

Cambrian College

School of Skills Training / SktTech Course Outline

Course Name: Mercedes MBE 900 Diesel Engine & Electronic Controls

Course No: DIE 1090

Credit Value:

Duration: 16 hours

Program Name: HDET Technician Upgrading

Course Description:

This course will introduce students to basic operation of Mercedes electronic fuel injection system used on MBE 900 series diesel engine. The technicians will be instructed on the proper troubleshooting techniques, inspections and repair procedures on the MBE 900 series engine. Student will be introduced to the proper testing and diagnostic tools used to troubleshoot these systems.



Date: March 1 2007

Prepared by: Bob Huzij

Approved by: _____

PREREQUISITES:

HDET Technician

EQUIVALENCIES:

Not Applicable

RESOURCES REQUIRED:

Handout material

COURSE OBJECTIVES/LEARNING OUTCOMES:

Upon successful completion of this course the technician will:

1. Become familiar with the fundamentals of Mercedes Diesel Electronic Fuel Injection.
2. Become familiar with Mercedes Diesel Electronic Control.
3. Be able to use the diagnostic scanner and the manufacturer's manuals to troubleshoot the MBE 900 engine system.

CONTENT (TOPIC) OUTLINE:

Unit 1: Fundamentals of diesel Electronic Fuel Injection Systems.

- 1.1 Explain and discuss EFI terminology as applied to the MBE 900 engine
 - 1.1.1 Input Processing Output
 - 1.1.2 Sensors and actuators
 - 1.1.3 Electronic control Module
- 1.2 Explain and discuss the different types of sensors used on the MBE 900 engine
 - 1.2.1 Function and application of those different sensors.
 - 1.2.2 Location and testing of those different sensors.

Unit 2: MBE 900 Electronic Control Systems

- 2.1 Explain and discuss the operation of MBE 900 System Sensors.
 - 2.1.1 Function and location of the MBE 900 Sensors
 - 2.1.2 Inspection and testing of MBE 900 Sensors
 - 2.1.3 Replacing MBE 900 Sensors

- 2.2 Explain and discuss the PLD Logic and its features
 - 2.2.1 The Input, Processing, Output Logic
 - 2.2.2 Engine warning features
 - 2.2.3 Engine Programmable Parameters
 - 2.2.4 Diagnostic codes

- 2.3 Explain and discuss the operation of MBE 900 fuel system components.
 - 2.3.1 Function and locations of MBE 900 fuel system components
 - 2.3.2 Inspection and testing of MBE 900 fuel system components
 - 2.3.3 Replacing MBE 900 fuel system components

Unit 3: MBE 900 Diesel Electronic Control Troubleshooting

- 3.1 Explain and discuss the proper troubleshooting procedures
 - 3.1.1 How to use the MBE 900 troubleshooting manual.
 - 3.1.2 How to use the MBE 900 Manual to troubleshoot an engine
 - 3.1.3 How to use the MBE 900 scanner to troubleshoot an engine

Fieldwork /Placement: None

Delivery Mode: 8 hours Theory session, 8 hours Practical in Shop session

PLA/Transfer Credit: N/A

General Education Designation:

EVALUATION METHODS:

1. Attendance at schedule test and shop session.
2. 1 theory test
3. Shop task and shop evaluation.

Grading

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|-------------------|----------|
| A | 80 - 100 |
| B | 70 - 79 |
| C | 60 - 69 |
| F Below 60% | Fail |