

Hybrid Remanufactured 16198263 (1227749) Controller from Delco

This is a controller I received recently for doing some \$58 code development.



Fig1

Here is the label on this unit, showing its remanufacture code from Delco. Nothing remarkable here.....



Fig2

What is extremely interesting is what I found when I removed the MEMCAL cover to see if there was a cal unit in the ECM!

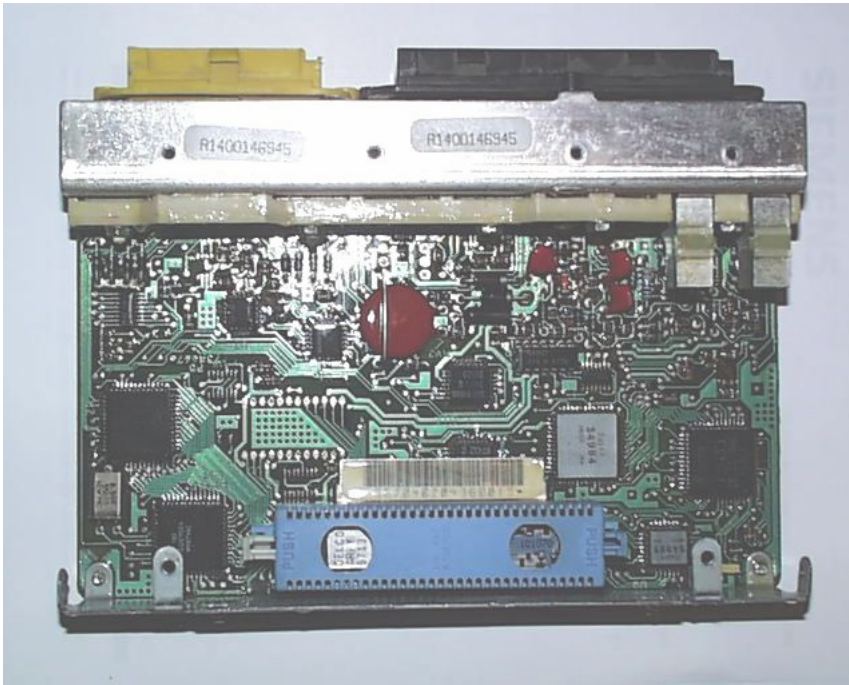


Fig3

If you look closely, there are ONE each of the two different types of the SPI ICs for Injector control, EST and miscellaneous I/O!

Here is a closer look:

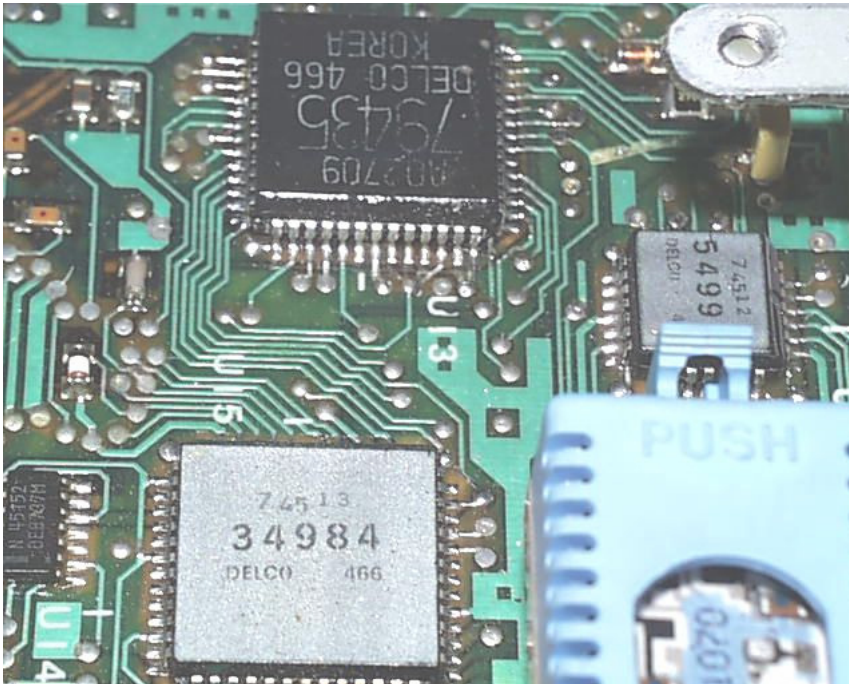


Fig4

The U13 IC (INJ1) is a 79435 numbered chip, whereas the U15 IC (INJ2) is the 1227749 style chip.

1227727/30 and 16149396 Style SPI Injector/EST/Misc I/O IC.....

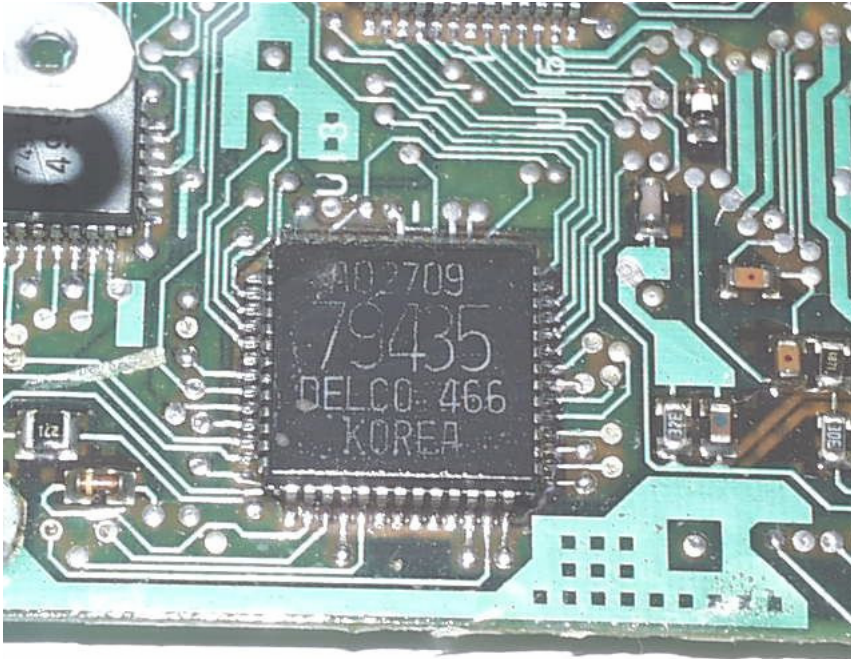


Fig5

1227749/16198263 Style SPI Injector/EST/Misc I/O IC.....



Fig6

Possibilities as a result of this discovery:

Since this ECM is advertised for all vehicles which originally used the 1227749 ECM (including the Turbo Sunbird!), this leads me to believe that these ICs function identically in the ECM, otherwise they could not be mixed as they are in this controller. GM would not allow this to occur.

So by this inference, the two ICs are the same functionally. Most likely the difference in them is the die lay-up. One may be at a different micron stepping than the other, but otherwise, the functional block and performance is the same. This confirms the Bruce Plecan work indicating that \$58 code will run on a 730 style ECM.

This leads me to an idea which may not have been thought of before, but certainly seems feasible considering the mix of components!

It could be possible to modify a GM underhood (1227727) ECM to be a functional equivalent of a 1227749 Turbo/SyTy ECM by adding the components from another ECM to add the additional injector driver circuits (the U15 and glue components). And as well, you could modify the '93 3.4L V6 underhood ECM (16149396) that has the additional SRAM, and have a maximum contented ECM that can run the \$58 boost SW, has the additional Quad driver IC for ancillary functions if necessary, and can do P&H injectors. You can also modify the P&H drivers so that you can run 8 low-impedance injectors (4 per output FET) and do V8s, as has been done to the 1227749 ECM.

This ECM could also run hybrid \$8D/\$58 code if parts of the SW of the two are combined, and use the full 32K in the 1227727/30 ROM space if you relocate the \$58 code.

This would allow usage on boosted Street Rods, boats and other vehicles which experience a high likelihood of moisture/water contamination.

Comments, inquiries and collaborations on this subject are welcome through the GM-ECM forums.

Henry Dozier
04-December-2006