Fuel Cell Standards

XVIII. Anode Subsystem

XVIII.b Hydrogen Injection and Metering

Overview:

Classroom and lab topics

- Primary functions of the hydrogen injectors
- Injector mechanization
- PWM injection signals
- Injector controller
- Logic in determination of a fault
- Schematic representations versus actual components
- Trouble codes associated with injectors and manifold
- Injector electrical and mechanical noise mitigation

Description:

The anode subsystem supplied hydrogen to the fuel cell membrane via hydrogen injectors similar to ICE gasoline or CNG injectors but with tighter tolerances

Outcome (Goal):

Student will be able to explain the functions of the anode injection subsystem

Objectives:

Students shall be able to:

1. When provided with a vehicle student will be able to identify the injector location and harness
2. Identify leaks and repair
3. Understand injector(s) their operations and normal position under various operating conditions

Tasks:

Students will

1. Students will use a schematic, OEM service instructions and an OEM vehicle or complete fuel cell system to identify the injector and associated harness
2. When provided with a vehicle student will be able to identify and troubleshoot the injector
3. Verify injection signals at the harness
4. Remove and replace injector using OEM service instructions

To comment or offer suggestions on this standard, contact Ken Mays:

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