
Fuel Cell Standards

XVII. Cathode Subsystem

XVII.h Pressure, Temperature and Humidity Sensors

Overview:

Classroom and lab topics

- Primary functions of the fuel cell system sensors
- Theory of their basic operation and mechanization
- Virtual sensor implementation
- Pressure sensors
- Temperature sensors
- Humidity sensors
- Review of sensor schematic representation both mechanical and electrical
- Logic in determination of a faults
- Methodologies on testing sensors off vehicle

Description:

Sensors are required in various locations within the fuel cell system to monitor critical parameters for efficient operation of the stack and maximize its life. Many faults can be attributed to failed sensors or disagreement between sensors.

Outcome (Goal):

Student will be able to explain the functions and operating parameters of the sensors

Objectives:

Students shall be able to:



1. Identify defective sensors using vehicle data and hand held meters
 2. Locate, inspect and replace the sensors
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Tasks:

Students will

1. Locate, remove and replace a pressure sensor using OEM instructions
 2. Locate, remove and replace a temperature sensor using OEM instructions
 3. Bench test various type and configurations of sensors using OEM instructions or vendor specification documents
 4. Use OEM service instructions to identify any preventative or periodic maintenance of sensors
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