

## 14. Competency Profile (CP)

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| SECTION    | (G)Wholesale And Retail Trade; Repair Of Motor Vehicles And Motorcycles |           |                 |
| GROUP      | (452)Maintenance And Repair Of Motor Vehicles                           |           |                 |
| AREA       | Passenger Vehicle Maintenance & Service                                 |           |                 |
| NOSS TITLE | Light Vehicle - Diagnose Service  |           |                 |
| NOSS LEVEL | Three (3)   | NOSS CODE | G452-002-3:2018 |

| CU TITLE & CU CODE   | CU DESCRIPTOR  | WORK ACTIVITIES   | PERFORMANCE CRITERIA  |
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| 1. Automotive Workshop Supervision<br><br>G452-002-3:2018-CU01 | <p>Automotive Workshop Supervision is to administer and supervise the whole work process in a work place. Importance of this competency unit is that the person can evaluate and manage workshop staffs and also to manage the workshop working area.</p> <p>The competency includes to prepare workshop work schedule, conduct briefing session, prepare workshop sectional operation budget information, monitor workshop staff performance, coordinate workshop staff training, monitor workshop safety and monitor workshop environment quality.</p> <p>This competency unit is important for the person that supervises their staff based on their performance and to upskill their knowledge &amp; skills in the workshop.</p> | 1. Prepare workshop work schedule.                          | 1.1 Workshop manpower capacity and resources are identified.<br>1.2 Workshop manpower requirements are determined in accordance with job requirements.<br>1.3 Workshop work schedule is analysed in accordance with job requirements.<br>1.4 Workshop work schedule is prepared in accordance with job requirements.  |
|  |  | 2. Conduct briefing session.                                | 2.1 Staff briefing requirements are determined in accordance with company standard practice.<br>2.2 Items to brief are identified in accordance with briefing session requirements.<br>2.3 Staff briefing is conducted in accordance with company operating procedure.<br>2.4 Information delivered and explained clearly.<br>2.5 Delivered information interpreted and acted upon by subordinates in accordance with job requirements. |
|  |  | 3. Prepare workshop sectional operation budget information. | 3.1 Previous year workshop sectional operation budget is analysed in accordance with budget preparation requirements.<br>3.2 Yearly workshop manpower requirement is determined in accordance with company annual planning.<br>3.3 Forecasted workshop expenditure is   |

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|                    |               |  | <p>determined in accordance with company budget requirements.</p> <p>3.4 Workshop sectional operation budget is prepared in accordance with section operation plan.</p>  |
|                    |               | 4. Monitor workshop staff performance. | <p>4.1 Standard performance guidelines are identified in accordance with appraisal requirements.</p> <p>4.2 Method of monitoring workshop staff performance is identified.</p> <p>4.3 Actual productivity is observed.</p> <p>4.4 Previous year workshop personnel appraisal is analysed in accordance with human resource guidelines.</p> <p>4.5 Workshop personnel appraisal session is coordinated in accordance with human resource guidelines.</p> <p>4.6 Workshop personnel appraisal recommendation is carried out in accordance with the company operating procedures.</p> <p>4.7 Workshop personnel appraisal report are prepared and presented in accordance with human resource guidelines.</p> |
|                    |               | 5. Coordinate workshop staff training. | <p>5.1 Training Need Analysis (TNA) conducted as per company requirements.</p> <p>5.2 Training Need Identification (TNI) determined in accordance with TNA finding.</p> <p>5.3 Logistic of training is coordinated in accordance with company SOP.</p> <p>5.4 Workshop staff training is coordinated in accordance with the training need.</p>   |

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|  |  | 6. Monitor workshop safety.                                | 6.1 Workshop safety requirements are determined in accordance with company SOP.<br>6.2 Workshop safety compliance is monitored in accordance with company regulations.<br>6.3 Workshop safety measures are enforced in accordance with occupational safety & health act and regulations.                                |
|  |  | 7. Monitor workshop environment quality.                   | 7.1 Environment quality requirements are determined in accordance with relevant authority regulations.<br>7.2 Environment quality compliance is monitored in accordance with company requirements.<br>7.3 Environment quality measures are enforced in accordance with environmental quality act.                       |
| 2. Engine Management System (EMS) Diagnostic<br><br>G452-002-3:2018-CU02 | <p>Engine Management System (EMS) Diagnostic outlines the work activities to determine condition and the test performance of EMS parts &amp; components in accordance with service manual. It also covers the petrol and diesel engine.</p> <p>The importance of this competency unit is that the person can perform engine management system (EMS) diagnostic onto the vehicle to detect problems and faulty of the vehicle engine.</p> | 1. Setup diagnostic tool.                                  | 1.1 Petrol/Diesel engine management system (EMS) diagnosis requirements are determined in accordance with the workshop manual.<br>1.2 Procedure of diagnostic tool setup is adhered in accordance with workshop manual.<br>1.3 Diagnostic tool connected to vehicle and switched on in accordance with workshop manual. |
|  |  | 2. Operate diagnostic tool engine management system (EMS). | 2.1 Diagnostic Trouble Code (DTC), actuators test, special function and data display information are inspected in accordance with workshop manual.<br>2.2 Procedure of diagnostic tool operation is adhered in accordance with Engine Management System(EMS) diagnostic tool operation specification.                   |

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|  | <p>The competency includes to setup diagnostic tool, operate diagnostic tool Engine Management System (EMS), diagnose Engine Management System (EMS) components condition, analyse oscilloscope pattern and conduct fuel pressure test.</p> <p>The outcome of this competency is to detect problem of the EMS, ability to assess problem that arise and assign the required repair job.</p> | <p>3. Diagnose engine management system (EMS) components condition.</p> <p>4. Analyse oscilloscope pattern.</p> <p>5. Conduct fuel pressure test.</p> | <p>2.3 Data result is analysed in reference to workshop manual.</p> <p>3.1 Procedure of diagnose EMS components condition followed in accordance with workshop manual.</p> <p>3.2 EMS components service ability are determined in accordance with the workshop manual.</p> <p>3.3 EMS components functionality is determined in accordance with workshop manual.</p> <p>4.1 Type of pattern is determined in accordance with workshop manual.</p> <p>4.2 Oscilloscope pattern result is identified in accordance with workshop manual.</p> <p>4.3 Oscilloscope mode is interpreted with service manual in accordance with workshop manual.</p> <p>5.1 Procedure of fuel pressure test is followed in accordance with workshop manual.</p> <p>5.2 Fuel pressure is tested to determine functionality of fuel system components in accordance with workshop manual.</p> <p>5.3 Fuel pressure test result is compared with workshop manual in accordance with the workshop manual.</p> |
| 3. Anti-lock Braking System (ABS) Replacement<br>G452-002- | Antilock Braking System (ABS) replacement outlines work activities to determine condition, performance and replacement of ABS parts & components in accordance with service manual.   | 1. Setup diagnostic tool.   | <p>1.1 Antilock Braking System (ABS) diagnosis requirements are determined in accordance with workshop manual.</p> <p>1.2 Procedure of diagnostic tool setup is adhered in accordance with workshop manual.</p> <p>1.3 Diagnostic tool is connected to vehicle and</p>   |

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| 3:2018-CU03   | <p>Importance of this competency unit is that the person can perform anti-lock braking system (ABS) diagnostic onto the vehicle braking system to detect problems and faulty of the vehicle braking system.</p> <p>The competency includes setup diagnostic tool, operate diagnostic tool antilock braking system (ABS) and replace defect antilock braking system (ABS) components.</p> <p>The outcome of this competency is to detect malfunctions, defect in antilock braking system (ABS) and replace the defect the antilock braking system (ABS) components.</p> |   | switched on in accordance with workshop manual.  |
|   |  | 2. Operate diagnostic tool antilock braking system (ABS).   | <p>2.1 Diagnostic Trouble Code (DTC), actuators test, special function and data display information measurement equipment are inspected in accordance with workshop manual.</p> <p>2.2 Procedure of diagnostic tool operation is adhered in accordance with antilock braking system (ABS) diagnostic tool operation specification.</p> <p>2.3 Data result is analysed in reference to workshop manual.</p> |
|   |  | 3. Replace defect antilock braking system (ABS) components. | <p>3.1 Antilock braking system (ABS) system &amp; sensor testing are performed in reference to workshop manual.</p> <p>3.2 Antilock braking system (ABS) data is interpreted in accordance with workshop manual.</p> <p>3.3 Defect antilock braking system (ABS) components are replaced in accordance with workshop manual.</p>   |
| 4. Supplementary Restraint System (SRS) Airbag Parts & Components Replacement<br><br>G452-002-3:2018-CU04 | Supplementary Restraint System (SRS) Airbag Parts & Components Replacement is work process of SRS installation and method to diagnose and troubleshoot problem related to SRS. Importance of this competency unit is that the person can perform   | 1. Setup diagnostic tool.                                   | <p>1.1 Supplementary restraint system (SRS) airbag parts &amp; components diagnosis requirements are determined in accordance with workshop manual.</p> <p>1.2 Procedure of diagnostic tool setup is adhered in accordance with workshop manual.</p> <p>1.3 Diagnostic tool is connected to vehicle and switched on in accordance with workshop manual.</p>  |

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|                    | <p>supplementary restraint system (SRS) airbag parts &amp; components replacement, to replace the faulty parts of the SRS airbag parts &amp; components.</p> <p>The competency includes to setup diagnostic tool, operate supplementary restraint system (SRS) diagnostic tool, replace defect airbag module &amp; clock spring, replace defect seat belt &amp; pre-tensioner and replace defect impact sensor</p> <p>The outcome of this competency is to check the functionality of the Supplementary Restraint System (SRS) airbag, ability to use and read error code from the diagnostic tool and provide error free after replacement work.</p> | <p>2. Operate supplementary restraint system (SRS) diagnostic tool.</p> <p>3. Replace defect airbag module &amp; clock spring.</p> <p>4. Replace defect seat belt &amp; pre-tensioner.</p> | <p>2.1 Diagnostic Trouble Code (DTC), actuators test, special function and data display information measurement equipment are inspected in accordance with workshop manual.</p> <p>2.2 Procedure of diagnostic tool operation is adhered in accordance with supplementary restraint system (SRS) airbag diagnostic tool operation specification.</p> <p>2.3 Data result is analysed in reference with workshop manual.</p> <p>3.1 Procedure of airbag module and clock spring inspection is complied with in accordance with service manual.</p> <p>3.2 Worn and torn airbag module and clock spring components are identified in accordance with workshop manual.</p> <p>3.3 Method of removal and replacing defect airbag module and clock spring components are complied with in accordance with service manual.</p> <p>4.1 Procedure of seat belt and pre-tensioner inspection are complied with in accordance with workshop manual.</p> <p>4.2 Worn and torn seat belt and pre-tensioner components are identified in accordance with workshop manual.</p> <p>4.3 Method of removal and replacing defect seat belt and pre-tensioner components are complied with in accordance with workshop manual.</p> |

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|  |  | 5. Replace defect impact sensor.  | 5.1 Procedure of impact sensor components inspection are complied with in accordance with workshop manual.<br>5.2 Malfunction impact sensor components are identified in accordance with workshop manual.<br>5.3 Method of removal and replacing defect impact sensor components are complied with in accordance with workshop manual.  |
| 5. Vehicle Electrical & Electronic System Diagnostic<br><br>G452-002-3:2018-CU05 | <p>Vehicle Electrical &amp; Electronic System Diagnostic work is a scope of competency to restore electrical, electronic and chassis electrical system, producing electricity and delivering electric energy from these sources on demand to any other electrical component in the vehicle. Importance of this competency unit is that the person can perform vehicle electrical &amp; electronic system diagnostic work to detect electrical &amp; electronic problems and faulty on the vehicle.</p> <p>The competency includes to conduct engine electrical wiring system continuity test, diagnose electrical common components, diagnose charging system components condition, diagnose Starting system component</p> | 1. Conduct engine electrical wiring system continuity test.<br><br>2. Diagnose electrical common components.<br><br>3. Diagnose charging system components condition. | 1.1 Open circuit continuity test is performed in accordance with workshop manual.<br>1.2 Short circuit continuity test is performed in accordance with workshop manual.<br>1.3 Contact resistance test are performed in accordance with workshop manual.<br><br>2.1 Electrical common components condition is inspected in accordance with the workshop manual.<br>2.2 Electrical common components functionality is checked in accordance with the workshop manual.<br>2.3 Electrical common components changing order is prepared in accordance with the workshop manual.<br><br>3.1 Charging system component condition is inspected in accordance with the workshop manual.<br>3.2 Charging system component functionality is determined using diagnostic tool in accordance with the workshop manual.<br>3.3 Charging system component replacing order is prepared in accordance with workshop manual. |

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|  | <p>condition, and diagnose fuel ignition system component condition in accordance with workshop manual.</p> <p>The outcome of this competency is to assess, diagnose the problem &amp; malfunction of the vehicle electrical, electronic and chassis electrical system and assign the required repair job.</p>  | <p>4. Diagnose starting system components condition.</p> <p>5. Diagnose ignition system components condition.</p>               | <p>4.1 Starting system components condition is inspected in accordance with workshop manual.</p> <p>4.2 Starting system component functionality is determined using diagnostic tool.</p> <p>4.3 Starting system component replacing order is prepared in accordance with workshop manual.</p> <p>5.1 Ignition system components condition is inspected in accordance with workshop manual.</p> <p>5.2 Ignition system component functionality is determined.</p> <p>5.3 Ignition system component replacing order is prepared in accordance with workshop manual.</p>   |
| <p>6. Turbocharger /Supercharger System Diagnostic</p> <p>G452-002-3:2018-CU06</p> | <p>Turbocharger /Supercharger System Diagnostic work outlines work activities to determine condition, performance and replacement of turbo/supercharger system parts &amp; components in accordance with service manual. Importance of this competency unit is that the person can perform turbocharger /supercharger system diagnostic work to detect turbocharger /supercharger system problems and faulty on the vehicle.</p> <p>The competency includes, to inspect turbocharger /supercharger components</p> | <p>1. Inspect turbocharger /supercharger components condition.</p> <p>2. Change defect turbocharger /supercharger assembly.</p> | <p>1.1 Turbocharger /Supercharger system repair work requirements is determined in accordance with workshop manual.</p> <p>1.2 Procedure of turbocharger/ supercharger condition checking is compiled in accordance with workshop manual.</p> <p>1.3 Turbocharger /Supercharger system service ability is determined.</p> <p>2.1 Procedure of Turbocharger /Supercharger replacement is complied with in accordance with workshop manual.</p> <p>2.2 Turbocharger /Supercharger rod is adjusted in accordance with workshop manual.</p> <p>2.3 Turbocharger blow off valve is replaced in accordance with the workshop manual.</p> <p>2.4 Turbocharger /supercharger intercooler, hoses, pipes, clips and connectors are replaced in accordance with the workshop</p> |



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|   | <p>condition, change defect turbocharger /supercharger assembly and carry out turbocharger / supercharger performance test</p> <p>The outcome of this competency is to provide the clean emission, defect free and optimum performance of the turbocharger /supercharger.</p>   | <p>3. Carry out turbocharger / supercharger performance test.</p>        | <p>manual.</p> <p>3.1 Road test/machine dyno is identified in accordance with the workshop manual.</p> <p>3.2 Turbocharger /Supercharger performance is tested in accordance with workshop manual.</p> <p>3.3 Performance test report is prepared following the result in accordance with the workshop manual.</p>   |
| <p>7. Vehicles Wheels, Steering and Suspension Diagnostic</p> <p>G452-002-3:2018-CU07</p> | <p>Vehicles Wheels, Steering and Suspension Diagnostic is a scope of competency to ensure equal distribution of weight on each side of the tyre centreline and restore the front-end geometry or wheel-alignment angularity and responsible for providing optimal ride comfort and handling performance. Importance of this competency unit is that the person can perform vehicles wheels, steering and suspension diagnostic work to detect wheels, steering and suspension problems and faulty on the vehicle.</p> | <p>1. Inspect tyres, rims and power assist steering (PAS) condition.</p> | <p>1.1 Worn off condition of the tyre tread is checked in accordance with workshop manual.</p> <p>1.2 Tyre crack and abnormal bulging are visually inspected in accordance with workshop manual.</p> <p>1.3 Tyre manufacturing year is determined in accordance with workshop manual.</p> <p>1.4 Rims dent and crack are visually inspected in accordance with workshop manual.</p> <p>1.5 Power Assist Steering (PAS) condition accuracy is checked in accordance with workshop manual.</p> <p>1.6 Tyres, rims and Power Assist Steering (PAS) Condition report is prepared in accordance with the workshop manual.</p> |

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|  | <p>The competency includes inspect tyres, rims and Power Assist Steering (PAS) condition, setup diagnostic tool Electric Power Steering (EPS), Operate diagnostic tool Electric Power Steering (EPS) diagnosis and replace defect Electric Power Steering (EPS) components</p> <p>The outcome of this competency is to assess, diagnose the problem, malfunction of the vehicle wheel, and operational electric power steering and safety ensure for suspension.</p> | <p>2. Setup diagnostic tool electric power steering (EPS).</p> <p>3. Operate diagnostic tool electric power steering (EPS) diagnosis.</p> <p>4. Replace defect electric power steering (EPS) components.</p> | <p>2.1 Electric Power Steering (EPS) diagnosis requirements are determined in accordance with workshop manual.</p> <p>2.2 Procedure of diagnostic tool setup is adhered in accordance with workshop manual.</p> <p>2.3 Diagnostic tool is connected to vehicle and switched on in accordance with workshop manual.</p> <p>3.1 Diagnostic Trouble Code (DTC), actuators test, special function and data display information measurement equipment are inspected in accordance with workshop manual.</p> <p>3.2 Procedure of diagnostic tool operation is adhered in accordance with electric power steering (EPS) diagnostic tool operation specification.</p> <p>3.3 Data result is analysed in reference to workshop manual.</p> <p>4.1 Malfunctioned Electric Power Steering (EPS) components are identified in accordance with workshop manual.</p> <p>4.2 Method of removal and replacing defect electric power steering (EPS) components is complied with in accordance with workshop manual.</p> <p>4.3 Diagnostic report is prepared in accordance with workshop manual.</p> |
| 8. Vehicle Heated Ventilation Air Conditioning (HVAC) Diagnostic | <p>Vehicle Heated Ventilation Air Conditioning (HVAC) Diagnostic is a competency to restore damaged or faulty HVAC components back to its original function. Importance of this</p>  | <p>1. Inspect vehicle heated ventilation air conditioning (HVAC) system condition.</p>   | <p>1.1 Vehicle Heated Ventilation Air Conditioning (HVAC) leakages are confirmed in accordance with the workshop manual.</p> <p>1.2 Cooling effect of the Vehicle Heated Ventilation Air Conditioning (HVAC) is confirmed in accordance with workshop</p>   |

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| <p>G452-002-3:2018-CU08</p> | <p>competency unit is that the person can perform vehicle heated ventilation air conditioning (HVAC) diagnostic work to detect problems and faulty of heated ventilation air conditioning (HVAC).</p>  |   | <p>manual.<br/>1.3 Vehicle Heated Ventilation Air Conditioning (HVAC) abnormal noise is checked in accordance with workshop manual.<br/>1.4 Job Order / Checklist is prepared for staff in accordance with workshop manual.</p>  |
|                             | <p>The competency includes to inspect vehicle Heated Ventilation Air Conditioning (HVAC) system condition, perform vehicle Heated Ventilation Air Conditioning (HVAC) condenser fan unit diagnostic, determine vehicle Heated Ventilation Air Conditioning (HVAC) refrigerant pressure, perform vehicle Heated Ventilation Air Conditioning (HVAC) blower motor diagnostic and perform vehicle Heated Ventilation Air Conditioning (HVAC) blower motor switch &amp; control resistor diagnostic.</p> | <p>2. Perform vehicle heated ventilation air conditioning (HVAC) condenser fan unit diagnostic.</p> | <p>2.1 Vehicle Heated Ventilation Air Conditioning (HVAC) condenser fan unit is removed from engine compartment in accordance with workshop manual.<br/>2.2 Vehicle Heated Ventilation Air Conditioning (HVAC) condenser fan unit condition is inspected in accordance with the workshop manual.<br/>2.3 Job Order / Checklist is prepared for staff in accordance with workshop manual.</p> |
|                             |  | <p>3. Determine vehicle heated ventilation air conditioning (HVAC) refrigerant pressure.</p>        | <p>3.1 Amount of refrigerant in the vehicle heated ventilation air conditioning (HVAC) is measured using the pressure gauge in accordance with workshop manual.<br/>3.2 Vehicle heated ventilation air conditioning (HVAC) refrigerant adequacy is checked in accordance with workshop manual.<br/>3.3 Job Order / Checklist is prepared for staff in accordance with workshop manual.</p>   |
|                             | <p>The outcome of this competency is to confirm the status of the HVAC defect type and quality, solution to repair it and assign the required repair job</p>   | <p>4. Perform vehicle heated ventilation air conditioning (HVAC) blower motor diagnostic.</p>       | <p>4.1 Vehicle heated ventilation air conditioning (HVAC) blower motor from the blower motor compartment is removed in as per blower motor replacement requirement.<br/>4.2 Blower motor condition is inspected in accordance with workshop manual.<br/>4.3 Job order / checklist is prepared for staff in accordance with workshop manual.</p>  |

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|  |  | 5. Perform vehicle heated ventilation air conditioning (HVAC) blower motor switch & control resistor diagnostic.   | 5.1 Vehicle Heated Ventilation Air Conditioning (HVAC) blower motor switch & control resistor is removed from the dashboard control panel in accordance to the workshop panel.<br>5.2 Vehicle Heated Ventilation Air Conditioning (HVAC) blower motor switch & control resistor is inspected.<br>5.3 Job order / checklist is prepared for staff in accordance with the workshop manual   |
| 9. Automatic Transmission / Transaxle Diagnostic<br><br>G452-002-3:2018-CU09 | Automatic Transmission / Transaxle Diagnostic is a scope of competency to restore automatic transmission / transaxle unit providing torque needed to make sure the operational of hydraulics, the pumps and the governor to move the vehicle under a variety of road and load condition. Importance of this competency unit is that the person can perform diagnostic work to detect problems and faulty of automatic transmission / transaxle.<br><br>The competency includes to obtain automatic transmission / transaxle functional test report, obtain vehicle repair history and diagnose vehicle automatic transmission / transaxle. | 1. Obtain automatic transmission / transaxle functional test report.<br><br>2. Obtain vehicle repair history.<br><br>3. Diagnose vehicle automatic transmission/transaxle. | 1.1 Vehicle repair manual for automatic transmission / transaxle is identified in accordance with manufacturer specification.<br>1.2 Automatic transmission / transaxle functionality test is performed in accordance with workshop manual.<br>1.3 Automatic transmission / transaxle functionality status is confirmed in accordance with the workshop manual.<br><br>2.1 Vehicle type and models are identified in accordance with workshop manual.<br>2.2 Age and current mileage of the vehicle are confirmed in accordance with workshop manual.<br>2.3 History record is confirmed in accordance with the workshop manual.<br><br>3.1 Test drive is performed in accordance with workshop manual.<br>3.2 Customer is interviewed according to interview check sheet in accordance with workshop manual. |

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|   | <p>The outcome of this competency is to assess problems, defect in automatic transmission / transaxle unit and assign the required repair job.</p>  |   | <p>3.3 Diagnostic tool is determined in accordance with Vehicle Automatic Transmission/Transaxle diagnostic requirements.</p> <p>3.4 Diagnose report from the test drive and diagnostic tool report are prepared in accordance with workshop manual.</p>   |
| <p>10. Manual Transmission / Transaxle Diagnostic</p> <p>G452-002-3:2018-CU10</p> | <p>Manual Transmission / Transaxle Diagnostic is a scope of competency to restore manual transmission / transaxle diagnostic unit providing torque needed to make sure the operational of mechanical parts to change the gear to move the vehicle under a variety of road and load condition. Importance of this competency unit is that the person can perform diagnostic work to detect problems and faulty of manual transmission / transaxle.</p> <p>The competency includes to obtain manual transmission / transaxle functional test report, obtain vehicle repair history and diagnose vehicle manual transmission / transaxle.</p> <p>The outcome of this competency is to assess problems, defect in manual transmission/transaxle</p> | <p>1. Obtain manual transmission/transaxle functional test report.</p> <p>2. Obtain vehicle repair history.</p> <p>3. Diagnose vehicle manual transmission / transaxle.</p> | <p>1.1 Vehicle repair manual for manual transmission / transaxle are identified in accordance with manufacturer specification.</p> <p>1.2 Manual transmission / transaxle functionality test is performed in accordance with workshop manual.</p> <p>1.3 Manual transmission / transaxle functionality status is confirmed in accordance with workshop manual.</p> <p>2.1 Vehicle type and models are identified in accordance with workshop manual.</p> <p>2.2 Age and current mileage of the vehicle are confirmed in accordance with workshop manual.</p> <p>2.3 History record is confirmed in accordance with workshop manual.</p> <p>3.1 Test drive is performed in accordance with workshop manual.</p> <p>3.2 Customer is interviewed in according interview check sheet.</p> <p>3.3 Diagnostic tool is determined in accordance with job requirements.</p> <p>3.4 Diagnose report from the test drive and diagnostic tool report are prepared as per diagnose vehicle transmission requirement.</p> |

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|  | unit and assign the required repair job  |   |  |
| <p>11. Diesel Common Rail Fuel Injection System Diagnostic</p> <p>G452-002-3:2018-EU01</p> | <p>Diesel Common Rail Fuel Injection System Diagnostic are work activities to determine the condition, to dismantle, reassemble and calibrate diesel common rail fuel injection in accordance with the service manual. Importance of this competency unit is that the person can perform diagnostic work to detect problems and faulty of diesel common rail fuel injection system.</p> <p>The competency includes to prepare system diagnosis tools &amp; equipment, perform system pressure test, perform Common Rail Direct Injection diagnosis, check Common Rail Direct Injection components condition and prepare Common Rail Direct Injection diagnostic technical report.</p> <p>The outcome of this competency is to provide required skills in diesel common rail fuel injection</p> | <p>1. Prepare system diagnosis tools &amp; equipment.</p> <p>2. Perform system pressure test.</p> <p>3. Perform common rail direct injection diagnosis.</p> | <p>1.1 Job order is interpreted in accordance with customer requirements.</p> <p>1.2 Related tools, equipment and parts are determined accordance with workshop manual.</p> <p>1.3 Procedure of diagnostic tools &amp; equipment is prepared in accordance with workshop manual.</p> <p>2.1 Pressure gauge is determined in accordance with manufacturer specification.</p> <p>2.2 High pressure pump condition is determined in accordance with manufacturer specification.</p> <p>2.3 Fuel pressure regulator functionality is determined in accordance with manufacturer specification.</p> <p>3.1 Oscilloscope pattern is analysed in accordance with manufacturer specification.</p> <p>3.2 Common Rail Direct Injection component functionality test is performed in accordance with manufacturer specification.</p> <p>3.3 Common Rail Direct Injection component functionality with the control unit is determined in accordance with OEM requirement.</p> |

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|  | to detect defect, clean emission of the fuel injection and assign the required repair job.   | 4. Check common rail direct injection components condition           | 4.1 Common Rail Direct Injection components functionality test is performed in accordance with workshop manual.<br>4.2 Common Rail Direct Injection components functionality is determined in accordance with workshop manual.<br>4.3 Common Rail Direct Injection components faulty is determined in accordance with workshop manual. |
|  |  | 5. Prepare common rail direct injection diagnostic technical report. | 5.1 Result of Common Rail Direct Injection system diagnosis is stated out to the customer.<br>5.2 Common Rail Direct Injection diagnosis recommendation report for the customer is prepared.<br>5.3 Common Rail Direct Injection estimate cost of repair is prepared.  |
| 12. Transfer Case Diagnostic<br><br>G452-002-3:2018-EU02 | Transfer Case Diagnostic is a scope of competency to ensure transfer case to provide power-flow to front and rear axle. Importance of this competency unit is that the person can perform diagnostic work to detect problems and faulty of transfer case.<br><br>The competency includes assess transfer case functional test report, obtain vehicle repair history, diagnose vehicle transfer | 1. Assess transfer case functional test report.                      | 1.1. Transfer case is identified in accordance with workshop manual.<br>1.2. Transfer case functionality test is performed in accordance with workshop manual.<br>1.3. Transfer case functionality status is confirmed.  |
|  |  | 2. Obtain vehicle repair history.                                    | 2.1 Vehicle type and models are identified in accordance with workshop manual.<br>2.2 Age and current mileage of the vehicle are confirmed in accordance with workshop manual.<br>2.3 History record are confirmed in accordance with customer/ record.  |

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|                    | <p>case, and prepare diagnosis recommendation in accordance with workshop manual.</p> <p>The outcome of this competency is to ensure the smoothness of the gear engage, the quality of the shifting and free defect and malfunctions in accordance with OEM specifications.</p> | <p>3. Diagnose transfer case.</p> <p>4. Prepare diagnosis recommendation.</p> | <p>3.1 Test drive is performed in accordance with workshop manual.</p> <p>3.2 Customer is interviewed in according interview check sheet.</p> <p>3.3 Diagnostic tool is determined in accordance with job.</p> <p>4.1 Transfer case diagnosis technical report is prepared.</p> <p>4.2 Transfer case diagnosis recommendation report is prepared.</p> <p>4.3 Transfer case estimate cost of repair is prepared.</p> |