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| Title | **Maintain fuel system** |
| Level | **2** | **Credits** | **7** |

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| Purpose | This Competency Standard identifies the competencies required to maintain fuel system of vehicle, at workplace by Automobile Mechanic, in accordance with the organization’s approved guidelines and procedures. You will be expected to diagnose fuel system problems of vehicle and service fuel metering system of vehicle ,at workplace. Your underpinning knowledge regarding maintenance of fuel system of a vehicle will be sufficient to provide you the basis for your work. |

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| Classification ISCED | 0716 Motor vehicles, ships and aircraft |

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| Available grade | Competent / Not yet competent |

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| Modification history | N/A |

| **Unit of Competency** | **Performance Criteria** | **Knowledge & Understanding**  | **Tools & Equipment** |
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| E1. Diagnose fuel systemproblems of vehicle  | You will be able to:P1: Arrange tools and equipment required to diagnose fuel system problemsP2. Follow the instructions of repair manual to diagnose fuel system problemsP3. Inspect the following components of fuel system according to repair manual:* Fuel pump
* Fuel pump motor
* Fuel pressure regulator
* Fuel damper
* Fuel injectors
* Supply lines
* Fuel filter
* Fuel gauge
* Fuel injector gallery
* O rings

P4. Follow safety precautions at workplace | You will be able to:K1. Explain the usage of tools and equipment for diagnose fuel systemK2. Explain the usage of special service tools (SSTs) for fuel systemK3. Read and interpret repair manualK4. Describe the properties of gasoline K6. Describe the function of fuel pump motorK6. Describe the function of fuel filterK6. Describe the function of fuel damperK6. Describe the function of fuel pressure regulator K6. Describe the function of fuel injectorK8. Explain the safety precautions regarding personal health and workplace | Repair manual, spanner, gauges, sockets set, pliers, SST ,lock pliers, scanner , off car injector simulator ,PPE  |
| E2. Service fuel metering System (e,g. injectors, regulators, switching valve) of vehicle  | You will be able to: P1: Arrange tools and equipment required to service fuel metering systemP2. Follow the instructions of repair manual to service fuel metering systemP3. Inspect the following components of fuel metering system according to repair manual:* Engine control module (ECM)
* Air flow sensor
* Heated oxygen sensor
* Map sensor
* In take air temperature sensor (IAT)
* Throttle position sensor
* Coolant temperature sensor
* In take air control valve (IACV)

P4. Follow safety precautions at workplace  | You will be able to:K1. Explain the usage of tools and equipment for servicing fuel metering systemK2. Explain the usage of special service tools (SSTs) for servicing fuel metering systemK3. Read and interpret repair manualK4. Explain the functions of electronic fuel injection system (EFI)K5. Explain the function of all sensors of fuel metering system K6. Explain the function of ECM and injector in fuel metering system K7. Explain the safety precautions regarding personal health and workplace | SSTs, Scanner, multi meter, off car injector simulator, screw drivers, spanners, pliers, socket set, repair manual, star Allen keys, PPEs |