

<b>Domain</b> <b>Title:</b>  <b>Level: 1</b>	<b>Unit ID: 67</b>  <b>AUTOMOTIVE MECHANICS</b> <b>Demonstrate basic metal joining techniques used in automotive mechanics</b>	<b>Credits: 2</b>
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### Purpose

This unit standard specifies the competencies required to apply basic metal joining techniques used in automotive mechanics. This unit standard is intended for those who work as automotive mechanics.

### Special Notes

1. Entry information:
  - Prerequisite
    - Unit 65 - *Apply safety rules and regulations in an automotive mechanics workshop* or demonstrated equivalent knowledge and skills.
2. To demonstrate competence, at a minimum, evidence is required of identifying, selecting and using the following mechanical fastening and locking devices: bolts, studs, nuts, screws, rivets, washers and lock washers, pins, keys and circlips (snap rings), in four different joining operations on an automobile. In performing these tasks ensure correct identification of requirements and finishing of the tasks, correct selection and use of appropriate processes, tools and equipment and completing all work to specification.
3. Assessment evidence may be collected from a real workplace or a simulated real workplace or an appropriate simulated realistic environment in which automotive mechanic operations are carried out.
4. This unit standard applies to passenger and light commercial vehicles with a Gross Vehicle Mass  $\leq$  5 500 kg (Petrol & Diesel).
5. All inspection, operation and maintenance procedures associated with the use of tools and equipment shall comply with manufacturers' and company guidelines, instructions and reasonable flat rate time.
6. '*Specifications*' refers to any, or all of the following: manufacturers' specifications and recommendations and workplace specific requirements.
7. Regulations and legislation relevant to this unit standard include the following:
  - Labour Act, No. 6, 1992
  - Occupational Health and Safety Regulations No. 18, 1997
  - Road Traffic and Transport Regulations No. 266, 2000
 and all subsequent amendments.

## **Quality Assurance Requirements**

This unit standard and others within this subfield may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the Namibia Training Authority and which comply with the national assessment and moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority and the Namibia Training Authority on [www.nta.com.na](http://www.nta.com.na)

## **Elements and Performance Criteria**

### **Element 1: Plan and prepare for work**

#### **Range**

Planning and preparation may include but is not limited to workplace inspection, equipment defect identification, assessment of conditions and hazards and determination of work requirements.

Tools and equipment may include but are not limited to standard tool set and torque wrench.

Materials are to include but are not limited to bolts, nuts, studs, screws, rivets, washers and lock washers, pins, circlips (snap rings) and keys.

#### **Performance Criteria**

- 1.1 Work instructions, including repair order forms, specifications and operational details are obtained, confirmed and applied.
- 1.2 Safety requirements are followed in accordance with safety plans and policies.
- 1.3 Tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults rectified or reported prior to commencement.
- 1.4 Material requirements are identified and obtained in accordance with repair order form and/or specifications.
- 1.5 Materials are safely handled and located, ready for use.
- 1.6 Environmental protection requirements are identified and applied in line with environmental plans and legislative requirements.

### **Element 2: Join materials using mechanical fastening methods**

#### **Range**

Mechanical fastening methods are to include but are not limited to: bolting, screwing and riveting.

### **Performance Criteria**

- 2.1 Appropriate fastening method is identified and selected for a given application.
- 2.2 Surfaces are cleaned and debarred before joining.
- 2.3 Mechanical metal fastening techniques are performed according to manufacturers' prescribed methods and procedures.
- 2.4 Manufacturer specified torque is applied when using bolts, nuts and washers.

### **Element 3: Complete work and clean up**

#### **Range**

Work completion details may include but are not limited to work schedule or appointment sheet, vehicle drop-off form, repair order form, service record book, service plan form, sign-out form for equipment.

### **Performance Criteria**

- 3.1 Work is completed and appropriate personnel notified in accordance with workplace procedures.
- 3.2 Work area is cleared of waste, cleaned, restored and secured in accordance with workplace procedures.
- 3.3 Reusable material is collected and stored in accordance with workplace procedures.
- 3.4 Tools and equipment are cleaned, checked, maintained and stored in accordance with workplace procedures.
- 3.5 Work completion details are finalised in accordance with workplace procedures.

### **Registration Data**

<b>Subfield:</b>	Automotive Engineering
<b>Date first registered:</b>	28 September 2006
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<b>Body responsible for review:</b>	Namibia Training Authority