



Southern California Regional Transit Training Consortium

COURSE NAME: Network Electronics Diagnosis and Repair – E3

COURSE #SC-EL-1600-III

PREREQUISITES: Course prerequisites include proficiency in #SC-EL-1600-I and SC-EL-1600-II.

COURSE DESCRIPTION: This course integrates the complex vehicle network with the Alternative Fuel Computerized Engine Management system through various communication operating protocols. This course is the most intense of all course work due to the complexity of the harness functions in the modern transit vehicle. Upon completion of this course, the student will not only have a complete understanding of the interface wiring harness, they can also build a special tool, a break out harness, that connects the modules together, and be able to take it back to the shop with them, simplifying diagnostic procedures. Course includes both lecture and lab experiences.

WHO SHOULD ATTEND

This course is intended for the supervisor, technician who needs an overview of proper wiring harness repair techniques following symbols and manufactures schematics for Alternate Fueled Vehicles.

Day One

- Serial communication operation
 - Data bus hardware and software protocols
 - Overview of "GENERIC" multiplexing systems
 - SAE J1587, slow speed communication on electronically managed systems
 - SAE J1708, serial communications hardware compatibility used in 6 pin Deutsch connectors
 - SAE J1939, current heavy duty data bus that uses CAN 2 architecture used in the 9 pin Deutsch connector on the back bone network.
 - Multiplexing, this system of operation avoids duplication of hardware and allows the different operating protocols to synergize commands and serial data transfer.
 - Serial data communication, 5 volt vs.12 volt
 - "FUZZY LOGIC" language

Day Two

- Electrical/Electronic repairs on AFV Computerized Engine Management Systems
 - Terminating resistor logic
 - Correct terminal extraction procedures
 - Terminal identification
 - Terminal replacement

- Connector repairs



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- Micro-Pac, Weather-Pac
- Deutsch 6/9 pin voltages
- Construction of J1939 terminating resistor harness

Course Times: 7:00am - 3:30pm each day. (SUBJECT TO CHANGE – CHECK REGISTRATION)

Number of Hours/Days: 16 Hours over 2-Days

Continuing Education Units (CEU): 0

Register **today** to reserve a spot
www.scrttc.com