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| Title | **Test battery performance** | | |
| Level | **2** | **Credits** | **13** |

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| Purpose | This Competency Standard identifies the competencies required to test the battery performance of a vehicle by Auto Electrician in accordance with the organization’s approved guidelines and procedures. Trainee will be expected to apply different tests including inspection of electrolyte and terminals, measuring the specific gravity, checking the level of distilled water and recharging the battery in order to enhance the performance of the battery of the vehicle.Trainee’sunderpinning knowledge regarding tools, techniques, methods and procedures for testing battery performance will be sufficient to provide Trainee the basis for his / her 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 |

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| **Unit of Competency** | **Performance Criteria** | **Knowledge** | **Tools & Equipment** |
| C1: Remove Battery from the Vehicle | *TraineeMust be able to:*  P1. Select proper tools and equipment according to the repair manual  P2. Adopt a proper method for removing battery from the vehicle using repair manual  P3. Disconnect terminals of the battery carefully. P4. Observe occupational health and safety precautions at all the times. | *Traineemust be able to know and understand:*  K1. Use of Pliers and Ring Spanner K2. Read and interpret repair manual K3. Techniques for removing battery  K4. Specific safety precautions and guidelines | Pliers, Ring Spanner, and Silicon Gloves. |
| C2:Inspect Electrolyte and Terminals of Battery | *TraineeMust be able to:*  P1. Select proper tools and equipment according to the repair manual  P2. Adopt a proper method for inspecting battery electrolyte and terminals using repair manual  P3. Report faults and possible solutions to client. P4. Observe occupational health and safety precautions at all the times. | *Traineemust be able to know and understand:*  K1. Use of Hydro meter and Battery Tester K2. Read and interpret repair manual  K3. Techniques for inspecting and verifying faults in the battery  K4. Standard gravity of electrolytes  K5. Specific safety precautions and guidelines K6. organizational reporting procedures | Hydro meter, Battery Tester, Amery paper, Goggles and Silicon Gloves. |

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| **Unit of Competency** | **Performance Criteria** | **Knowledge** | **Tools & Equipment** |
| C3:Check the  Specific Gravity of the electrolytes | *TraineeMust be able to:*  P1. Select proper tools and equipment according to the repair manual  P2. Adopt a proper method for checking specific gravity of battery using repair manual  P3. Observe occupational health and safety precautions at all the times. | *Traineemust be able to know and understand:*  K1. Use of Hydrometer  K2. Standard gravity of electrolytes K3. read and interpret repair manual  K4. personal health and safety measures | Hydrometer, Silicon Gloves. |
| C4:Clean Terminals of the Battery | *TraineeMust be able to:*  P1.Select proper tools according to the repair manual  P2. adopt a proper technique for cleaning terminals  P3: Observe personal health and safety at all times | *Traineemust be able to know and understand:*  K1. Use of contact Spray and Amery paper for cleaning  K2. Read and interpret repair manual  K3. Personal health and safety measures. | Contact spray(WD40), Amery paper, spanner |
| C5: Top up battery cells with distilled water | *TraineeMust be able to:*  P1. Adopt a proper method for topping up the battery cells with distilled water  P2. carry out top up according to the repair manual’s guidelines  P3. Observe personal health and safety at all times | *Traineemust be able to know and understand:*  K1. Use of hydrometer  K2. Upper and lower levels of battery electrolytes.  K3. Personal health and safety measures | Hydro meter, Silicon Gloves |
| C6: Recharge the Battery | *TraineeMust be able to:*  P1. Select proper tools and equipment according to the job requirement  P2.select a proper method for recharging from the repair manual | *Traineemust be able to know and understand:*  K1. Techniques and procedures to usebattery charger  K2.Read and interpret repair manual K3. Personal and machine safety | Battery charger, Multi- meter, Silicon Gloves |

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| **Unit of Competency** | **Performance Criteria** | **Knowledge** | **Tools & Equipment** |
|  | P3. Observe personal health and safety at all times  P4. set the amperes of tanger ( Battery Charger) according to battery specifications  P5. connect battery terminals with the battery tanger/charger according to the procedure | K4. procedures for setting the amperes of tanger  K5. method of connecting battery terminals with the tanger |  |
| C7: Test load of the battery | *TraineeMust be able to:*  P1. Select proper tools and methods for calculated load of the battery  P2. Test battery performance through battery analyzer.  P3. Measure battery charging with the help of multi-meter to analyze the volts. | *Traineemust be able to know and understand:*  K1. Use of Battery analyzer and multi-meter K2.method of calculating Battery load.  K3. Values of Charge, recharge and discharge. K4: Personal health and safety measures | Battery Analyzer, multi- meter, Silicon Gloves |
| C8: Install Battery in the Vehicle | *TraineeMust be able to:*  P1. Wash Battery bracket and terminals to remove sulphur and rust  P2. Re-assemble battery in bracket.  P3. Install the positive (+) and negative (-) terminals and tight the lead.  P4: follow repair manual’s instructions for installation of battery  P5. Start the car and check the performance. | *Traineemust be able to know and understand:*  K1. Purpose of washing battery bracket and terminals  K2: procedure of installation of battery K3: read and interpret repair manual | Pliers, Ring spanner, Silicon Gloves. |