

VEHICLE BASIC MAINTENANCE

UNIT CODE: ENG/CU/AUT/CR/1/4/A

Relationship to Occupational Standards

This unit addresses the unit of competency: **Perform vehicle basic maintenance.**

Duration of Unit: 50 hours

Unit Description

This unit specifies the competencies required to perform vehicle basic maintenance. It involves performing basic vehicle mechanical and operational assessment, basic maintenance on engine, braking system, suspension/steering system, transmission system, electrical system, Wheels and tires and preparing vehicle basic maintenance report.

Summary of Learning Outcomes

1. Perform basic vehicle mechanical and operational assessment
2. Perform engine basic maintenance
3. Perform braking system basic maintenance
4. Perform suspension/steering systems basic maintenance
5. Perform transmission system basic maintenance
6. Perform electrical system basic maintenance
7. Perform wheels and tires basic service/maintenance
8. Prepare vehicle basic maintenance report

Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcome	Content	Suggested Assessment Methods
1. Perform basic vehicle mechanical and operational assessment	<ul style="list-style-type: none">• Assembling of tools, equipment and checklist• Conducive working environment (OSHA 2007)• Undertaking assessment in accordance with manufacturers routine• Preparing periodic maintenance schedule	<ul style="list-style-type: none">• Observation• Written• Oral
2. Perform engine basic maintenance	<ul style="list-style-type: none">• Sourcing Technical information	<ul style="list-style-type: none">• Observation• Written

	<ul style="list-style-type: none"> • Inspections on engine and externally attached components • Services/repairs/replacements of worn out/broken/damaged/clogged components • Filling up of engine basic maintenance checklist 	<ul style="list-style-type: none"> • Oral
3. Perform braking system basic maintenance	<ul style="list-style-type: none"> • Inspections on vehicle braking system • Faults in braking system • Services on vehicle braking system • Adjustments on vehicle braking system 	<ul style="list-style-type: none"> • Observation • Written • Oral
4. Perform suspension/steering systems basic maintenance	<ul style="list-style-type: none"> • Suspension and steering systems components check list • Inspections on suspension and steering systems components • Faults in suspension and steering systems • Adjustments on suspension and steering systems components 	<ul style="list-style-type: none"> • Observation • Written • Oral
5. Perform transmission system basic maintenance	<ul style="list-style-type: none"> • Transmission system component check list • Inspections on transmission system components • Checking of oil levels • Identifying faults in transmission system(Breakages, wear) • Services in transmission system components • Lubrication(greasing, oiling) and adjustments on transmission system components 	<ul style="list-style-type: none"> • Observation • Written • Oral

<p>6. Perform electrical system basic maintenance</p>	<ul style="list-style-type: none"> • Vehicle Electrical systems check list • Vehicle Battery condition and state of charge • Inspection on starter motor operational condition • Faults in a starter motor • Vehicle lighting system operational condition • Faults in lighting circuits • Ignition system operational condition • Faults in ignition system • Services in electrical system • Tests in electrical system 	<ul style="list-style-type: none"> • Observation • Written • Oral
<p>7. Perform Wheels and tires basic service/maintenance</p>	<ul style="list-style-type: none"> • Identification of wheels and tires • Wheels and tires specifications • Wheels and tires repair kit • Repairs/services on wheels and tires 	<ul style="list-style-type: none"> • Observation • Written • Oral
<p>8. Prepare vehicle basic maintenance report</p>	<ul style="list-style-type: none"> • Cleaning of vehicle interior and exterior • Vehicle basic maintenance report • Cleaning of workshop • Disposal of wastes 	<ul style="list-style-type: none"> • Observation • Written • Oral

Suggested Methods of Instruction:

- Presentations and practical demonstrations by trainer;
- Guided learner activities
- Supervised activities and projects in a workshop;
- Visiting lecturer/trainer from the motor vehicle service and repair sector;
- Industrial visits.

Recommended Resources

Tools

- Comprehensive set of hand tools for motor vehicle maintenance and repair.

Equipment

- A fully equipped motor vehicle maintenance workshop;
- Fully functional light vehicle(s);
- Vehicle lift;
- Specialist tools and diagnostic equipment appropriate for the different makes of vehicles that are being maintained;
- Exhaust emission tester;
- Headlamp alignment equipment;
- Internet access to manufacturers' technical information;
- Torque setting tools;
- Personal protective equipment (PPE) and suitable coverings to protect vehicles;
- Facilities for the disposal of waste oil and used parts;
- Customer database and systems for recording maintenance records

Materials and supplies

- Engine and transmission lubricants
- Fluids for cooling systems, brakes, clutch, windscreen washer, hydraulic power assisted steering and diesel engine exhaust emission control;
- Replacement parts including:
 - Air, oil, exhaust, and air conditioning filters;
 - Oil seals and gaskets;
 - Brake pads and linings;
 - Spark plugs;
 - Screen wiper blades;
 - Tire patches
 - Glue
 - Drive belts.
- Vehicle cleaning materials;
- Hand cleaner.

Tools

- Comprehensive set of hand tools for motor vehicle maintenance and repair