

SERVICE AND REPAIR VEHICLE FUEL SYSTEM

UNIT CODE: ENG/OS/AUT/CR/3/4/A

Unit description:

This unit specifies competencies required to service and repair vehicle fuel system. It involves, inspecting, removing, dismantling, and servicing/repairing/replacing fuel system components. It also involve assembling, testing and fitting fuel system components to the vehicle, carry out adjustment and testing the fuel system.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
<p>These describe the key outcomes which make up Workplace functions</p>	<p>These are assessable statements which specify the required level of performance for each of the elements. <i>(Bold and italicized terms are elaborated in the Range)</i></p>
<p>1. Inspect and remove vehicle fuel system components.</p>	<p>1.1 Personal protective equipment (PPE) are used as per OSHA 2007</p> <p>1.2 Health, safety environment and quality regulations are observed as per OSH Act 2007.</p> <p>1.3 tools and equipment are assembled and used as per workshop procedure</p> <p>1.4 Vehicle fuel system Components are identified and inspected according to manufacturer's manual.</p> <p>1.5 Vehicle fuel system Components are removed from the vehicle according to manufacturer's manual.</p>
<p>2. Dismantle, Service/repair/replace vehicle fuel system components.</p>	<p>2.1 Vehicle fuel system Components are dismantled, cleaned and examined according to manufacturer's manual</p> <p>2.2 Vehicle fuel system components are serviced/repared /replaced according to manufacturer's manual</p>
<p>3. Assemble fuel system components and test for correct operation</p>	<p>3.1 Vehicle fuel system components parts are identified and arranged as per SOPs</p> <p>3.2 Vehicle fuel system components are reassembled according to manufacturer's specification</p> <p>3.3 Tests are carried out on vehicle fuel system components as per manufacturer's service manual</p>

4. Fit fuel components, carryout adjustments and test fuel system	<p>4.1 Vehicle fuel system components are fitted and adjustments carried out as per manufacturer's manual.</p> <p>4.2 Fuel system is tested as per manufacturers manual.</p> <p>4.3 Service /repair report is prepared as per workshop procedure.</p> <p>4.4 Work station is cleaned as per workshop regulations</p> <p>4.5 Waste is disposed as per OSHA 2007</p>
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RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Variable	Range
1. Tools and equipment may include but is not limited to:	<ul style="list-style-type: none"> • Specialist tools relevant to specific vehicle makes and models; • General workshop equipment; • Electrical multi-meter • Fuel system pressure gauge
2. Fuel system Components may include but is not limited to:	<ul style="list-style-type: none"> • Fuel lift pumps • Fuel filter • Fuel tank • Fuel pipes • Fuel feed pump • Injectors • Carburetors • Rails • Pipes
3. Manufacturer's manual. may include but is not limited to:	<ul style="list-style-type: none"> • Vehicle technical data • Manufacturers' tolerances and specification data. • Manufacturers' specifications • Approved company practices
4. Tests may include but is not limited to:	<ul style="list-style-type: none"> • Injection pressure • Injection voltage • Leakage • Valve operation • Spring tension • Diaphragm • Injector pump timing
5. Standard operating procedures (SOP) may include but is not limited to:	<ul style="list-style-type: none"> • Company policy • Filling system

	<ul style="list-style-type: none"> • Record management procedures • Client satisfaction measurement procedures.
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REQUIRED KNOWLEDGE AND SKILLS

The individual needs to demonstrate knowledge of:

- Legislative and organizational requirements and procedures
- Kenyan legislation and workplace procedures
- Legal requirements relating to the vehicles warranty and insurance policies
- Workplace procedures
- Rectification procedures
- Obtaining the correct information for rectification
- Working to agreed time frame and keeping others informed of progress
- The relationship between time, costs and profitability
- Reporting anticipated delays
- How to find, interpret and use technical information for engine service activities
- Importance of using the correct technical information
- The purpose of and how to use identification codes.

Required Skills

The individual needs to demonstrate the following skills:

- Communications (verbal and written)
- Proficient in ICT
- Time management
- Problem solving
- Decision making
- Planning
- Multitasking
- First aid
- Report writing
- Driving
- Listening
- Team work
- Dismantling
- Inspecting
- Assembling

EVIDENCE GUIDE

- This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

1. Critical Aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> 1.1 Used Personal protective equipment (PPE) correctly 1.2 Observed Health, safety, environmental and quality regulations correctly. 1.3 Assembled tools and equipment appropriately 1.4 Dismantled, cleaned and inspected vehicle fuel parts/components correctly. 1.5 Replaced defective vehicle fuel parts/components correctly 1.6 Serviced vehicle fuel system parts correctly 1.7 Assembled vehicle fuel system parts correctly 1.8 Tested and adjusted vehicle fuel system correctly. 1.9 Prepared vehicle fuel system service/repair report correctly 1.10 Cleaned workshop and disposed wastes correctly
2. Resource Implications	<p>The following resources must be provided:</p> <ul style="list-style-type: none"> 2.1 A workshop that is fully equipped for the service and repair of vehicle fuel system. 2.2 Instruments and equipment for measuring and assessing the condition of vehicle fuel system components/parts. 2.4 Access to manufacturers' technical information 2.5 Facilities for the disposal of waste and scrap parts 2.6 Customer database and systems for recording service records 2.7 Personal protection equipment 2.8 Access to computers
3. Methods of Assessment.	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Oral 3.2 Observation 3.3 Written tests
4. Context of Assessment	<p>Competency may be assessed individually in an actual workplace or in work-simulated conditions within accredited institutions or during Industrial Attachment.</p>

5. Guidance information for assessment.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

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