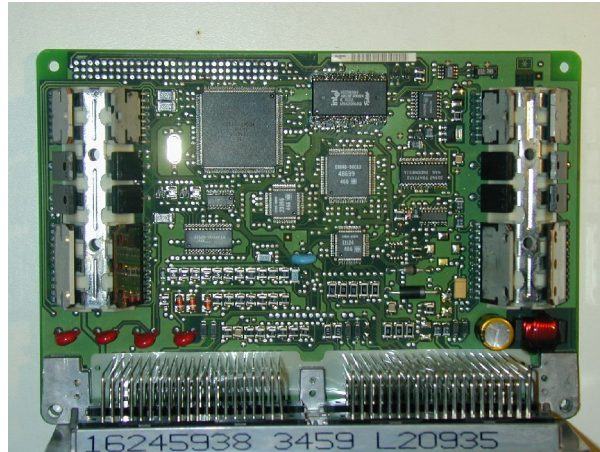


Figure 6 (LS1 PCM board with aluminum foil protector in place):



The aluminum foil will dissipate heat that does not reach the EEPROM chip.

Only heat the chip enough to melt the solder. The best technique to use is to use a small pick positioned under the EEPROM chip. While heating it with the heat gun, apply very *light* pressure to the pick. Once the solder melts, the chip will come right off the board. Use a de-soldering tool to remove excess solder, and clean up the EEPROM surface mount pads.

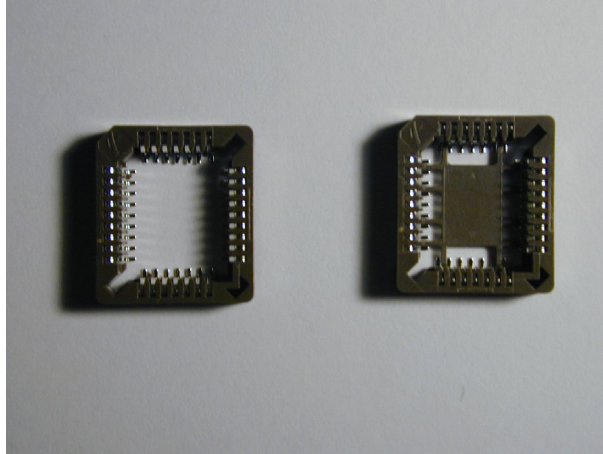


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Notes regarding soldering a socket to the PCM board:

The sockets we ship to our customers have a “base” that needs to be removed before the socket can be used. Otherwise it’s nearly impossible to reach the socket’s contacts to solder them to the board. The following picture shows the socket as it comes (on the right), and the socket with the base removed (on the left).

Figure 7 (EEPROM sockets):



Be sure you properly align the socket’s “flat corner” with the PCM’s circuit board. In the above pictures the socket’s “flat corner” is in the upper left corner. The “flat corner” orientation with the PCM’s circuit board can be seen in figures 3 and 4, represented by the green dot.

The PCM repair process is fairly involved and requires a high degree of accuracy with soldering. Trifecta Performance is happy to perform the repair process for you at a reasonable rate if desired.

Lastly, we are committed to quality and customer service. If you are unhappy with any aspect of your EEPROM repair kit, please contact us and we will do everything we can to make it right. Thank you for your business!