

	<b>Curriculum Document</b>			
<b>Curriculum Code</b>	<b>Curriculum Title</b>			
684905000	Vehicle Body Builder			
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Learner QDF Signature

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DQP Representative Signature

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## **SECTION 1: CURRICULUM SUMMARY**

### **1. Occupational Information**

#### **1.1 Associated Occupation**

684905: Vehicle Body Builder

#### **1.2 Occupation or Specialisation Addressed by this Curriculum**

684905000: Vehicle Body Builder

#### **1.3 Alternative Titles used by Industry**

- Vehicle Builder
- Coach Builder
- Bus Coach Builder
- Metal Caravan Builder
- Truck Builder
- Vehicle Body Builder (Metal)

### **2. Curriculum Information**

#### **2.1 Curriculum Structure**

This qualification is made up of the following compulsory Knowledge and Practical Skill Modules:

Knowledge Modules:

- 684905000-KM-01, Orientation to the vehicle body building working environment, NQF Level 2, Credits 4
- 684905000-KM-02, Basic principles of quality, NQF Level 3, Credits 6
- 684905000-KM-03, Basic principles of environmental health and safety related to vehicle body building, NQF Level 3, Credits 8
- 684905000-KM-04, Vehicle body building drawings, NQF Level 4, Credits 10
- 684905000-KM-05, Tools and equipment used in vehicle body building and maintenance , NQF Level 2, Credits 8
- 684905000-KM-06, Machines and materials relevant to vehicle building, NQF Level 3, Credits 8
- 684905000-KM-07, Cutting processes applicable to vehicle building, NQF Level 3, Credits 6
- 684905000-KM-08, Welding methods, NQF Level 3, Credits 17
- 684905000-KM-09, Material handling, NQF Level 3, Credits 6
- 684905000-KM-10, Assembly and Joining, NQF Level 3, Credits 15
- 684905000-KM-11, Plumbing, NQF Level 3, Credits 7
- 684905000-KM-12, Composites, NQF Level 2, Credits 6
- 684905000-KM-13, Heat manipulation, NQF Level 4, Credits 8
- 684905000-KM-14, Gluing methods, NQF Level 4, Credits 10

Total number of credits for Knowledge Modules: 119

Practical Skill Modules:

- 684905000-PM-01, Prepare a safe working environment, NQF Level 2, Credits 4
- 684905000-PM-02, Prepare engineering manufacturing drawings, NQF Level 4, Credits 20
- 684905000-PM-03, Use and care for hand and power tools relevant to vehicle building, NQF Level 2, Credits 12
- 684905000-PM-04, Marking-off materials, NQF Level 3, Credits 10
- 684905000-PM-05, Cut metal, NQF Level 2, Credits 12
- 684905000-PM-06, Bend metal, NQF Level 3, Credits 8
- 684905000-PM-07, Weld metal components, NQF Level 4, Credits 30
- 684905000-PM-08, Assemble, align and join metal components and sub-components, NQF Level 3, Credits 15
- 684905000-PM-09, Repair and replace plumbing systems, NQF Level 3, Credits 16
- 684905000-PM-10, Remove and install vehicle primary interior components, NQF Level 3, Credits 25
- 684905000-PM-11, Fit vehicle secondary interior components, fittings and panels, NQF Level 3, Credits 22
- 684905000-PM-12, Fit and repair wooden structures (including plywood) , NQF Level 3, Credits 15
- 684905000-PM-13, Maintain and repair vehicle shell, NQF Level 3, Credits 10

Total number of credits for Practical Skill Modules: 199

This qualification also requires the following Work Experience Modules:

- 684905000-WM-01, Vehicle body building preparation and planning processes, NQF Level 2, Credits 20
- 684905000-WM-02, Metal cutting, forming and cleaning processes, NQF Level 4, Credits 43
- 684905000-WM-03, Processes of joining, erecting and assembling metal sub-components and assemblies, NQF Level 4, Credits 50
- 684905000-WM-04, Vehicle shell maintenance processes, NQF Level 4, Credits 50
- 684905000-WM-05, Processes for the installation, maintenance and repair of windows and doors, NQF Level 3, Credits 12
- 684905000-WM-06, Processes for the installation, maintenance and repair of heating and plumbing systems, NQF Level 3, Credits 13
- 684905000-WM-07, Processes for the installation, maintenance and repair of wooden components, ceilings, floors and interior side panels , NQF Level 3, Credits 30
- 684905000-WM-08, Processes and procedures for fitting and maintaining seats and interior accessories, NQF Level 3, Credits 5

Total number of credits for Work Experience Modules: 223

## 2.2 Entry Requirements

NSC or NC(V) at NQF Level 2. A pass rate in mathematics, and science or technical subject at or above this level is also required. OR Six months work experience as a qualified Artisan in a related field.

## 3. Assessment Quality Partner Information

Name of body: National Artisan Moderation Body (NAMB)

Address of body: Old Pretoria / Kempton Pard Road, Olifantsfontein, 1665

Contact person name: Gerrie van Staden

Contact person work telephone number: 011 206 1123

## 4. Part Qualification Curriculum Structure

### Part Qualification 1:

#### Title:

Vehicle Build Plumber, NQF Level 3, Credits 125

#### Purpose:

The purpose of this qualification is to prepare a learner to operate as a Vehicle Build Plumber. A Vehicle Build Plumber fits and maintains sanitary plumbing systems such as toilets, taps basins and showers in purpose built vehicles.

#### Applicable Modules (Rules of Combination)

Knowledge Modules:

- 684905000-KM-02, Basic principles of quality, NQF Level 3, Credits 6
- 684905000-KM-03, Basic principles of environmental health and safety related to vehicle body building, NQF Level 3, Credits 8
- 684905000-KM-04, Vehicle body building drawings, NQF Level 4, Credits 10
- 684905000-KM-05, Tools and equipment used in vehicle body building and maintenance , NQF Level 2, Credits 8
- 684905000-KM-10, Assembly and Joining, NQF Level 3, Credits 15
- 684905000-KM-11, Plumbing, NQF Level 3, Credits 7

Total number of credits for Knowledge Modules: 54

Practical Skill Modules:

- 684905000-PM-01, Prepare a safe working environment, NQF Level 2, Credits 4
- 684905000-PM-03, Use and care for hand and power tools relevant to vehicle building, NQF Level 2, Credits 12
- 684905000-PM-04, Marking-off materials, NQF Level 3, Credits 10
- 684905000-PM-09, Repair and replace plumbing systems, NQF Level 3, Credits 16

Total number of credits for Practical Skill Modules: 42

This qualification also requires the following Work Experience Modules:

- 684905000-WM-01, Vehicle body building preparation and planning processes, NQF Level 2, Credits 20
- 684905000-WM-06, Processes for the installation, maintenance and repair of heating and plumbing systems, NQF Level 3, Credits 13

Total number of credits for Work Experience Modules: 33

Assessment Qualification Standards:

- Prepare working area and tools for safe working practices (4%)
- Install a sanitary plumbing system (7%)

### **Part Qualification 2:**

#### **Title:**

Vehicle Build Carpenter, NQF Level 3, Credits 208

#### **Purpose:**

The purpose of this qualification is to prepare a learner to operate as a Vehicle Build Carpenter. A Vehicle Build Carpenter fits and repairs components made from wood or plywood in purpose built vehicles.

#### **Applicable Modules (Rules of Combination)**

Knowledge Modules:

- 684905000-KM-02, Basic principles of quality, NQF Level 3, Credits 6
- 684905000-KM-03, Basic principles of environmental health and safety related to vehicle body building, NQF Level 3, Credits 8
- 684905000-KM-04, Vehicle body building drawings, NQF Level 4, Credits 10
- 684905000-KM-05, Tools and equipment used in vehicle body building and maintenance , NQF Level 2, Credits 8
- 684905000-KM-06, Machines and materials relevant to vehicle building, NQF Level 3, Credits 8
- 684905000-KM-07, Cutting processes applicable to vehicle building, NQF Level 3, Credits 6
- 684905000-KM-10, Assembly and Joining, NQF Level 3, Credits 15
- 684905000-KM-12, Composites, NQF Level 2, Credits 6
- 684905000-KM-14, Gluing methods, NQF Level 4, Credits 10

Total number of credits for Knowledge Modules: 77

Practical Skill Modules:

- 684905000-PM-01, Prepare a safe working environment, NQF Level 2, Credits 4
- 684905000-PM-02, Prepare engineering manufacturing drawings, NQF Level 4, Credits 20
- 684905000-PM-03, Use and care for hand and power tools relevant to vehicle building, NQF Level 2, Credits 12
- 684905000-PM-04, Marking-off materials, NQF Level 3, Credits 10

- 684905000-PM-11, Fit vehicle secondary interior components, fittings and panels, NQF Level 3, Credits 22
- 684905000-PM-12, Fit and repair wooden structures (including plywood) , NQF Level 3, Credits 15

Total number of credits for Practical Skill Modules: 83

This qualification also requires the following Work Experience Modules:

- 684905000-WM-01, Vehicle body building preparation and planning processes, NQF Level 2, Credits 20
- 684905000-WM-07, Processes for the installation, maintenance and repair of wooden components, ceilings, floors and interior side panels , NQF Level 3, Credits 30

Total number of credits for Work Experience Modules: 50

Assessment Qualification Standards:

- Prepare working area and tools for safe working practices (4%)
- Join a variety of components using non-welding methods (7%)
- Fit a variety of vehicle interior accessories and components (5%)
- Fit and repair wooden components (7%)

### **Part Qualification 3:**

#### **Title:**

Vehicle Build Plater, NQF Level 4, Credits 371

#### **Purpose:**

The purpose of this qualification is to prepare a learner to operate as a Vehicle Build Plater. A Vehicle Build Plater manufactures, fits and repairs metal components of purpose built vehicles.

#### **Applicable Modules (Rules of Combination)**

Knowledge Modules:

- 684905000-KM-02, Basic principles of quality, NQF Level 3, Credits 6
- 684905000-KM-03, Basic principles of environmental health and safety related to vehicle body building, NQF Level 3, Credits 8
- 684905000-KM-04, Vehicle body building drawings, NQF Level 4, Credits 10
- 684905000-KM-05, Tools and equipment used in vehicle body building and maintenance , NQF Level 2, Credits 8
- 684905000-KM-06, Machines and materials relevant to vehicle building, NQF Level 3, Credits 8
- 684905000-KM-07, Cutting processes applicable to vehicle building, NQF Level 3, Credits 6
- 684905000-KM-08, Welding methods, NQF Level 3, Credits 17
- 684905000-KM-09, Material handling, NQF Level 3, Credits 6
- 684905000-KM-10, Assembly and Joining, NQF Level 3, Credits 15
- 684905000-KM-13, Heat manipulation, NQF Level 4, Credits 8

Total number of credits for Knowledge Modules: 92

Practical Skill Modules:

- 684905000-PM-01, Prepare a safe working environment, NQF Level 2, Credits 4
- 684905000-PM-02, Prepare engineering manufacturing drawings, NQF Level 4, Credits 20
- 684905000-PM-03, Use and care for hand and power tools relevant to vehicle building, NQF Level 2, Credits 12
- 684905000-PM-04, Marking-off materials, NQF Level 3, Credits 10
- 684905000-PM-05, Cut metal, NQF Level 2, Credits 12
- 684905000-PM-06, Bend metal, NQF Level 3, Credits 8
- 684905000-PM-07, Weld metal components, NQF Level 4, Credits 30
- 684905000-PM-08, Assemble, align and join metal components and sub-components, NQF Level 3, Credits 15
- 684905000-PM-13, Maintain and repair vehicle shell, NQF Level 3, Credits 10

Total number of credits for Practical Skill Modules: 121

This qualification also requires the following Work Experience Modules:

- 684905000-WM-01, Vehicle body building preparation and planning processes, NQF Level 2, Credits 20
- 684905000-WM-02, Metal cutting, forming and cleaning processes, NQF Level 4, Credits 43
- 684905000-WM-03, Processes of joining, erecting and assembling metal sub-components and assemblies, NQF Level 4, Credits 50
- 684905000-WM-04, Vehicle shell maintenance processes, NQF Level 4, Credits 50

Total number of credits for Work Experience Modules: 163

Assessment Qualification Standards:

- Prepare working area and tools for safe working practices (4%)
- Cut and clean metal components (11%)
- Form metal components (11%)
- Lay-out metal parts to join or assemble sub-components (11%)
- Assemble metal sub components (11%)
- Join metal components using a variety of welding methods (11%)
- Repair a vehicle shell (7%)

## **SECTION 2: OCCUPATIONAL PROFILE**

### **1. Occupational Purpose**

A Vehicle Body Builder builds, maintains and repairs purpose-built vehicle bodies and fits and repairs doors, windows and interior components for rail coaches, busses, trucks, fire engines and caravans.

### **2. Occupational Tasks**

- Plan and prepare for vehicle body building manufacturing processes (NQF Level 3)
- Cut, form and clean metal components (NQF Level 3)
- Join, erect, assemble and maintain sub-components and final assemblies (NQF Level 4)
- Fit and maintain doors, windows and interior components for purpose-built vehicles (NQF Level 4)

### **3. Occupational Task Details**

#### **3.1. Plan and prepare for vehicle body building manufacturing processes (NQF Level 3)**

##### **Unique Product or Service:**

Prepared manufacturing environment

##### **Occupational Responsibilities:**

- Prepare safe working environment
- Use and care for hand and power tools relevant to vehicle body building

##### **Occupational Contexts:**

- Vehicle body building preparation and planning processes

#### **3.2. Cut, form and clean metal components (NQF Level 3)**

##### **Unique Product or Service:**

Prepared metal body sub-components

##### **Occupational Responsibilities:**

- Prepare engineering manufacturing drawings
- Mark-off materials
- Cut metals
- Form and shape metal

##### **Occupational Contexts:**

- Metal cutting, forming and cleaning processes

#### **3.3. Join, erect, assemble and maintain sub-components and final assemblies (NQF Level 4)**

##### **Unique Product or Service:**

Completed vehicle body shell

##### **Occupational Responsibilities:**

- Assemble, align and join components and sub-components

- Weld metal components

**Occupational Contexts:**

- Processes of joining, erecting and assembling metal sub-components and assemblies
- Vehicle shell maintenance processes

**3.4. Fit and maintain doors, windows and interior components for purpose-built vehicles (NQF Level 4)**

**Unique Product or Service:**

Maintained purpose-built vehicle body

**Occupational Responsibilities:**

- Repair and replace plumbing systems
- Remove and install vehicle primary interior components
- Fit vehicle secondary interior components, fittings and panels
- Maintain and repair vehicle shell

**Occupational Contexts:**

- Processes for the installation, maintenance and repair of windows and doors
- Processes for the installation, maintenance and repair of heating and plumbing systems
- Processes for the installation, maintenance and repair of wooden components, ceilings, floors and interior side panels
- Processes and procedures for fitting and maintaining seats and interior accessories

## **SECTION 3: CURRICULUM COMPONENT SPECIFICATIONS**

### **SECTION 3A: KNOWLEDGE MODULE SPECIFICATIONS**

List of Knowledge Modules for which Specifications are included

- 684905000-KM-01, Orientation to the vehicle body building working environment, NQF Level 2, Credits 4
- 684905000-KM-02, Basic principles of quality, NQF Level 3, Credits 6
- 684905000-KM-03, Basic principles of environmental health and safety related to vehicle body building, NQF Level 3, Credits 8
- 684905000-KM-04, Vehicle body building drawings, NQF Level 4, Credits 10
- 684905000-KM-05, Tools and equipment used in vehicle body building and maintenance , NQF Level 2, Credits 8
- 684905000-KM-06, Machines and materials relevant to vehicle building, NQF Level 3, Credits 8
- 684905000-KM-07, Cutting processes applicable to vehicle building, NQF Level 3, Credits 6
- 684905000-KM-08, Welding methods, NQF Level 3, Credits 17
- 684905000-KM-09, Material handling, NQF Level 3, Credits 6
- 684905000-KM-10, Assembly and Joining, NQF Level 3, Credits 15
- 684905000-KM-11, Plumbing, NQF Level 3, Credits 7
- 684905000-KM-12, Composites, NQF Level 2, Credits 6
- 684905000-KM-13, Heat manipulation, NQF Level 4, Credits 8
- 684905000-KM-14, Gluing methods, NQF Level 4, Credits 10

## **1. 684905000-KM-01, Orientation to the vehicle body building working environment, NQF Level 2, Credits 4**

### **1.1 Purpose of the Knowledge Modules**

The main focus of the learning in this knowledge module is to build an understanding of the roles and functions of a vehicle body builder and associated training requirements as well as the fundamental concepts and principles of a working environment. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 5 days.

The learning will enable learners to demonstrate an understanding of:

- KM-01-KT01: The functions and training of a vehicle body builder (30%)
- KM-01-KT02: The work environment (70%)

### **1.2 Guidelines for Topics**

#### **1.2.1. KM-01-KT01: The functions and training of a vehicle body builder (30%)**

***Topic elements to be covered include:***

- KT0101 Occupational profile of the vehicle body builder
- KT0102 Occupational learning process
- KT0103 Career and employment opportunities

***Internal Assessment Criteria and Weight***

- IAC0101 List the tasks and function of a vehicle body builder
- IAC0102 Explain the rights and responsibilities of the learner, the training provider and the employer as it relates to the theoretical training, off-the-job training and on-the-job training
- IAC0103 Explain the role of the learner regarding the signing of the work experience record
- IAC0104 Explain the external summative assessment process and the requirements therefor
- IAC0105 List career and employment opportunities

***(Weight 30%)***

#### **1.2.2. KM-01-KT02: The work environment (70%)**

***Topic elements to be covered include:***

- KT0201 Work ethics
- KT0202 Contractual agreements
- KT0203 The role of teams in work processes
- KT0204 Meeting protocols
- KT0205 Labour relation processes

***Internal Assessment Criteria and Weight***

- IAC0201 Define ethical behaviour
- IAC0202 Define and describe the concepts of ethical behaviour, including integrity, honesty, fair dealing, respecting diversity
- IAC0203 Give examples of ethical and unethical conduct

- IAC0204 Explain the concept of conflict of interest
- IAC0205 Explain the concepts of planning, organizing and control
- IAC0206 Explain the concepts of cost, waste and housekeeping
- IAC0207 Explain the concepts of productivity and efficiency
- IAC0208 Define and describe the concepts which underpin employment relationships and employment related legislation
- IAC0209 Explain the importance and function of contractual agreements, including employment contracts and apprenticeship contracts
- IAC0210 Describe the functioning of teams, team roles
- IAC0211 Describe meeting protocols and information flow during meetings
- IAC0212 Define and describe the concepts which define employer and employee relationships
- IAC0213 Explain bargaining council principles and the impact thereof

**(Weight 70%)**

### **1.3 Provider Programme Accreditation Criteria**

*Physical Requirements:*

- Hand-outs, learning materials and resources

*Human Resource Requirements:*

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

*Legal Requirements:*

- None

### **1.4 Exemptions**

- None

## **2. 684905000-KM-02, Basic principles of quality, NQF Level 3, Credits 6**

### **2.1 Purpose of the Knowledge Modules**

The main focus of the learning in this knowledge module is to build an understanding of the importance of quality assurance, quality control and testing. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 7.5 days.

The learning will enable learners to demonstrate an understanding of:

- KM-02-KT01: Value and function of quality assurance and quality control principles (30%)
- KM-02-KT02: Inspection and testing methods (70%)

### **2.2 Guidelines for Topics**

#### **2.2.1. KM-02-KT01: Value and function of quality assurance and quality control principles (30%)**

***Topic elements to be covered include:***

- KT0101 Quality assurance and quality control
- KT0102 Inspection and testing methods
- KT0103 Non-conformance reports (NCR)
- KT0104 Five WHY (5 W) principle

***Internal Assessment Criteria and Weight***

- IAC0101 Explain quality assurance and control, its purpose and applications
- IAC0102 Describe the purpose of quality assurance
- IAC0103 Analyse quality assurance system, quality objectives, standards and elements and quality requirements of work area
- IAC0104 Describe quality standards and procedures
- IAC0105 Identify instruments and gauges related to quality processes
- IAC0106 Identify and discuss quality problems
- IAC0107 Describe the uses and reasons for inspection and testing methods and their applications
- IAC0108 Describe procedures to perform final inspection for quality finish
- IAC0109 List types of non-conformances
- IAC0110 Describe the necessity and value of the NCR system
- IAC0111 Describe the necessity and value of the 5 W principles

***(Weight 30%)***

#### **2.2.2. KM-02-KT02: Inspection and testing methods (70%)**

***Topic elements to be covered include:***

- KT0201 Non-destructive testing and inspection
- KT0202 Destructive testing and inspection
- KT0203 Dimensional testing and inspection

- KT0204 Visual inspection

### ***Internal Assessment Criteria and Weight***

- IAC0201 Explain the uses and reasons for inspection and testing methods and their applications
- IAC0202 Describe magnetic particle inspection (MPI), ultrasonic inspection, x-ray testing and dye penetration test
- IAC0203 Describe the tensile testing procedure, bend test and edging test
- IAC0204 Describe dimensional testing procedure and equipment
- IAC0205 Describe visual testing methods

***(Weight 70%)***

### **2.3 Provider Programme Accreditation Criteria**

#### *Physical Requirements:*

- Hand-outs, learning materials and resources

#### *Human Resource Requirements:*

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

#### *Legal Requirements:*

- None

### **2.4 Exemptions**

- None

### **3. 684905000-KM-03, Basic principles of environmental health and safety related to vehicle body building, NQF Level 3, Credits 8**

#### **3.1 Purpose of the Knowledge Modules**

The main focus of the learning in this knowledge module is to build an understanding of health and safety requirements and practices pertaining to vehicle building. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 10 days.

The learning will enable learners to demonstrate an understanding of:

- KM-03-KT01: Environmental, health and safety legislation (15%)
- KM-03-KT02: Workshop safety in the vehicle building environment (20%)
- KM-03-KT03: Safety practices in the vehicle building environment (25%)
- KM-03-KT04: Fire fighting and first aid in the vehicle building environment (30%)
- KM-03-KT05: Incidents and accidents reporting (10%)

#### **3.2 Guidelines for Topics**

##### **3.2.1. KM-03-KT01: Environmental, health and safety legislation (15%)**

***Topic elements to be covered include:***

- KT0101 Overview of occupational health and safety Act (Act-85 of 1993)
- KT0102 Symbolic safety signs
- KT0103 Colour coding of gas cylinders and pipes
- KT0104 Environmental prevention, protection and pollution control
- KT0105 Waste management

***Internal Assessment Criteria and Weight***

- IAC0101 Explain the significance of the occupational health and safety act for the vehicle building environment
- IAC0102 Identify and explain safety signs and colour coding
- IAC0103 Identify and explain the meaning of different colours used to rate gas cylinders and pipes
- IAC0104 Identify and explain different types of industrial pollution associated with the vehicle building environment
- IAC0105 Identify and explain different types of air pollution including, gas and dust, the causes and methods to reduce it in the workplace
- IAC0106 Identify and explain causes and sources of noise pollution and methods to reduce it in the workplace
- IAC0107 Identify and explain types of waste associated with the vehicle building environment and methods of legal disposal

***(Weight 15%)***

##### **3.2.2. KM-03-KT02: Workshop safety in the vehicle building environment (20%)**

***Topic elements to be covered include:***

- KT0201 Workshop and on-site safety rules and practices
- KT0202 Personal protective equipment
- KT0203 Hazard identification and risk assessment principles in the vehicle building workshop and on-site
- KT0204 Five S (5 S) principle
- KT0205 Ergonomic principles in the workplace

***Internal Assessment Criteria and Weight***

- IAC0201 Identify safety equipment and describe their applications and limitations, including fall arrest equipment and fall protection
- IAC0202 Identify types of personal protective equipment (PPE) and describe its purpose and how to determine if it is fit for use
- IAC0203 Explain the general hazards, hazardous substances and risks related to confined spaces and working at heights
- IAC0204 Explain the usability and application of the 5 S principle as a safety precaution in the workplace
- IAC0205 Discuss requirements for moving and lifting tools and equipment

***(Weight 20%)***

**3.2.3. KM-03-KT03: Safety practices in the vehicle building environment (25%)**

***Topic elements to be covered include:***

- KT0301 Safe storage and use of pressurised gasses
- KT0302 Grinding safety
- KT0303 Welding safety
- KT0304 Unsafe acts and conditions

***Internal Assessment Criteria and Weight***

- IAC0301 Identify and describe the properties of different gasses including acetylene and oxygen, LPG, Argon, Co2 and Terrol
- IAC0302 Describe safety practices when working with and storing oxy fuel (acetylene and oxygen), LPG, Argon, Co2 and Terrol
- IAC0303 Describe safe work practices when grinding
- IAC0304 Describe safe work practices when welding
- IAC0305 Describe unsafe acts and conditions in the vehicle building environment

***(Weight 25%)***

**3.2.4. KM-03-KT04: Fire fighting and first aid in the vehicle building environment (30%)**

***Topic elements to be covered include:***

- KT0401 Fire fighting and fire fighting equipment

- KT0402 Types of fire extinguishers and its use
- KT0403 PASS principle

***Internal Assessment Criteria and Weight***

- IAC0401 Describe the components of the fire triangle
- IAC0402 Identify and describe fire extinguishing substances and fire fighting protocols
- IAC0403 Identify and describe types of extinguishers, including A, B and C
- IAC0404 Explain how to use fire extinguisher in terms of the PASS principle

***(Weight 30%)***

**3.2.5. KM-03-KT05: Incidents and accidents reporting (10%)**

***Topic elements to be covered include:***

- KT0501 Near misses
- KT0502 Safety incidents and accidents
- KT0503 Unsafe acts and conditions

***Internal Assessment Criteria and Weight***

- IAC0501 Describe the concept of near misses and the processes and value of recording and reporting it
- IAC0502 Describe processes and value of recording and reporting incidents and accidents
- IAC0503 Describe processes and value of recording and reporting unsafe acts and conditions

***(Weight 10%)***

**3.3 Provider Programme Accreditation Criteria**

***Physical Requirements:***

- Hand-outs, learning materials and resources

***Human Resource Requirements:***

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

***Legal Requirements:***

- None

**3.4 Exemptions**

- None

## **4. 684905000-KM-04, Vehicle body building drawings, NQF Level 4, Credits 10**

### **4.1 Purpose of the Knowledge Modules**

The main focus of the learning in this knowledge module is to build an understanding of the principles of engineering drawings and sketches, the dimensions applicable to the drawings and sketches and the calculations, measurements and codes by which such drawings are produced.

The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 12.5 days.

The learning will enable learners to demonstrate an understanding of:

- KM-04-KT01: Drawing symbols and terminology (50%)
- KM-04-KT02: Drawing techniques (50%)

### **4.2 Guidelines for Topics**

#### **4.2.1. KM-04-KT01: Drawing symbols and terminology (50%)**

***Topic elements to be covered include:***

- KT0101 Drawing concepts and terminology
- KT0102 Scale types
- KT0103 Line types and dimensioning
- KT0104 Drawing symbols

***Internal Assessment Criteria and Weight***

- IAC0101 Interpret and explain pipe and plate drawings using correct terminology
- IAC0102 Explain full scale, enlarged scale and reduced scale and appropriate usage
- IAC0103 Explain the 9 line types, function and the appropriate use of lines
- IAC0104 Identify and explain drawing symbols

***(Weight 50%)***

#### **4.2.2. KM-04-KT02: Drawing techniques (50%)**

***Topic elements to be covered include:***

- KT0201 Basic geometry and unit of measurement
- KT0202 Itemised and assembled drawings
- KT0203 First and third angle projections

***Internal Assessment Criteria and Weight***

- IAC0201 Identify forms and shapes of, pyramids, cylinders, cones, rectangular containers, support frames and holding devices (jigs)
- IAC0202 Produce freehand sketches and drawings using isometric and orthographic projection techniques, including hidden detail and single plane sectional views
- IAC0203 Explain the difference between itemised and assembled drawings
- IAC0204 Identify and describe first and third angle projections

***(Weight 50%)***

### **4.3 Provider Programme Accreditation Criteria**

#### *Physical Requirements:*

- Hand-outs, learning materials and resources

#### *Human Resource Requirements:*

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

#### *Legal Requirements:*

- None

### **4.4 Exemptions**

- None

## **5. 684905000-KM-05, Tools and equipment used in vehicle body building and maintenance , NQF Level 2, Credits 8**

### **5.1 Purpose of the Knowledge Modules**

The main focus of the learning in this knowledge module is to build an understanding of features, purpose, and uses of tools, equipment, materials and techniques related to vehicle body building. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 10 days.

The learning will enable learners to demonstrate an understanding of:

- KM-05-KT01: Use and care of measuring tools and instruments (25%)
- KM-05-KT02: Use and care of woodworking tools and equipment (15%)
- KM-05-KT03: Use and care of metal and plumbing tools and equipment (30%)
- KM-05-KT04: Safety when working with electrical and pneumatic tools (30%)

### **5.2 Guidelines for Topics**

#### **5.2.1. KM-05-KT01: Use and care of measuring tools and instruments (25%)**

***Topic elements to be covered include:***

- KT0101 Types of measuring tools and instruments
- KT0102 Functionality of measuring tools and instruments

***Internal Assessment Criteria and Weight***

- IAC0101 Identify different types of measuring tools and instruments including vernier, micrometer, telescopic gages, measuring tape, protactors, dumpy level and theodo-light spirit level, steel ruler, dial gages, calipers
- IAC0102 Explain the use and function of different types of measuring tools and instruments including vernier, micrometer, telescopic gages, measuring tape, protactors, dumpy level and theodo-light spirit level, steel ruler, dial gages, calipers

***(Weight 25%)***

#### **5.2.2. KM-05-KT02: Use and care of woodworking tools and equipment (15%)**

***Topic elements to be covered include:***

- KT0201 Types of woodworking tools and equipment
- KT0202 Care for woodworking tools and equipment
- KT0203 Safety precautions when working with woodworking equipment

***Internal Assessment Criteria and Weight***

- IAC0201 Identify different types of tools and equipment used for basic woodworking, including chisels, planers and saws
- IAC0202 Explain the use of different types of woodworking tools, including chisels, planers and saws
- IAC0203 Explain methods of caring for woodworking tools and equipment

- IAC0204 Explain methods of sharpening blades and chisels and associated safety precautions

**(Weight 15%)**

### **5.2.3. KM-05-KT03: Use and care of metal and plumbing tools and equipment (30%)**

**Topic elements to be covered include:**

- KT0301 Types of metal working tools and equipment
- KT0302 Care for metalworking tools and equipment

**Internal Assessment Criteria and Weight**

- IAC0301 Identify different types of tools and equipment used for metal working, including grinders, pipe benders
- IAC0302 Explain the use of grinders, pipe benders
- IAC0303 Explain methods of caring for and storing of grinders, pipe benders
- IAC0304 Explain safety precautions and clothing to be worn when working with grinders, pipe benders

**(Weight 30%)**

### **5.2.4. KM-05-KT04: Safety when working with electrical and pneumatic tools (30%)**

**Topic elements to be covered include:**

- KT0401 Electrical tools
- KT0402 Pneumatic tools

**Internal Assessment Criteria and Weight**

- IAC0401 Identify hazards and risks associated with the use of hand, electrical tools
- IAC0402 Describe methods of caring for electrical tools
- IAC0403 Identify hazards and risks associated with the use of hand, pneumatic tools
- IAC0404 Describe methods of caring for pneumatic tools

**(Weight 30%)**

## **5.3 Provider Programme Accreditation Criteria**

*Physical Requirements:*

- Hand-outs, learning materials and resources

*Human Resource Requirements:*

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

*Legal Requirements:*

- None

## **5.4 Exemptions**



## **6. 684905000-KM-06, Machines and materials relevant to vehicle building, NQF Level 3, Credits 8**

### **6.1 Purpose of the Knowledge Modules**

The main focus of the learning in this knowledge module is to build an understanding of the features of different types of materials worked with and the safe use of machines during the fabrication of vehicles. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 10 days.

The learning will enable learners to demonstrate an understanding of:

- KM-06-KT01: Materials and material properties relevant to vehicle body building (50%)
- KM-06-KT02: Stationary machines relevant to vehicle body building (50%)

### **6.2 Guidelines for Topics**

#### **6.2.1. KM-06-KT01: Materials and material properties relevant to vehicle body building (50%)**

***Topic elements to be covered include:***

- KT0101 Terms and definitions for metal related materials
- KT0102 Physical properties and characteristics of ferrous and non-ferrous metals
- KT0103 Identification systems
- KT0104 Defects in metal
- KT0105 Types of woodworking tools and equipment
- KT0106 Plastics

#### ***Internal Assessment Criteria and Weight***

- IAC0101 Identify and describe the terms, definitions and use of materials pertaining to vehicle building with special reference to plates, tubes, pipes, rolled and hollow sections
- IAC0102 Identify and describe the physical properties and characteristics of ferrous and non-ferrous metals including stainless steel, aluminium, carbon steel, copper, galvanised steel
- IAC0103 Identify and describe the characteristics and properties of ferrous and non-ferrous metals
- IAC0104 Identify and describe the current identification systems
- IAC0105 Identify and describe metal defects visually
- IAC0106 Identify and describe safety precautions related to material handling
- IAC0107 Identify and describe the characteristics and properties of soft woods, hard woods and processed boards
- IAC0108 Identify and describe the characteristics and properties of pannelite, poly carbon, teflon
- IAC0109 Identify and describe uses of resin and materials for lamination
- IAC0110 Identify and describe methods of surface coating for composites for lamination

***(Weight 50%)***

## **6.2.2. KM-06-KT02: Stationary machines relevant to vehicle body building (50%)**

### ***Topic elements to be covered include:***

- KT0201 Stationery machine types used for metal fabrication
- KT0202 Machine types used for woodworking
- KT0203 Machine types used for plumbing

### ***Internal Assessment Criteria and Weight***

- IAC0201 Identify and explain the usage of stationary machine types including bending machines, plate rollers, shaping rollers, press brakes, guillotines, cutting machines, drilling machines, punch machines, iron workers, shearers, saws and hydraulic presses
- IAC0202 Describe the safety precautions to be taken when working with the various types of machines used for metal fabrication
- IAC0203 Describe the procedures used to inspect and maintain the various types of machines used for metal fabrication
- IAC0204 Identify and explain the usage of machine types including orbital sanding machines, belt sanders, circular saws, jig saws
- IAC0205 Describe the importance of extraction systems
- IAC0206 Describe the safety precautions to be taken when working with the various types of machines used for woodworking
- IAC0207 Describe the procedures used to inspect and maintain the various types of machines used for woodworking
- IAC0208 Identify and explain the usage of machine types including tread cutters, pipe cutters and bending machines
- IAC0209 Describe the safety precautions to be taken when working with the various types of machines used for plumbing
- IAC0210 Describe the procedures used to inspect and maintain the various types of machines used for plumbing

***(Weight 50%)***

## **6.3 Provider Programme Accreditation Criteria**

### ***Physical Requirements:***

- Hand-outs, learning materials and resources

### ***Human Resource Requirements:***

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

### ***Legal Requirements:***

- None

## **6.4 Exemptions**



## 7. 684905000-KM-07, Cutting processes applicable to vehicle building, NQF Level 3, Credits 6

### 7.1 Purpose of the Knowledge Modules

The main focus of the learning in this knowledge module is to build an understanding of different cutting processes and the equipment used for it. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 7.5 days.

The learning will enable learners to demonstrate an understanding of:

- KM-07-KT01: Basic oxy-fuel cutting (70%)
- KM-07-KT02: Plasma cutting (30%)

### 7.2 Guidelines for Topics

#### 7.2.1. KM-07-KT01: Basic oxy-fuel cutting (70%)

**Topic elements to be covered include:**

- KT0101 Terminology, codes and standards related to oxy fuel cutting
- KT0102 Oxy-fuel cutting equipment, accessories and consumables
- KT0103 Pressure settings

**Internal Assessment Criteria and Weight**

- IAC0101 Identify and describe all safety aspects related to oxy-fuel cutting
- IAC0102 Identify hazards and describe safe work practices pertaining to oxy-fuel cutting
- IAC0103 Identify oxy-fuel cutting equipment, consumables and accessories and describe their uses
- IAC0104 Identify types of power sources for oxy-fuel cutting equipment and describe their applications and limitations
- IAC0105 Identify and illustrate the various techniques such as free-hand cutting, straight line cutting, radial bar cutting, bevelling, etc. and describe their characteristics and applications
- IAC0106 Identify and describe pressures settings and assembling procedures of oxy-fuel cutting equipment

**(Weight 70%)**

#### 7.2.2. KM-07-KT02: Plasma cutting (30%)

**Topic elements to be covered include:**

- KT0201 Terms, definitions and symbols
- KT0202 Machinery, equipment and consumables
- KT0203 Cutting procedures and techniques

**Internal Assessment Criteria and Weight**

- IAC0201 Explain terminology and symbols related to plasma cutting
- IAC0202 Identify and describe plasma cutting machinery, equipment and consumables

- IAC0203 Describe cutting preparation procedures and techniques such as straight line cutting and profile cutting
- IAC0204 Identify hazards and describe safe work practices pertaining to plasma cutting
- IAC0205 Explain the importance of correct setting of pressure, and the consequences of incorrect settings with reference to the thickness of materials, size of cutting nozzles and the impact of speed on control during cutting process

**(Weight 30%)**

### **7.3 Provider Programme Accreditation Criteria**

*Physical Requirements:*

*Human Resource Requirements:*

*Legal Requirements:*

### **7.4 Exemptions**

## **8. 684905000-KM-08, Welding methods, NQF Level 3, Credits 17**

### **8.1 Purpose of the Knowledge Modules**

The main focus of the learning in this knowledge module is to build an understanding of different welding processes, the equipment used for it and the application thereof. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 21.5 days.

The learning will enable learners to demonstrate an understanding of:

- KM-08-KT01: Shielded metal arc welding (SMA) / stick welding (16%)
- KM-08-KT02: Gas metal arc welding (GMAW) / (MIG or MAG) (17%)
- KM-08-KT03: Gas tungsten arc welding (GTAW) / (TIG) (17%)
- KM-08-KT04: Oxy-fuel welding (OAW) / oxygen acetylene welding (17%)
- KM-08-KT05: Spot resistance welding (17%)
- KM-08-KT06: Stud welding (16%)

### **8.2 Guidelines for Topics**

#### **8.2.1. KM-08-KT01: Shielded metal arc welding (SMA) / stick welding (16%)**

***Topic elements to be covered include:***

- KT0101 Equipment
- KT0102 Settings
- KT0103 Electrodes

***Internal Assessment Criteria and Weight***

- IAC0101 Identify and explain function of tools and equipment used
- IAC0102 Identify and explain the amperage for different sizes of electrodes
- IAC0103 Identify and explain different types of welding rods for different types of metal

***(Weight 16%)***

#### **8.2.2. KM-08-KT02: Gas metal arc welding (GMAW) / (MIG or MAG) (17%)**

***Topic elements to be covered include:***

- KT0201 Equipment
- KT0202 Settings
- KT0203 Welding wire
- KT0204 Shielding gasses

***Internal Assessment Criteria and Weight***

- IAC0201 Identify and explain function of tools and equipment used
- IAC0202 Identify and explain the amperage for different sizes of welding wire feed and speed
- IAC0203 Identify and explain different types of welding wire for different types of metal
- IAC0204 Identify different types of shielding gasses and explain its advantages

**(Weight 17%)**

### **8.2.3. KM-08-KT03: Gas tungsten arc welding (GTAW) / (TIG) (17%)**

**Topic elements to be covered include:**

- KT0301 Equipment
- KT0302 Settings
- KT0303 Welding filler rods
- KT0304 Shielding gasses

**Internal Assessment Criteria and Weight**

- IAC0301 Identify and explain function of tools and equipment used
- IAC0302 Identify and explain the amperage for different sizes and types of welding tungsten electrodes, gas mixing ratios and methods of sharpening electrode points
- IAC0303 Identify and explain different types of welding filler rods for different types of metal
- IAC0304 Identify different types of shielding gasses and explain its advantages

**(Weight 17%)**

### **8.2.4. KM-08-KT04: Oxy-fuel welding (OAW) / oxygen acetylene welding (17%)**

**Topic elements to be covered include:**

- KT0401 Equipment
- KT0402 Gas settings
- KT0403 Nozzle sizes
- KT0404 Filler rods

**Internal Assessment Criteria and Weight**

- IAC0401 Identify and explain function of tools and equipment used
- IAC0402 Identify and explain the process and procedure of lighting the torch to produce a neutral flame
- IAC0403 Identify and explain different types of nozzle size for different types of metal
- IAC0404 Identify the different sizes and types of filler rods

**(Weight 17%)**

### **8.2.5. KM-08-KT05: Spot resistance welding (17%)**

**Topic elements to be covered include:**

- KT0501 Machines and equipment
- KT0502 Settings
- KT0503 Copper welding tips
- KT0504 C-frame
- KT0505 Welding sequence

### ***Internal Assessment Criteria and Weight***

- IAC0501 Identify and explain function of machines, tools and equipment used
- IAC0502 Identify and explain the amperage for different types and thickness of material
- IAC0503 Identify and explain different types of copper welding tips for different types of metal
- IAC0504 Identify different types and sizes of C-frames and explain its advantages
- IAC0505 Explain different steps in the welding sequence

***(Weight 17%)***

### **8.2.6. KM-08-KT06: Stud welding (16%)**

#### ***Topic elements to be covered include:***

- KT0601 Electric power supply and equipment
- KT0602 Settings
- KT0603 Stud sizes
- KT0604 Stud gun
- KT0605 Welding sequence

### ***Internal Assessment Criteria and Weight***

- IAC0601 Identify and explain function of power supply, tools and equipment used
- IAC0602 Identify and explain the amperage and time settings for different stud sizes
- IAC0603 Identify and explain different stud and material sizes and types
- IAC0604 Explain the operation (including settings) and use of different types of stud guns
- IAC0605 Explain different steps in the welding sequence

***(Weight 16%)***

## **8.3 Provider Programme Accreditation Criteria**

### ***Physical Requirements:***

- Hand-outs, learning materials and resources

### ***Human Resource Requirements:***

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

### ***Legal Requirements:***

- None

## **8.4 Exemptions**

## **9. 684905000-KM-09, Material handling, NQF Level 3, Credits 6**

### **9.1 Purpose of the Knowledge Modules**

The main focus of the learning in this knowledge module is to build an understanding of different techniques and methods to lift and move materials and loads safely. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 7.5 days.

The learning will enable learners to demonstrate an understanding of:

- KM-09-KT01: Hoisting, lifting and slinging (50%)
- KM-09-KT02: Lifting and moving of loads (50%)

### **9.2 Guidelines for Topics**

#### **9.2.1. KM-09-KT01: Hoisting, lifting and slinging (50%)**

***Topic elements to be covered include:***

- KT0101 Types of chains, slings and cables
- KT0102 Hoisting, lifting and slinging techniques and safety

***Internal Assessment Criteria and Weight***

- IAC0101 Describe different hoisting and lifting equipment, techniques and procedures
- IAC0102 Describe different slinging techniques and procedures
- IAC0103 Identify and describe different types of hoisting equipment including hooks, shackles, plate grabs magnetic blocks and vacuum cups
- IAC0104 Identify, describe and select lifting equipment for specific tasks
- IAC0105 Calculate and determine the working loads correctly using different methods
- IAC0106 Identify and describe safety precautions, processes and equipment

***(Weight 50%)***

#### **9.2.2. KM-09-KT02: Lifting and moving of loads (50%)**

***Topic elements to be covered include:***

- KT0201 Lifting concepts and methods
- KT0202 Load moving concepts and methods

***Internal Assessment Criteria and Weight***

- IAC0201 Identify and describe overhead crane hand signals
- IAC0202 Identify and describe safety precautions, processes and equipment
- IAC0203 Interpret data from load charts
- IAC0204 Describe forklift loading procedures
- IAC0205 Describe forklift moving operations
- IAC0206 Calculate and determine maximum working loads

***(Weight 50%)***

### **9.3 Provider Programme Accreditation Criteria**

*Physical Requirements:*

*Human Resource Requirements:*

*Legal Requirements:*

#### **9.4 Exemptions**

## **10. 684905000-KM-10, Assembly and Joining, NQF Level 3, Credits 15**

### **10.1 Purpose of the Knowledge Modules**

The main focus of the learning in this knowledge module is to build an understanding of the processes involved in fitting components and a range of assembling and joining (excluding welding) methods. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 18.75 days

The learning will enable learners to demonstrate an understanding of:

- KM-10-KT01: Lay out and fitting (50%)
- KM-10-KT02: Joining methods (excluding welding) (50%)

### **10.2 Guidelines for Topics**

#### **10.2.1. KM-10-KT01: Lay out and fitting (50%)**

***Topic elements to be covered include:***

- KT0101 Jigs and fixtures
- KT0102 Hazards, risks and safety pertaining to joining

***Internal Assessment Criteria and Weight***

- IAC0101 Identify and describe the various shapes and forms of jigs
- IAC0102 Identify various jigs and fixtures and describe the purpose, and advantages (accuracy, time saving in multiple production, distortion control) and disadvantages thereof (expensive)
- IAC0103 Identify hazards, risks and safety pertaining to joining and discuss the implications thereof for work practices

***(Weight 50%)***

#### **10.2.2. KM-10-KT02: Joining methods (excluding welding) (50%)**

***Topic elements to be covered include:***

- KT0201 Joining terminology
- KT0202 Riveting
- KT0203 Bolts and nuts and washers
- KT0204 Clinching

***Internal Assessment Criteria and Weight***

- IAC0201 Define and describe the terminology, concepts and principles of joining
- IAC0202 Identify types of rivets including hemlock rivet, magna-lock rivet, huck lockbolt, bom fastener
- IAC0203 Types of riveting tools
- IAC0204 Describe different types of bolts and nuts (including materials) and its applicability, benefits and disadvantages
- IAC0205 Identify different drilling methods, drill bits and de-burring
- IAC0206 Identify the importance of torque tightening

- IAC0207 Explain clinching and the benefits and usage thereof

**(Weight 50%)**

### **10.3 Provider Programme Accreditation Criteria**

*Physical Requirements:*

- Hand-outs, learning materials and resources

*Human Resource Requirements:*

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

*Legal Requirements:*

- None

### **10.4 Exemptions**

## **11. 684905000-KM-11, Plumbing, NQF Level 3, Credits 7**

### **11.1 Purpose of the Knowledge Modules**

The main focus of the learning in this knowledge module is to build an understanding of plumbing installations, components and systems. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 8.75 days.

The learning will enable learners to demonstrate an understanding of:

- KM-11-KT01: Pipe types, cutting, bending and threading (40%)
- KM-11-KT02: Cocks and valves (40%)
- KM-11-KT03: Joining of pipes (20%)

### **11.2 Guidelines for Topics**

#### **11.2.1. KM-11-KT01: Pipe types, cutting, bending and threading (40%)**

***Topic elements to be covered include:***

- KT0101 Pipe types
- KT0102 Methods for pipe cutting
- KT0103 Bending of pipes
- KT0104 Threading methods

***Internal Assessment Criteria and Weight***

- IAC0101 Identify the different types of pipes used in plumbing including g copper pipes, galvanised and polly-cop
- IAC0102 Explain different methods used for pipe cutting and de-burring including abrasive cutting, hack saw, pipe cutter, band saw
- IAC0103 Explain different bending methods including free-hand vise hand and hydraulic pipe bender
- IAC0104 Identify different types of thread used on different materials including BSP (British standard pipe) and USP

***(Weight 40%)***

#### **11.2.2. KM-11-KT02: Cocks and valves (40%)**

***Topic elements to be covered include:***

- KT0201 Cock types
- KT0202 Use of cocks
- KT0203 Valve types
- KT0204 Use of valves

***Internal Assessment Criteria and Weight***

- IAC0201 Identify different types of cocks including plug cock, cut-off cock and self-closing cocks
- IAC0202 Explain the function, characteristics and components of cocks

- IAC0203 Identify different types of valves including pressure relief valves, ball valves, non-return valves, vent valves, three-way valves, and gate valves
- IAC0204 Explain the functions of valves including shut off, flow control or flow direction and where it will be used

**(Weight 40%)**

### **11.2.3. KM-11-KT03: Joining of pipes (20%)**

***Topic elements to be covered include:***

- KT0301 Pipe joining fittings
- KT0302 Joining compounds
- KT0303 Pipe supporting

***Internal Assessment Criteria and Weight***

- IAC0301 Identify and explain different pipe fittings and its use including sockets, elbows, T-pieces, cross pieces, reducers, radused bends, ferrules, quick connectors
- IAC0302 Explain different joining compounds used for the different types of materials including copper, galvenised pipes, plastic and rubber
- IAC0303 Identify different types of clamps and brackets used to support pipes

**(Weight 20%)**

### **11.3 Provider Programme Accreditation Criteria**

*Physical Requirements:*

*Human Resource Requirements:*

*Legal Requirements:*

### **11.4 Exemptions**

## **12. 684905000-KM-12, Composites, NQF Level 2, Credits 6**

### **12.1 Purpose of the Knowledge Modules**

The main focus of the learning in this knowledge module is to build an understanding of composites, surface coating, resin, and reinforcement. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 7.5 days.

The learning will enable learners to demonstrate an understanding of:

- KM-12-KT01: Application of surface coating (20%)
- KM-12-KT02: Resin and materials for lamination (40%)
- KM-12-KT03: Surface coating for laminated materials (30%)
- KM-12-KT04: Joining of composite parts (10%)

### **12.2 Guidelines for Topics**

#### **12.2.1. KM-12-KT01: Application of surface coating (20%)**

***Topic elements to be covered include:***

- KT0101 Tools and materials
- KT0102 Surface coating methods
- KT0103 Time standards

***Internal Assessment Criteria and Weight***

- IAC0101 Explain the methods for selection and identification of tools and materials required for surface coating.
- IAC0102 Explain the process for applying coating and/or lamination
- IAC0103 Explain the impact and consequences of non-conformance to time standards

***(Weight 20%)***

#### **12.2.2. KM-12-KT02: Resin and materials for lamination (40%)**

***Topic elements to be covered include:***

- KT0201 Application of resins and reinforcements
- KT0202 Resin to accelerator ratio
- KT0203 Reinforcement methodologies

***Internal Assessment Criteria and Weight***

- IAC0201 Describe the process for the application of resin and reinforcements
- IAC0202 Describe the ratio of resin to accelerator
- IAC0203 Describe the method used for lamination reinforcement

***(Weight 40%)***

#### **12.2.3. KM-12-KT03: Surface coating for laminated materials (30%)**

***Topic elements to be covered include:***

- KT0301 Tools and materials
- KT0302 Application of surface coatings to laminated materials

- KT0303 Methods of checking the end product

***Internal Assessment Criteria and Weight***

- IAC0301 Explain the methods for selection and identification of tools and materials required for applying surface coatings to laminated materials
- IAC0302 Explain the process for applying surface coatings to laminated materials
- IAC0303 Describe different methods of checking the end product

***(Weight 30%)***

**12.2.4. KM-12-KT04: Joining of composite parts (10%)**

***Topic elements to be covered include:***

- KT0401 Preparation of work surfaces
- KT0402 Resins and reinforcements

***Internal Assessment Criteria and Weight***

- IAC0401 Identify and explain different tools and materials used for joining composite parts
- IAC0402 Explain the process for applying resins and reinforcements
- IAC0403 Explain the impact and consequences of non-conformance to time standards required for joining composites

***(Weight 10%)***

**12.3 Provider Programme Accreditation Criteria**

***Physical Requirements:***

- Hand-outs, learning materials and resources

***Human Resource Requirements:***

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

***Legal Requirements:***

- None

**12.4 Exemptions**

### **13. 684905000-KM-13, Heat manipulation, NQF Level 4, Credits 8**

#### **13.1 Purpose of the Knowledge Modules**

The main focus of the learning in this knowledge module is to build an understanding of the methods, effects and uses of heat manipulation of metal for vehicle body building processes. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 10 days.

The learning will enable learners to demonstrate an understanding of:

- KM-13-KT01: Tools and materials (40%)
- KM-13-KT02: Tools and materials (60%)

#### **13.2 Guidelines for Topics**

##### **13.2.1. KM-13-KT01: Tools and materials (40%)**

***Topic elements to be covered include:***

- KT0101 Tools and equipment
- KT0102 Tools and equipment

***Internal Assessment Criteria and Weight***

- IAC0101 Identify and describe different types of tools and equipment used for heat manipulation including torches, nozzles and nozzle holder, thermometers and temple sticks
- IAC0102 Describe the reaction of steel during and after heating processes

***(Weight 40%)***

##### **13.2.2. KM-13-KT02: Tools and materials (60%)**

***Topic elements to be covered include:***

- KT0201 Uses of heat manipulation for vehicle body building
- KT0202 Types of gas used for heat manipulation
- KT0203 Flame settings and flame guidance
- KT0204 Cooling process

***Internal Assessment Criteria and Weight***

- IAC0201 Describe the purpose of heat manipulation including shrinking, bending and straightening
- IAC0202 Name and describe different types of gasses used for heat manipulation including the type of application including LPG and oxy-acetylene
- IAC0203 Explain the effect and function of flame setting and flame guidance
- IAC0204 Explain the processes, methods and effect of cooling

***(Weight 60%)***

#### **13.3 Provider Programme Accreditation Criteria**

***Physical Requirements:***

- Hand-outs, learning materials and resources

*Human Resource Requirements:*

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

*Legal Requirements:*

- None

**13.4 Exemptions**

## **14. 684905000-KM-14, Gluing methods, NQF Level 4, Credits 10**

### **14.1 Purpose of the Knowledge Modules**

The main focus of the learning in this knowledge module is to build an understanding of different types of glue and the application thereof in manufacturing. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 12.5 day.

The learning will enable learners to demonstrate an understanding of:

- KM-14-KT01: Adhesive bonding safety (20%)
- KM-14-KT02: Theory of adhesive bonding (16%)
- KM-14-KT03: Adhesive products (16%)
- KM-14-KT04: Types of adhesive bonding (16%)
- KM-14-KT05: Surface preparation (16%)
- KM-14-KT06: Inspection and testing (16%)

### **14.2 Guidelines for Topics**

#### **14.2.1. KM-14-KT01: Adhesive bonding safety (20%)**

***Topic elements to be covered include:***

- KT0101 Safety when using adhesives
- KT0102 Adhesive bonding as a method of assembly
- KT0103 Approving the use of adhesives

***Internal Assessment Criteria and Weight***

- IAC0101 Describe the signs used to indicate the hazard rating of adhesives
- IAC0102 Discuss and explain the precautions to be taken before using adhesives
- IAC0103 Discuss and explain the precautions to be taken after using adhesives
- IAC0104 Discuss the characteristics of adhesives
- IAC0105 Explain the concept of adhesive bond
- IAC0106 Explain the term adhesive
- IAC0107 Discuss the advantages and disadvantages of adhesive bonding
- IAC0108 Describe the best practice process of obtaining approval and sign off for usage of adhesives

***(Weight 20%)***

#### **14.2.2. KM-14-KT02: Theory of adhesive bonding (16%)**

***Topic elements to be covered include:***

- KT0201 Principles of adhesive bonding
- KT0202 Adhesive bonding stresses
- KT0203 Design rules
- KT0204 Adhesive failures

***Internal Assessment Criteria and Weight***

- IAC0201 Describe the principles of adhesive bonding
- IAC0202 Explain the difference between adhesion and cohesion
- IAC0203 Describe the two basic elements required to obtain adhesive bonding
- IAC0204 Name different types of adhesion to substrates
- IAC0205 Name and describe five different types of bonding stresses
- IAC0206 Name and describe environmental stresses
- IAC0207 Name and describe three design rules
- IAC0208 Name and describe the adhesive failure types and associated reasons thereof

**(Weight 16%)**

#### **14.2.3. KM-14-KT03: Adhesive products (16%)**

**Topic elements to be covered include:**

- KT0301 Product families
- KT0302 Selection of adhesives

**Internal Assessment Criteria and Weight**

- IAC0301 Name and discuss the five adhesive families
- IAC0302 Discuss the considerations for adhesion selection

**(Weight 16%)**

#### **14.2.4. KM-14-KT04: Types of adhesive bonding (16%)**

**Topic elements to be covered include:**

- KT0401 Structural adhesive bonding
- KT0402 Instant adhesive bonding
- KT0403 Flexible adhesive bonding
- KT0404 Sealing

**Internal Assessment Criteria and Weight**

- IAC0401 Describe the structural adhesive bonding process
- IAC0402 Name and discuss the three classes of structural bonding
- IAC0403 Describe the instant adhesive bonding process
- IAC0404 Describe the flexible adhesive bonding process
- IAC0405 Describe the sealing process

**(Weight 16%)**

#### **14.2.5. KM-14-KT05: Surface preparation (16%)**

**Topic elements to be covered include:**

- KT0501 Wettability
- KT0502 Purpose and procedure for surface preparation

- KT0503 Application, and assembly

***Internal Assessment Criteria and Weight***

- IAC0501 Discuss the concept wettability
- IAC0502 Describe the method to measure wettability
- IAC0503 Discuss the purpose of surface preparation
- IAC0504 Discuss the concept surface condition
- IAC0505 Discuss and describe the procedure for surface preparation for adhesion
- IAC0506 Describe the concept and types of surface treatment
- IAC0507 Name and discuss the factors influencing the spreading of glue or adhesives
- IAC0508 Describe methods of application
- IAC0509 Describe and name the different times required for adhesion processes

***(Weight 16%)***

**14.2.6. KM-14-KT06: Inspection and testing (16%)**

***Topic elements to be covered include:***

- KT0601 Non-destructive testing
- KT0602 Destructive testing
- KT0603 Documentation

***Internal Assessment Criteria and Weight***

- IAC0601 Describe the four non-destructive testing processes
- IAC0602 Describe the destructive testing processes (including tensile, compressive, shear and peel)
- IAC0603 Describe the importance of different information, technical, traceability and data sheets associated with gluing

***(Weight 16%)***

**14.3 Provider Programme Accreditation Criteria**

***Physical Requirements:***

- Hand-outs, learning materials and resources

***Human Resource Requirements:***

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

***Legal Requirements:***

- None

**14.4 Exemptions**

## SECTION 3B: PRACTICAL SKILL MODULE SPECIFICATIONS

### List of Practical Skill Module Specifications

- 684905000-PM-01, Prepare a safe working environment, NQF Level 2, Credits 4
- 684905000-PM-02, Prepare engineering manufacturing drawings, NQF Level 4, Credits 20
- 684905000-PM-03, Use and care for hand and power tools relevant to vehicle building, NQF Level 2, Credits 12
- 684905000-PM-04, Marking-off materials, NQF Level 3, Credits 10
- 684905000-PM-05, Cut metal, NQF Level 2, Credits 12
- 684905000-PM-06, Bend metal, NQF Level 3, Credits 8
- 684905000-PM-07, Weld metal components, NQF Level 4, Credits 30
- 684905000-PM-08, Assemble, align and join metal components and sub-components, NQF Level 3, Credits 15
- 684905000-PM-, , NQF Level , Credits 0
- 684905000-PM-09, Repair and replace plumbing systems, NQF Level 3, Credits 16
- 684905000-PM-10, Remove and install vehicle primary interior components, NQF Level 3, Credits 25
- 684905000-PM-11, Fit vehicle secondary interior components, fittings and panels, NQF Level 3, Credits 22
- 684905000-PM-12, Fit and repair wooden structures (including plywood) , NQF Level 3, Credits 15
- 684905000-PM-13, Maintain and repair vehicle shell, NQF Level 3, Credits 10

## **1. 684905000-PM-01, Prepare a safe working environment, NQF Level 2, Credits 4**

### **1.1 Purpose of the Practical Skill Modules**

The focus of the learning in this module is on providing the learner an opportunity to develop safe working practices and learn to use and operate lifting and moving equipment. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 5 days.

The learner will be required to:

- PM-01-PS01: Perform safety checks and clean working environment
- PM-01-PS02: Prepare working space for working and stacking material
- PM-01-PS03: Use and care for lifting and moving equipment

### **1.2 Guidelines for Practical Skills**

#### **1.2.1. PM-01-PS01: Perform safety checks and clean working environment**

##### ***Scope of Practical Skill***

Given gas, safety equipment checklists, cleaning material, gas equipment safety checklists, lifting equipment, the learner must be able to:

- PA0101 Check gas equipment for gas leaks
- PA0102 Check fire fighting equipment for safety and service requirements
- PA0103 Use basic fire fighting equipment
- PA0104 Remove oily substances from working floor area
- PA0105 Identify hazardous and unnecessary equipment

##### ***Applied Knowledge***

- AK0101 Methods and procedures for detecting gas leaks
- AK0102 Methods and procedures for checking fire fighting equipment

##### ***Internal Assessment Criteria***

- IAC0101 All procedures are followed in checking for gas leaks
- IAC0102 All procedures are followed for checking of fire fighting equipment
- IAC0103 The correct equipment is selected and used to extinguish or contain each type of fire
- IAC0104 Working area is clean and safe from unnecessary hazardous obstacles and equipment

#### **1.2.2. PM-01-PS02: Prepare working space for working and stacking material**

##### ***Scope of Practical Skill***

Given safety screens, stack material, tape measures, lifting equipment, stack limit requirements, the learner must be able to:

- PA0201 Erect safety screens
- PA0202 Measure width and height of materials to be stacked
- PA0203 Determine stack limits

- PA0204 Identify appropriate space for stacking
- PA0205 Prepare space for stacking
- PA0206 Identify relevant lifting and moving equipment for stacking

***Applied Knowledge***

- AK0201 Stacking practices and rules
- AK0202 Safety requirements related to stacking

***Internal Assessment Criteria***

- IAC0201 Position of safety screens are in accordance with safety requirements
- IAC0202 Stacking plan adheres to stacking limits and space size is adequate
- IAC0203 Identified lifting and moving equipment is appropriate for the material to be stacked

**1.2.3. PM-01-PS03: Use and care for lifting and moving equipment**

***Scope of Practical Skill***

Given lifting and support equipment applicable to the trade including lifting and coffin hoists, jib cranes, overhead remote control cranes, manual jacks, hydraulic jacks, chain blocks, steel rope and nylon slings, shackles, air hoists and eye bolts, tackle, various kinds of support equipment, cleaning and lubricating materials, task instructions, a range of typical items for lifting and relevant personal protective equipment, the learner must be able to:

- PA0301 Identify the weight carrying capacity of lifting and support equipment for a variety of tasks
- PA0302 Select and use lifting and support equipment for a range of different items
- PA0303 Select and use appropriate personal protective equipment
- PA0304 Inspect lifting equipment for valid certification and check for defects
- PA0305 Clean, maintain and store lifting and support equipment after use, and clean the work area

***Applied Knowledge***

- AK0301 Techniques for using and maintaining lifting and support equipment
- AK0302 Safe operating procedures for lifting equipment
- AK0303 Typical hazards and risks associated with lifting and support equipment

***Internal Assessment Criteria***

- IAC0301 Items are lifted and, where applicable, supported using the appropriate lifting and support equipment and techniques
- IAC0302 Lifting and support equipment is examined for damage in accordance with safe operating procedures
- IAC0303 Lifting equipment is cleaned, maintained and stored in accordance with requirements

### **1.3 Provider Programme Accreditation Criteria**

#### *Physical Requirements:*

- The provider must have all the PPM, equipment, tools and materials listed in the scope statement

#### *Human Resource Requirements:*

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

#### *Legal Requirements:*

- Certificate of compliance to Health and Safety requirements
- Compliant to SANS requirements

### **1.4 Exemptions**

- None

## **2. 684905000-PM-02, Prepare engineering manufacturing drawings, NQF Level 4, Credits 20**

### **2.1 Purpose of the Practical Skill Modules**

The focus of the learning in this module is on providing the learner an opportunity to develop projections and prepare mechanical drawings. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 25 days.

The learner will be required to:

- PM-02-PS01: Develop flat layout projections
- PM-02-PS02: Prepare mechanical drawings

### **2.2 Guidelines for Practical Skills**

#### **2.2.1. PM-02-PS01: Develop flat layout projections**

##### ***Scope of Practical Skill***

Given a set of plans, drawing specifications, objects or drawings of components, drawing instruments and paper, the learner must be able to:

- PA0101 Reflect objects as engineering drawings
- PA0102 Project points from one view to another (vertical, horizontally and diagonally at specific angles)
- PA0103 Perform mathematical calculations and use formulas to determine requirements such as stretch-out length, true length and angular measurements
- PA0104 Calculate lay-out based on stretch-out diameter and length
- PA0105 Draw and develop layout of given views
- PA0106 Indicate construction lines
- PA0107 Identify components and assemblies

##### ***Applied Knowledge***

- AK0101 Lines drawing techniques
- AK0102 Drawing projection technique
- AK0103 Calculation of true lengths and formula
- AK0104 Material profiles compliance procedure
- AK0105 Symbols and abbreviations
- AK0106 True length measurement technique

##### ***Internal Assessment Criteria***

- IAC0101 Drawings of objects reflect all the required lines and angles to manufacture the object
- IAC0102 Three dimensional drawing are interpreted according to the plan
- IAC0103 Allowances for material thicknesses according to the specifications are made
- IAC0104 True length is accurately determined using correct techniques
- IAC0105 The different types of lines (broken, hidden, parallel, radial, centre and section lines) are correctly used and interpreted in accordance with standard drawing practice

- IAC0106 The composition of the components in the assembly drawing is correctly indicated

### **2.2.2. PM-02-PS02: Prepare mechanical drawings**

#### ***Scope of Practical Skill***

Given specifications, drawings, pipes, plates, equipment, the learner must be able to:

- PA0201 Reflect different third and first angle projections
- PA0202 Draw basic plate, pipe and structural steel engineering projections and sketches
- PA0203 Calculate dimensions and transfer to plates, pipes and structural steel shapes
- PA0204 Draw/sketch orthographic views from isometric views
- PA0205 Reference and itemise components on drawings
- PA0206 Compile a material list

#### ***Applied Knowledge***

- AK0201 Lines drawing techniques
- AK0202 Drawing projection techniques
- AK0203 Calculation of true lengths and formulae
- AK0204 Drawing views
- AK0205 Material profiles compliance procedures
- AK0206 Symbols and abbreviations

#### ***Internal Assessment Criteria***

- IAC0201 Third and first angle projections reflect front and side views
- IAC0202 The correct techniques for the design of pre-fabricated components for plate, pipe and structural steel drawing are used
- IAC0203 Lines, points, numbering method and construction line techniques are shown in accordance with requirements of the task
- IAC0204 Components on drawings are referenced in accordance with requirements of the task
- IAC0205 Material list includes the quantity and specifications of the necessary materials for the given task

### **2.3 Provider Programme Accreditation Criteria**

#### ***Physical Requirements:***

- The provider must have all the PPM, drawings, equipment, tools and materials listed in the scope statement

#### ***Human Resource Requirements:***

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building

- Facilitator/learner ratio 1 to 15

*Legal Requirements:*

- Certificate of compliance to Health and Safety requirements
- Compliant to SANS requirements

**2.4 Exemptions**

- None

### **3. 684905000-PM-03, Use and care for hand and power tools relevant to vehicle building, NQF Level 2, Credits 12**

#### **3.1 Purpose of the Practical Skill Modules**

The focus of the learning in this module is on providing the learner an opportunity to use the basic hand and hand-power tools and measuring equipment related to building and maintaining vehicle bodies, and become familiar with their maintenance and storage requirements. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 15 days.

The learner will be required to:

- PM-03-PS01: Use and care for basic hand tools
- PM-03-PS02: Use and care for basic hand-power tools
- PM-03-PS03: Use and care for measuring equipment
- PM-03-PS04: Perform soldering activities

#### **3.2 Guidelines for Practical Skills**

##### **3.2.1. PM-03-PS01: Use and care for basic hand tools**

###### ***Scope of Practical Skill***

Given a range of hand tools applicable to the trade including screwdrivers, wrenches, pliers, hammers, chisels, files, punches, saws, threading tools, pullers, compressing tools, tin snips, socket wrenches, impact sockets, pullers, ring and flat spanners, pinch bars, feeler gauges, tape measures, hammers, 300mm steel rules, Allen keys, torque wrenches, personal protective equipment, a variety of materials and components for working on and cleaning material, storage facilities and work instructions for a range of typical tasks, the learner must be able to:

- PA0101 Identify and use hand tools
- PA0102 Interpret a variety of work instructions, select the relevant tools, materials and personal protective equipment for each task
- PA0103 Inspect tools for defects
- PA0104 Clean, maintain and store tools and clean the work area

###### ***Applied Knowledge***

- AK0101 Techniques for using and maintaining basic hand tools
- AK0102 Safety procedures and requirements
- AK0103 Torque specifications
- AK0104 Safety and housekeeping standards related to tools and equipment
- AK0105 Storage and maintenance techniques
- AK0106 Environmental requirements and practices for handling and disposing of materials

###### ***Internal Assessment Criteria***

- IAC0101 All tools and their functions are correctly identified, described and explained
- IAC02 Hand tools selected, used and operated correctly and safely in accordance with the given tasks

- IAC0103 Tools and appropriate personal protective equipment are selected and used correctly and safely in accordance with the requirements of the given tasks
- IAC0104 All tools are inspected and reported on in accordance with housekeeping standards
- IAC0105 Consequences of incorrect use of tools and lack of maintenance are described and explained
- IAC0106 Tools are not damaged during or after use and are cleaned, maintained and stored according to housekeeping standards and environmental requirements

### **3.2.2. PM-03-PS02: Use and care for basic hand-power tools**

#### ***Scope of Practical Skill***

Given a variety of pneumatic, hydraulic and electrical power tools and workshop equipment applicable to the trade including a bench grinder, a pedestal drill, portapowers, a hydraulic press, air impact wrenches, torque multipliers, torque wrenches, bearing pullers, cleaning and lubricating materials, storage facilities, materials for working on, appropriate personal protective equipment and task instructions, the learner must be able to:

- PA0201 Identify and use basic hand-power tools and equipment
- PA0202 Interpret work instructions and select the relevant tools, equipment, materials
- PA0203 Identify personal protective equipment for each task and prepare the work area
- PA0204 Use all relevant personal protective equipment and apply all relevant health, safety and environmental precautions
- PA0205 Demonstrate the start-up and shut-down procedures for each tool and piece of equipment
- PA0206 Select grinding wheels for various materials and grinder speeds
- PA0207 Identify and use correct drilling speeds for various types of materials
- PA0208 Inspect tools and equipment for defects
- PA0209 Clean, maintain and store tools and equipment and clean the work area
- PA0209 Clean, maintain and store tools and equipment and clean the work area

#### ***Applied Knowledge***

- AK0201 Function, use and care of basic hand-power tools
- AK0202 Inspection techniques
- AK0203 Techniques for using and maintaining basic hand-power tools
- AK0204 Safety procedures and housekeeping standards
- AK0205 Correct application of tools
- AK0206 Practices related to quality, health, safety and protection of the environment when using power tools and disposing of materials

#### ***Internal Assessment Criteria***

- IAC0201 All tools and equipment and their functions are correctly identified, described and explained
- IAC0202 The work-piece was completed using appropriate tools and personal protective equipment correctly and safely
- IAC0203 Hand-power tools selected, used and operated correctly and safely in accordance with the given tasks
- IAC0204 Grinder speed set appropriately for the relevant task
- IAC0205 Drill speed set appropriately for the relevant task
- IAC0206 Tools and equipment are examined, not damaged and are cleaned, maintained and stored in accordance with housekeeping standards

### **3.2.3. PM-03-PS03: Use and care for measuring equipment**

#### ***Scope of Practical Skill***

Given a range of measuring devices and instruments applicable to the trade including verniers, steel rulers, dial gauges, inside, outside and depth micrometers, tape measures, telescopic gauges, and a feeler gauge, cleaning and lubricating materials, storage facilities, task instructions and typical items to be measured, the learner must be able to:

- PA0301 Identify and use measuring devices
- PA0302 Calibrate tools
- PA0303 Interpret a variety of work instructions, select the relevant tools, equipment, materials and PPE
- PA0304 Determine applicable tolerances and use different measuring devices for a variety of tasks
- PA0305 Take and record accurate readings or measurements
- PA0306 Inspect measuring equipment and check for defects
- PA0307 Clean, lubricate and store measuring equipment after use

#### ***Applied Knowledge***

- AK0301 Techniques for using and reading measuring devices
- AK0302 Safety procedures and housekeeping standards related to measuring equipment
- AK0303 Procedures and specifications related to measuring (clearance and tolerance)
- AK0304 Calibration methods and techniques
- AK0305 Influence of temperature on readings and measurements
- AK0306 Environmental requirements and practices

#### ***Internal Assessment Criteria***

- IAC0301 All measuring devices are calibrated and their functions are correctly identified, described and explained

- IAC0302 Measuring devices and personal protective equipment are selected and used correctly for a variety of tasks
- IAC0303 A variety of measurements are taken within the allowable margin of error
- IAC0304 Measuring devices are inspected, not damaged during or after use, cleaned, maintained and stored in accordance with housekeeping standards and environmental requirements

### **3.2.4. PM-03-PS04: Perform soldering activities**

#### ***Scope of Practical Skill***

Given soldering wire, soldering iron/stations, circuit diagrams, circuit boards and de-soldering tools, the learner must be able to:

- PA0401 Solder various wire joints
- PA0402 Solder components on a printed circuit board or Vero board
- PA0403 De-solder components

#### ***Applied Knowledge***

- AK0401 Soldering and de-soldering techniques
- AK0402 Interpretation of circuit diagrams

#### ***Internal Assessment Criteria***

- IAC0401 Wires are tinned and joints are soldered using appropriate soldering equipment and techniques
- IAC0402 Soldered components tightly secured on circuit board in accordance with circuit diagrams using appropriate soldering equipment and techniques
- IAC0403 Surface is clean after components have been de-soldered using appropriate de-soldering equipment and techniques

### **3.3 Provider Programme Accreditation Criteria**

#### ***Physical Requirements:***

- The provider must have all the PPM, equipment, tools and materials listed in the scope statement

#### ***Human Resource Requirements:***

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

#### ***Legal Requirements:***

- Certificate of compliance to Health and Safety requirements
- Compliant to SANS requirements

### **3.4 Exemptions**

- None



## 4. 684905000-PM-04, Marking-off materials, NQF Level 3, Credits 10

### 4.1 Purpose of the Practical Skill Modules

The focus of the learning in this module is on providing the learner an opportunity to interpret marking-off drawings, applying marking-off methods and use marking-off tools. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 12.5 days.

The learner will be required to:

- PM-04-PS01: Use marking-off equipment
- PM-04-PS02: Prepare marking-off templates

### 4.2 Guidelines for Practical Skills

#### 4.2.1. PM-04-PS01: Use marking-off equipment

##### ***Scope of Practical Skill***

Given marking-off drawings cleaning material, marking dye, metal pieces and marking-off tools and equipment, the learner must be able to:

- PA0101 Find the centre of round, square, and octagonal stock
- PA0102 Transfer measurements onto work-pieces
- PA0103 Calculate and mark-off pitch and landing marks (reference of base line)
- PA0104 Check a work-piece for flatness
- PA0105 Scribe a line across the end of a round bar
- PA0106 Scribe lines at different angles on a plate and transfer these angles to another plate
- PA0107 Permanently mark the position of marking-off lines

##### ***Applied Knowledge***

- AK0101 Functions and correct use of different marking-off tools
- AK0102 Standard operating procedures for marking-off materials

##### ***Internal Assessment Criteria***

- IAC0101 The centre of various stock profiles are indicated using various marking-off tools in accordance with standard operating procedures
- IAC0102 Work-pieces are marked using various marking-off tools correctly
- IAC0103 Pitch and landing marks are calculated and transferred to working-piece according to marking-off plan
- IAC0104 Work-piece is checked using straight edge, engineering squares, feeler gauges and dial gauges correctly
- IAC0105 Lines are scribed across the end of a round bar using v-blocks and surface gauges correctly
- IAC0106 Lines are scribed using combination sets, engineering squares, scribes, dividing callipers correctly

- IAC0107 The position of marking-off lines is permanently and accurately marked using prick punches correctly

#### **4.2.2. PM-04-PS02: Prepare marking-off templates**

##### ***Scope of Practical Skill***

Given a chalk line, angle block, v-block, scribes, jennys, (hermaphrodite callipers) prick punches, centre punches, dividers, parallel strips, vernier, vernier height gauges, surface gauges, engineers squares, combination sets, trammels, and set squares having angles of 30 and 45 degrees, the learner must be able to:

- PA0201 Select devices and equipment
- PA0202 Clean metal piece and apply marking-off blue
- PA0203 Prepare basic lay-out and marking-off positions
- PA0204 Indicate dimension and gauge of hole patterns
- PA0205 Mark template with information such as part numbers, layout information and material required

##### ***Applied Knowledge***

- AK0201 Interpretation of material data sheets
- AK0202 Application of calculations, geometry and trigonometry
- AK0203 Interpretation of engineering drawings

##### ***Internal Assessment Criteria***

- IAC0201 Appropriate devices and equipment selected for the given task
- IAC0202 Marking-off blue even and clearly visible
- IAC0203 Calculations used in the marking-off of materials to make templates follows the principles of geometry and trigonometry and are in accordance with marking-off drawings
- IAC0204 Templates resemble the instructions and drawings taking into account the table of back marks and hole sizes and material size

#### **4.3 Provider Programme Accreditation Criteria**

##### ***Physical Requirements:***

- The provider must have all the PPM, drawings, equipment, tools and materials listed in the scope statement

##### ***Human Resource Requirements:***

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

##### ***Legal Requirements:***

- Certificate of compliance to Health and Safety requirements
- Compliant to SANS requirements

#### 4.4 Exemptions

- None

## **5. 684905000-PM-05, Cut metal, NQF Level 2, Credits 12**

### **5.1 Purpose of the Practical Skill Modules**

The focus of the learning in this module is on providing the learner an opportunity to cut metal of different thicknesses into shapes and cut different angles using various cutting machines. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 15 days.

The learner will be required to:

- PM-05-PS01: Cut different shapes and sizes using oxy-fuel
- PM-05-PS02: Cut different shapes and sizes using a plasma cutter
- PM-05-PS03: Cut metal angles and different thicknesses using a guillotine
- PM-05-PS04: Cut metal using different types of power saws
- PM-05-PS05: Cut metal using an abrasive cutter
- PM-05-PS06: Cut metal using crocodile cutters, iron workers and nibblers

### **5.2 Guidelines for Practical Skills**

#### **5.2.1. PM-05-PS01: Cut different shapes and sizes using oxy-fuel**

##### ***Scope of Practical Skill***

Given oxygen and acetylene cylinders, trolleys, gages flash-back arrestors, hoses and pipes, torches, nozzles, hose clams and crimping pliers, PPE, strikers, nozzle cleaners, gas leak testing equipment marked-off metal pieces, the learner must be able to:

- PA0101 Select appropriate PPE
- PA0102 Assemble oxy-fuel rig
- PA0103 Purge the oxy-fuel lines
- PA0104 Conduct gas leak test
- PA0105 Set pressures
- PA0106 Apply start up procedure and adjust setting
- PA0107 Pierce metal
- PA0108 Cut metal on mark
- PA0109 Apply shut down procedure and clean equipment

##### ***Applied Knowledge***

- AK0101 Safety precautions and PPE when working with oxy-fuel
- AK0102 Oxy-fuel set up, start up and shut down procedures

##### ***Internal Assessment Criteria***

- IAC0101 PPE selected is appropriate for oxy-fuel cutting and all safety checks are performed correctly
- IAC0102 Pressures set and adjusted to produce clean cuts
- IAC0103 Different forms and shapes are cut on the marks using oxy-fuel safely
- IAC0104 Oxy-fuel equipment cleaned and stored according to specifications

### **5.2.2. PM-05-PS02: Cut different shapes and sizes using a plasma cutter**

#### ***Scope of Practical Skill***

Given plasma cutter, plasma torch and conduits, air supply, earth clamp, consumables , PPE marked-off metal pieces, the learner must be able to:

- PA0201 Select appropriate PPE
- PA0202 Assemble plasma cutter
- PA0203 Purge air lines
- PA0204 Set pressures
- PA0205 Apply start up procedure and adjust amps
- PA0206 Pierce metal
- PA0207 Cut metal on marks
- PA0208 Apply shut down procedure

#### ***Applied Knowledge***

- AK0201 Safety precautions and PPE when working with plasma cutters
- AK0202 Plasma cutting set up, start up and shut down procedures

#### ***Internal Assessment Criteria***

- IAC0201 PPE selected is appropriate for plasma cutting
- IAC0202 Plasma cutter is assembled and prepared for use according to specifications, airlines are purged, pressures set and amps adjusted
- IAC0203 Different forms and shapes are cut on the marks using a plasma cutter safely
- IAC0204 Plasma cutting equipment cleaned and stored according to specifications

### **5.2.3. PM-05-PS03: Cut metal angles and different thicknesses using a guillotine**

#### ***Scope of Practical Skill***

Given a guillotine, PPE marked-off metal pieces, the learner must be able to:

- PA0301 Select appropriate PPE
- PA0302 Adjust clearance
- PA0303 Adjust back stopper
- PA0304 Clean metal plate
- PA0305 Cut metal on marks
- PA0306 Apply shut down procedure

#### ***Applied Knowledge***

- AK0301 Safety precautions and PPE when working with a guillotine
- AK0302 Guillotine preparation and shut down procedures

#### ***Internal Assessment Criteria***

- IAC0301 PPE selected is appropriate for using a guillotine

- IAC0302 Guillotine is prepared for cutting and clearances and back stopper is set
- IAC0303 Metal piece is cut on the marks using a guillotine safely
- IAC0304 Guillotine cleaned and shut down according to specifications

#### **5.2.4. PM-05-PS04: Cut metal using different types of power saws**

##### ***Scope of Practical Skill***

Given PPE, a band saw, a power hack saw, a radial saw, a jig saw, a hole saw and marked-off metal pieces, the learner must be able to:

- PA0401 Select appropriate PPE
- PA0402 Check electrical cables and blades
- PA0403 Cut metal using a band saw
- PA0404 Cut metal using a power hack saw
- PA0405 Cut metal using a radial saw
- PA0406 Cut metal using a jig saw
- PA0407 Cut metal using a hole saw

##### ***Applied Knowledge***

- AK0404 Safety precautions and PPE when working with a power saw

##### ***Internal Assessment Criteria***

- IAC0401 PPE selected is appropriate for using a power saw and equipment is checked for safety before use
- IAC0402 Metal piece is cut on the marks using a band saw safely
- IAC0403 Metal piece is cut on the marks using a power hack saw safely
- IAC0404 Metal piece is cut on the marks using a radial saw safely
- IAC0405 Metal piece is cut on the marks using a hole saw safely

#### **5.2.5. PM-05-PS05: Cut metal using an abrasive cutter**

##### ***Scope of Practical Skill***

Given PPE, an abrasive cutter and marked metal pieces, the learner must be able to:

- PA0501 Select appropriate PPE
- PA0502 Apply start up procedures
- PA0503 Adjust back stopper
- PA0504 Cut metal on marks
- PA0505 Apply shut down procedure

##### ***Applied Knowledge***

- AK0501 Safety precautions and PPE when working with an abrasive cutter
- AK0502 Abrasive cutter preparation and shut down processes

##### ***Internal Assessment Criteria***

- IAC0501 PPE selected is appropriate for using an abrasive cutter
- IAC0502 Abrasive cutter is prepared for cutting and back stopper is set
- IAC0503 Metal piece is cut on the marks using an abrasive cutter safely
- IAC0504 Abrasive cutting equipment cleaned and stored according to specifications

### **5.2.6. PM-05-PS06: Cut metal using crocodile cutters, iron workers and nibblers**

#### ***Scope of Practical Skill***

Given PPE, a crocodile cutter, iron worker, nibbler and marked-off metal pieces, the learner must be able to:

- PA0601 Select appropriate PPE
- PA0602 Cut metal on marks using a crocodile cutter
- PA0603 Cut metal using an iron worker
- PA0604 Cut metal on marks using a nibbler

#### ***Applied Knowledge***

- AK0601 Safety precautions and PPE when working with an shearers
- AK0602 Shearer preparation and shut down procedures

#### ***Internal Assessment Criteria***

- IAC0601 PPE selected is appropriate for using shearers
- IAC0602 Metal piece is cut on the marks using a crocodile cutter safely
- IAC0603 Metal piece is cut on the marks using an iron worker safely
- IAC0604 Metal piece is cut on the marks using a nibbler safely

### **5.3 Provider Programme Accreditation Criteria**

#### ***Physical Requirements:***

- The provider must have all the PPM, drawings, equipment, tools and materials listed in the scope statement

#### ***Human Resource Requirements:***

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

#### ***Legal Requirements:***

- Certificate of compliance to Health and Safety requirements
- Compliant to SANS requirements

### **5.4 Exemptions**

- None

## **6. 684905000-PM-06, Bend metal, NQF Level 3, Credits 8**

### **6.1 Purpose of the Practical Skill Modules**

The focus of the learning in this module is on providing the learner an opportunity to form and shape metal using bending and bend-roll machines. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 10 days.

The learner will be required to:

- PM-06-PS01: Bend metal
- PM-06-PS02: Roll metal

### **6.2 Guidelines for Practical Skills**

#### **6.2.1. PM-06-PS01: Bend metal**

##### ***Scope of Practical Skill***

Given PPE, hydraulic bending brake, manual bending brake, guidance chart and work-piece and drawing specifications, the learner must be able to:

- PA0101 Select appropriate PPE
- PA0102 Calculate bending radiuses and angles
- PA0103 Set up bottom die and top punch
- PA0104 Set up bottom block
- PA0105 Set up forming blade
- PA0106 Set bending pressure
- PA0107 Set bending angle
- PA0108 Form cone with thin plate
- PA0109 Bend metal to different angles

##### ***Applied Knowledge***

- AK0101 Bending methods including bottom bending and air bending (kinking)

##### ***Internal Assessment Criteria***

- IAC0101 Appropriate PPE for bending of metal is identified and relevance explained
- IAC0102 Bending machine is properly and safely set-up for the given task
- IAC0103 Bending machine settings are set according to specifications for the relevant task
- IAC0104 Cone formed by using a bending machine is according to drawing specifications
- IAC0105 Bending angle of bent metal is according to drawing specifications

#### **6.2.2. PM-06-PS02: Roll metal**

##### ***Scope of Practical Skill***

Given PPE, bending roll machine, supporting equipment and work-piece and drawing specifications, the learner must be able to:

- PA0201 Select appropriate PPE
- PA0202 Calculate required work-piece circumference

- PA0203 Set up rollers
- PA0204 Set height
- PA0205 Set up material support structures
- PA0206 Roll metal to different shapes

#### ***Applied Knowledge***

- AK0201 Rolling methods Material handling procedures
- AK0202 Standard operating procedure for rolling metal

#### ***Internal Assessment Criteria***

- IAC0201 Appropriate PPE for bending of metal is identified and relevance explained
- IAC0202 Bending roll machine is properly and safely set-up
- IAC0203 Rolled metal is in according to drawing specifications

### **6.3 Provider Programme Accreditation Criteria**

#### *Physical Requirements:*

- The provider must have all the PPM, drawings, equipment, tools and materials listed in the scope statement

#### *Human Resource Requirements:*

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

#### *Legal Requirements:*

- Certificate of compliance to Health and Safety requirements
- Compliant to SANS requirements

### **6.4 Exemptions**

- None

## **7. 684905000-PM-07, Weld metal components, NQF Level 4, Credits 30**

### **7.1 Purpose of the Practical Skill Modules**

The focus of the learning in this module is on providing the learner an opportunity to practice various welding techniques using a range of equipment. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 37.5 days.

The learner will be required to:

- PM-07-PS01: Perform shielded metal arc welding (SMA) / stick welding
- PM-07-PS02: Perform gas metal arc welding (GMAW) / (MIG or MAG)
- PM-07-PS03: Perform gas tungsten arc welding (GTAW) / (TIG)
- PM-07-PS04: Perform oxy-fuel welding (OAW) / oxygen acetylene welding
- PM-07-PS05: Perform spot resistance welding
- PM-07-PS06: Perform stud welding

### **7.2 Guidelines for Practical Skills**

#### **7.2.1. PM-07-PS01: Perform shielded metal arc welding (SMA) / stick welding**

##### ***Scope of Practical Skill***

Given PPE, arc welding machine, electrode holder, welding cable, earth cable and clamp, weld size gauges, consumables, wire brush, chipping hammer, work-pieces, cleaning equipment and work instructions, the learner must be able to:

- PA0101 Select appropriate PPE
- PA0102 Prepare surface
- PA0103 Select appropriate welding equipment and consumables
- PA0104 Select correct amps for the task
- PA0105 Assemble work-piece
- PA0106 Earth work piece properly
- PA0107 Weld joints
- PA0108 Inspect for defects and clean

##### ***Applied Knowledge***

- AK0101 Welding symbols
- AK0102 Welding defects
- AK01 03 Machine setting requirements

##### ***Internal Assessment Criteria***

- IAC0101 Appropriate PPE for shielded metal arc welding is identified and relevance explained
- IAC0102 Surface is bevelled, clean and free from scale and impurities
- IAC0103 Chosen electrode appropriate for given task
- IAC0104 Selected amps in accordance with requirements of task

- IAC0105 Alignment of work-piece components in accordance with work plan and work-piece properly earthed
- IAC0106 Welded joints are in accordance with symbol settings and free from welding defects

### **7.2.2. PM-07-PS02: Perform gas metal arc welding (GMAW) / (MIG or MAG)**

#### ***Scope of Practical Skill***

Given PPE, MIG welding machine, welding gun, earth cable and clamp, weld size gauges, gas flow meter, gas cylinders, consumables, wire brush, work-pieces, cleaning equipment and work instructions, the learner must be able to:

- PA0201 Select appropriate PPE
- PA0202 Prepare surface
- PA0203 Select appropriate welding equipment, consumables and gas
- PA0204 Set up equipment such as gas cylinders, torches, hoses
- PA0205 Select correct amps and gas-flow
- PA0206 Assemble work-piece
- PA0207 Earth work piece properly
- PA0208 Weld joints
- PA0209 Inspect for defects and clean

#### ***Applied Knowledge***

- AK0201 Welding symbols
- AK0202 Welding defects
- AK0203 Machine setting requirements

#### ***Internal Assessment Criteria***

- IAC0201 Appropriate PPE for gas metal arc welding is identified and relevance explained
- IAC0203 Surface is bevelled, clean and free from scale and impurities
- IAC0203 Chosen welding equipment, consumables and gas appropriate for given task
- IAC0204 Gas cylinders and torches are properly and safely set up and amps and gas-flow is appropriate for the given task
- IAC0205 Alignment of work-piece components in accordance with work plan and work-piece properly earthed
- IAC0206 Welded joints are in accordance with symbol settings and free from welding defects

### **7.2.3. PM-07-PS03: Perform gas tungsten arc welding (GTAW) / (TIG)**

#### ***Scope of Practical Skill***

Given PPE, TIG welding machine, welding torch, earth cable and clamp, weld size gauges, gas flow meter, gas cylinders, consumables, wire brush, work-pieces, cleaning equipment and work instructions, the learner must be able to:

- PA0301 Select appropriate PPE
- PA0302 Prepare surface
- PA0303 Select appropriate welding equipment, consumables and gas
- PA0304 Prepare electrode tip
- PA0305 Set up equipment such as gas cylinders, torches, hoses
- PA0306 Select correct amps and gas-flow
- PA0307 Assemble work-piece
- PA0308 Earth work piece properly
- PA0309 Weld joints
- PA0310 Inspect for defects and clean

#### ***Applied Knowledge***

- AK0301 Welding symbols
- AK0302 Welding defects
- AK0303 Machine setting requirements

#### ***Internal Assessment Criteria***

- IAC0301 Appropriate PPE for gas tungsten arc welding is identified and relevance explained
- IAC0302 Surface is bevelled, clean and free from scale and impurities
- IAC0303 Chosen welding equipment, consumables and gas appropriate for given task and electrodes are properly prepared
- IAC0304 Gas cylinders, torches and hoses are properly and safely set up and amps and gas-flow is appropriate for the given task
- IAC0305 Gas cylinders, torches and hoses are properly and safely set up and amps and gas-flow is appropriate for the given task
- IAC0306 Alignment of work-piece components in accordance with work plan and work-piece properly earthed
- IAC0307 Welded joints are in accordance with symbol settings and free from welding defects

### **7.2.4. PM-07-PS04: Perform oxy-fuel welding (OAW) / oxygen acetylene welding**

#### ***Scope of Practical Skill***

Given PPE, OAW welding set, gas welding torch, gas flow and pressure regulators, flash back arrestors, gas cylinders, gas hoses, consumables, wire brush, work-pieces, cleaning equipment and work instructions, the learner must be able to:

- PA0401 Select appropriate PPE
- PA0402 Prepare surface
- PA0403 Select appropriate welding equipment, consumables and gas
- PA0404 Set up equipment such as gas cylinders, torches, hoses and safety devices (flashback arrestors)
- PA0405 Select welding nozzle
- PA0406 Select correct filler rods
- PA0407 Assemble oxy-fuel rig
- PA0408 Purge the oxy-fuel lines
- PA0409 Conduct gas leak test
- PA0410 Apply start up procedure and adjust setting
- PA0411 Select correct gas-flow settings
- PA0412 Assemble work-piece
- PA0413 Weld joints
- PA0414 Inspect for defects and clean

#### ***Applied Knowledge***

- AK0401 Welding symbols
- AK0402 Welding defects
- AK0403 Machine setting requirements
- AK0404 Selection criteria for gas-flow settings

#### ***Internal Assessment Criteria***

- IAC0401 Appropriate PPE for oxy-fuel welding is identified and relevance explained
- IAC0402 Surface is bevelled, clean and free from scale and impurities
- IAC0403 Chosen welding nozzles, filler rods, gas cylinders, torches, hoses and safety devices (flashback arrestors) are appropriate for given task and the oxy-fuel rig properly and safely assembled
- IAC0404 Oxy-fuel lines are purged and free from gas leaks
- IAC0405 Start-up procedure is followed according to specifications and settings appropriately adjusted for the given task
- IAC0406 Alignment of work-piece components in accordance with work plan
- IAC0407 Welded joints are in accordance with symbol settings and free from welding defects

### **7.2.5. PM-07-PS05: Perform spot resistance welding**

#### ***Scope of Practical Skill***

Given PPE, spot welding machine, copper tips, water cooler, wire brush, work-pieces, cleaning equipment and work instructions, the learner must be able to:

- PA0501 Select appropriate PPE
- PA0502 Prepare surface
- PA0503 Select appropriate welding equipment, consumables
- PA0504 Select welding tips
- PA0505 Dress welding tips
- PA0506 Check flow in cooling system
- PA0507 Set contact pressure
- PA0508 Select welding current and time
- PA0509 Assemble work-piece
- PA0510 Weld joints
- PA0511 Inspect for defects and clean

### ***Applied Knowledge***

- AK0501 Welding symbols
- AK0502 Welding defects
- AK0503 Machine setting requirements
- AK0501 Value of using argon gas Pressure settings

### ***Internal Assessment Criteria***

- IAC0501 Appropriate PPE for spot resistance welding is identified and relevance explained
- IAC0502 Surface is bevelled, clean and free from scale and impurities
- IAC0503 Chosen welding tips, dress welding tips appropriate for given task
- IAC0504 The welding machine is properly and safely set-up and there is a flow in the cooling system
- IAC0505 The contact pressure and welding current and time is are set appropriately for the given task
- IAC0506 Alignment of work-piece components in accordance with work plan
- IAC0508 Welded joints are in accordance with symbol settings and free from welding defects

## **7.2.6. PM-07-PS06: Perform stud welding**

### ***Scope of Practical Skill***

Given PPE, stud welding gun and power source, consumables, wire brush, work-pieces, cleaning equipment and work instructions, the learner must be able to:

- PA0601 Select appropriate PPE
- PA0602 Prepare surface
- PA0603 Select appropriate welding equipment, consumables
- PA0604 Select correct stud, ceramic ferrule and gun
- PA0605 Fit and secure earth cable

- PA0606 Select welding current and time
- PA0607 Assemble work-piece
- PA0608 Perform stud weld
- PA0609 Perform quality tests
- PA0610 Inspect for defects and clean

#### ***Applied Knowledge***

- AK0601 Welding symbols
- AK0602 Welding defects
- AK0603 Machine setting requirements

#### ***Internal Assessment Criteria***

- IAC0601 Appropriate PPE for stud welding is identified and relevance explained
- IAC0602 Surface is clean and free from scale and impurities
- IAC0603 Chosen stud, ceramic ferrule and gun appropriate for given task
- IAC0604 Selected current and time is appropriate for the given material and thickness and size of fasteners
- IAC005 Alignment of work-piece components in accordance with work plan
- IAC0606 Studs are aligned in accordance with layout, strong, clean and secure

### **7.3 Provider Programme Accreditation Criteria**

#### *Physical Requirements:*

- The provider must have all the PPM, drawings, equipment, tools and materials listed in the scope statement

#### *Human Resource Requirements:*

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

#### *Legal Requirements:*

- Certificate of compliance to Health and Safety requirements
- Compliant to SANS requirements

### **7.4 Exemptions**

- None

## **8. 684905000-PM-08, Assemble, align and join metal components and sub-components, NQF Level 3, Credits 15**

### **8.1 Purpose of the Practical Skill Modules**

The focus of the learning in this module is on providing the learner an opportunity to practice aligning, assembling and joining of components and signalling for hoisting, lifting and slinging operations. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 18.75 days.

The learner will be required to:

- PM-08-PS01: Align and assemble components and subcomponents
- PM-08-PS02: Join metal components
- PM-08-PS03: Lift and move components

### **8.2 Guidelines for Practical Skills**

#### **8.2.1. PM-08-PS01: Align and assemble components and subcomponents**

##### ***Scope of Practical Skill***

Given PPE, engineering drawings, template material, tools and equipment, the learner must be able to:

- PA0101 Determine assembly sequence
- PA0102 Prepare for assembly and lay out components
- PA0103 Develop alignment templates
- PA0104 Align sub components
- PA0105 Develop a master / set up component
- PA0106 Develop assembly jigs
- PA0107 Fit components into jigs

##### ***Applied Knowledge***

- AK0101 Alignment techniques including plum line, spirit level, theodolite

##### ***Internal Assessment Criteria***

- IAC0101 Materials are laid out in accordance with assembly sequence
- IAC0102 All sub components aligned in accordance with engineering drawing
- IAC0103 Master product in accordance with engineering drawing and actual end the jig contains the required positioning guides and clamps
- IAC0104 All relevant components is fitted and aligned in correct sequence into jig

#### **8.2.2. PM-08-PS02: Join metal components**

##### ***Scope of Practical Skill***

Given PPE, tools and equipment to bend sheet metal, riveters and rivets, soldering equipment, drills and drill bits, different types of nuts and bolts and consumables, the learner must be able to:

- PA0201 Bend sheet metal for joining
- PA0202 Drill holes and rivet components

- PA0203 Align and solder components
- PA0204 Drill holes and bolt components
- PA0205 Use chemical bonding (glue)
- PA0206 Use hook and loop
- PA0207 Drill holes and screw components

### ***Applied Knowledge***

- AK0201 Seam bending techniques
- AK0202 Riveting techniques
- AK0203 Soldering techniques
- AK0204 Bolt types and uses
- AK0205 Chemical bonding techniques and uses
- AK0206 Hook and loop techniques
- AK0207 Screw types and uses

### ***Internal Assessment Criteria***

- IAC0201 Lap seams, joggled seams, grooved seams, standing seams and elbow seams are bent according to specifications and different sheets are securely joint using the appropriate tools safely
- IAC0202 Riveted components are securely joint using the correct size huck bolts, blind rivets and solid rivets
- IAC0203 Soldered components are securely joint in accordance with the specifications
- IAC0204 Holes are de-burred and correctly sized, bolts are properly and securely tied and not damaged using appropriate tools safely and correctly
- IAC0205 Chemical bonding techniques and knowledge of uses is demonstrated on wood to wood, metal to metal, plastic to plastic, wood to metal, wood to plastic and metal to plastic
- IAC0206 Hook and loop material is properly aligned not to damage material and application possibilities and methods discussed
- IAC0207 Holes are correctly sized, and screws securely tied and not damaged using appropriate tools safely and correctly

## **8.2.3. PM-08-PS03: Lift and move components**

### ***Scope of Practical Skill***

Given a pallet truck, jib crane, hoisting and lifting equipment and slinging loads, chain blocks, coffin blocks, shackles, chain slings, wire rope slings and tirlors, the learner must be able to:

- PA0301 Operate a pallet truck
- PA0302 Operate a jib crane
- PA0303 Use overhead crane hand symbols
- PA0304 Use hoisting, lifting and slinging equipment

- PA0305 Balance loads

### ***Applied Knowledge***

- AK0301 Slinging techniques
- AK0302 Hoisting and lifting techniques

### ***Internal Assessment Criteria***

- IAC0301 Components are safely lifted and moved by using a pallet truck in accordance with standard operating procedures
- IAC0302 Components are safely lifted and moved by using a jib crane in accordance with standard operating procedures
- IAC0303 Appropriate overhead crane hand symbols used correctly
- IAC0304 Loads (up to 2 tons max) hoisted, lifted and slinged safely in accordance with given instructions
- IAC0305 Loads prepared for hoisting lifting and slinging are balanced

## **8.3 Provider Programme Accreditation Criteria**

### *Physical Requirements:*

- The provider must have all the PPM, drawings, equipment, tools and materials listed in the scope statement

### *Human Resource Requirements:*

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

### *Legal Requirements:*

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

## **8.4 Exemptions**

- None

## **9. 684905000-PM-09, Repair and replace plumbing systems, NQF Level 3, Credits 16**

### **9.1 Purpose of the Practical Skill Modules**

The focus of the learning in this module is on providing the learner an opportunity to cut, bend and join pipes and to fit cocks and valves commonly used in vehicle building. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 20 days.

The learner will be required to:

- PM-09-PS01: Cut and bend pipes
- PM-09-PS02: Cut pipe threads
- PM-09-PS03: Join and connect pipes
- PM-09-PS04: Fit and replace cocks and valves

### **9.2 Guidelines for Practical Skills**

#### **9.2.1. PM-09-PS01: Cut and bend pipes**

##### ***Scope of Practical Skill***

Given PPE, engineering drawings, tools including pipe chain vices, pipe bend vices, pipe cutters, power hacksaws, pipe reamers, pipe benders (manual and hydraulic) and materials including galvanized, poly cob, composite, aluminium, steel, copper and stainless steel pipes and work instructions, the learner must be able to:

- PA0101 Identify basic hand-power tools and equipment and explain their functions
- PA0102 Calculate pipe lengths using the metric and inch system
- PA0103 Cut pipes
- PA0104 De-burr pipes
- PA0105 Bend pipes in different shapes

##### ***Applied Knowledge***

- AK0101 Function, use and care of basic hand-power tools
- AK0102 Appropriate formula calculations to compensate for radius and bends

##### ***Internal Assessment Criteria***

- IAC0101 All tools and equipment and their functions are correctly identified, described and explained
- IAC0102 Calculated pipe lengths provides for the specified lengths and radiuses for the work instruction
- IAC0103 Different pipe types are cut accurately using appropriate cutting tools safely
- IAC04 Ends and holes on different pipe types are de-burred and free from any shavings using appropriate de-burring tools safely
- IAC0105 Bended and shaped pipes adhere to engineering drawings and correct bending equipment are used safely

#### **9.2.2. PM-09-PS02: Cut pipe threads**

### ***Scope of Practical Skill***

Given PPE, engineering drawings, material, tools and equipment including pipe vices, stencil wrenches, chain tongues, adjustable pipe threaders, ratchet type pipe threaders, pipe threading machines and cutting fluids and work instructions the learner must be able to:

- PA0201 Identify basic hand-power tools and equipment and explain their functions
- PA0202 Determine thread type
- PA0203 Assemble thread cutting head
- PA0204 Cut threads (parallel and taper)

### ***Applied Knowledge***

- AK0201 Thread identification techniques
- AK0202 Appropriate cutting tips Standard operating procedures

### ***Internal Assessment Criteria***

- IAC0201 All tools and equipment and their functions are correctly identified, described and explained
- IAC0202 All tools and equipment and their functions are correctly identified, described and explained
- IAC0203 Thread cutting heads are assembled correctly for the given
- IAC0204 Parallel and tapered threads are cut according to the requirements of the given task using proper cutting fluid and cutting speed and correct cutting insert and cutting length in accordance with standard operating procedures

## **10.2.3. PM-09-PS03: Join and connect pipes**

### ***Scope of Practical Skill***

Given PPE, engineering drawings, fittings including bends (elbow bends and spring bends), T-pieces, cross connectors, reducing sockets, union sockets, plugs, caps, reducing bushings, back nuts, tools including hexagon nipples, flanges and compounds including thread sealant tape, plumbers hemp and paste, PVC bond, the learner must be able to:

- PA0301 Identify and use fittings for galvanised pipes
- PA0302 Identify and use fittings for copper pipes
- PA0303 Identify and use fittings for PVC pipes
- PA0304 Identify and use fittings for assemblies using combinations of materials

### ***Applied Knowledge***

- AK0301 Bonding techniques for different types of plumbing materials
- AK0302 Material compatibility and characteristics
- AK0303 Joining techniques and fittings for different materials

### ***Internal Assessment Criteria***

- IAC0301 Appropriate connectors and fittings and correct compounds are fitted in a galvanised assembly and the assembly is leak free

- IAC0302 Appropriate connectors and fittings and correct compounds are fitted in a copper assembly and the assembly is leak free
- IAC0303 Appropriate connectors and fittings and correct compounds are fitted in a PVC assembly and the assembly is leak free
- IAC0304 Appropriate connectors and fittings and correct compounds are fitted in an assembly of different materials and the assembly is leak free

#### **9.2.4. PM-09-PS04: Fit and replace cocks and valves**

##### ***Scope of Practical Skill***

Given PPE, engineering drawings, tools, equipment, valves including pressure relief valves, ball valves, non-return valves, vent valves, three way valves and cocks including plug cock, cut-off cock, self-closing cock, the learner must be able to:

- PA0401 Identify and fit different types of cocks
- PA0402 Identify and fit different types of valves

##### ***Applied Knowledge***

- AK0401 Functions and positioning of different types of cocks and valves
- AK0402 Fitting techniques for cocks and valves
- AK0403 Appropriate positioning of cocks/valves selected

##### ***Internal Assessment Criteria***

- IAC0401 Different types of cocks are positioned correctly, installed according to specifications, working and the functions explained
- IAC0402 Different types of valves are positioned correctly and installed according to specifications

### **9.3 Provider Programme Accreditation Criteria**

#### ***Physical Requirements:***

- The provider must have all the PPM, drawings, equipment, tools and materials listed in the scope statement

#### ***Human Resource Requirements:***

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

#### ***Legal Requirements:***

- Certificate of compliance to Health and Safety requirements
- Compliant to SANS requirements

### **9.4 Exemptions**

- None

## **10. 684905000-PM-10, Remove and install vehicle primary interior components, NQF Level 3, Credits 25**

### **10.1 Purpose of the Practical Skill Modules**

The focus of the learning in this module is on providing the learner an opportunity to install and remove different types of windows and doors used in the building of vehicle bodies. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 31.25 days.

The learner will be required to:

- PM-10-PS01: Remove and install windows
- PM-10-PS02: Remove and install hinged doors
- PM-10-PS03: Remove and install sliding doors

### **10.2 Guidelines for Practical Skills**

#### **10.2.1. PM-10-PS01: Remove and install windows**

##### ***Scope of Practical Skill***

Given PPE, tools and equipment including scraping and grinding tools, centring pins and cleaning material including solvents and bonding and fixing mediums, the learner must be able to:

- PA0101 Prepare safe working environment
- PA0102 Remove windows and window fittings
- PA0103 Prepare surface for window fitment
- PA0104 Centre windows
- PA0105 Fit, fasten and seal windows
- PA0106 Clean windows and window area

##### ***Applied Knowledge***

- AK0101 Safety measures and processes
- AK0102 Surface preparation and cleaning techniques
- AK0103 Window alignment techniques
- AK0104 Bonding, fixing and sealing mediums
- AK0105 Standard operating procedures for the removal and fitting of windows

##### ***Internal Assessment Criteria***

- IAC0101 Working environment is safe and appropriate warning notification signs are set up
- IAC0102 Windows and window fittings safely removed using appropriate tools and equipment in accordance with standard operating procedures
- IAC0103 Surface is clean and smooth and properly prepared using appropriate scraping and grinding equipment and solvents correctly
- IAC0104 Window is properly aligned according to holes by using centring pins or window guides in accordance with standard operating procedures

- IAC0105 Window is properly fastened using appropriate bonding and fixing mediums which could include selastic, sicaflex, riveting, bolts, screws, window securing rubber and key correctly
- IAC0106 Window and window area is clean and free from access sealer

### **10.2.2. PM-10-PS02: Remove and install hinged doors**

#### ***Scope of Practical Skill***

Given door components and drilling and fastening tools, the learner must be able to:

- PA0201 Mark-off holes
- PA0202 Drill and tap holes
- PA0203 Fit hinges and hang doors
- PA0204 Fit and regulate door lock
- PA0205 Check clearance and functioning of doors

#### ***Applied Knowledge***

- AK0201 Procedures to remove and fit hinged and end doors
- AK0202 Door regulating and alignment techniques

#### ***Internal Assessment Criteria***

- IAC0201 Drilled and tapped holes for set screws are correctly positioned by use of appropriate equipment in accordance with standard operating procedures
- IAC0202 Fitted door has correct clearance, is properly aligned and lock is functional using appropriate techniques

### **10.2.3. PM-10-PS03: Remove and install sliding doors**

#### ***Scope of Practical Skill***

Given door components, drilling, fastening and alignment tools and product specifications, the learner must be able to:

- PA0301 Prepare surface for positioning of door opening and closing mechanisms
- PA0302 Drill, tap and re-tap holes on tapping blocks
- PA0303 Align door opening and closing mechanisms
- PA0304 Fit door seals
- PA0305 Fit doors and align
- PA0306 Fit door guides and stoppers
- PA0307 Regulate doors
- PA0308 Connect air and electric supply
- PA0309 Set operation speed

#### ***Applied Knowledge***

- AK0301 Procedures to remove and fit sliding doors

- AK0303 Door regulating and alignment techniques
- AK03 Electro-pneumatics
- AK0305 Torqueing techniques

#### ***Internal Assessment Criteria***

- IAC0301 Surface for positioning of door opening and closing mechanisms is cleaned using appropriate tools and equipment correctly
- IAC0302 Holes for door gear are drilled, tapped and re-tapped on tapping blocks in accordance with standard operating procedure
- IAC0303 Door opening and closing mechanisms aligned and all seals fitted in accordance with product specifications
- IAC0304 Fitted door is regulated according to door guides and stoppers and free of any gaps
- IAC0305 Air supply connected, operation speed set and door fully functional in accordance with product specifications

### **10.3 Provider Programme Accreditation Criteria**

#### *Physical Requirements:*

- The provider must have all the PPM, drawings, equipment, tools and materials listed in the scope statement

#### *Human Resource Requirements:*

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

#### *Legal Requirements:*

- Certificate of compliance to Health and Safety requirements
- Compliant to SANS requirements

### **10.4 Exemptions**

- None

## **11. 684905000-PM-11, Fit vehicle secondary interior components, fittings and panels, NQF Level 3, Credits 22**

### **11.1 Purpose of the Practical Skill Modules**

The focus of the learning in this module is on providing the learner an opportunity to remove and install flooring, seats, beds, luggage racks, hand rails and foot rests, hand rails, anchor brackets, luggage racks, strap hangers, window shrouds, ceilings, cove-ceilings, mouldings, heaters, heater ducting, door columns and air vent covers. basins. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 27.5 days.

The learner will be required to:

- PM-11-PS01: Remove and install secondary interior accessories
- PM-11-PS02: Remove and install ceilings
- PM-11-PS03: Remove and install heating equipment
- PM-11-PS04: Remove and install side panels
- PM-11-PS05: Remove and install flooring

### **11.2 Guidelines for Practical Skills**

#### **11.2.1. PM-11-PS01: Remove and install secondary interior accessories**

##### ***Scope of Practical Skill***

Given torque tightening tools, ring-flat spanners, pneumatic/hydraulic impact wrenches, socket set, spirit level, pneumatic pencil grinder, screw drivers, Allen keys, torque marking pen, bolts, nuts, washers, spring washers and loose components including beds, seats, hand rails, foot rests, anchor brackets, luggage racks and strap hangers, the learner must be able to:

- PA0101 Identify and use tools
- PA0102 Identify and use personal protective equipment
- PA0103 Remove and fit hand rails
- PA0104 Remove and fit anchor brackets
- PA0105 Remove and fit luggage racks, strap hangers
- PA0106 Remove and fit strap hangers
- PA0106 Clean and restore the work area and dispose of all waste materials
- PA0107 Complete job cards

##### ***Applied Knowledge***

- AK0101 Techniques to remove and fit secondary interior accessories
- AK0102 Standard operating procedures for moving and fitting secondary interior accessories
- AK0101 Workshop housekeeping rules

##### ***Internal Assessment Criteria***

- IAC0101 Selected tools and personal protective equipment is appropriate for the removal, fitting and installation of secondary interior accessories and used according to standard operating procedures

- IAC0102 Fitted hand rails, anchor brackets, luggage racks and strap hangers are undamaged following appropriate fitment techniques and processes
- IAC0103 The work area is cleaned and all waste materials are disposed of in accordance with housekeeping rules
- IAC0104 The job cards are legible and accurate, and all relevant documentation is completed correctly

### **11.2.2. PM-11-PS02: Remove and install ceilings**

#### ***Scope of Practical Skill***

Given ceiling assemblies including cove ceilings, air vents and mouldings, torque tightening tools, ring-flat spanners, pneumatic impact wrenches, socket set, spirit level, pneumatic pencil grinder, screw drivers, Allen keys, torque marking pen, bolts, nuts, washers, spring washers, spacing templates, the learner must be able to:

- PA0201 Identify and use tools
- PA0202 Identify and use personal protective equipment
- PA0203 Remove and fit ceiling assemblies
- PA0204 Remove and fit cove ceilings
- PA0205 Remove and fit air vents
- PA0206 Remove and fit moulds
- PA0207 Clean and restore the work area and dispose of all waste materials
- PA0208 Complete job cards

#### ***Applied Knowledge***

- AK0201 Techniques to remove and fit ceilings and ceiling accessories
- AK0202 Standard operating procedures for moving and fitting ceilings and ceiling accessories
- AK0203 Workshop housekeeping rules

#### ***Internal Assessment Criteria***

- IAC0201 Selected tools and personal protective equipment is appropriate for the removal, fitting and installation of ceilings and ceiling accessories and used according to standard operating procedures
- IAC0202 Fitted ceiling assemblies including cove ceilings, air vents and moulds are undamaged following appropriate fitment techniques and processes
- IAC0203 The work area is cleaned and all waste materials are disposed of in accordance with housekeeping rules
- IAC0204 The job cards are legible and accurate, and all relevant documentation is completed correctly

### **11.2.3. PM-11-PS03: Remove and install heating equipment**

### ***Scope of Practical Skill***

Given heater units, heating ducting, torque tightening tools, ring-flat spanners, pneumatic impact wrenches, socket set, spirit level, pneumatic pencil grinder, screw drivers, Allen keys, torque marking pen, bolts, nuts, washers, spring washers, the learner must be able to:

- PA0301 Identify and use tools
- PA0302 Identify and use personal protective equipment
- PA0303 Remove and fit heater units
- PA0304 Remove and remove heating ducting
- PA0305 Clean and restore the work area and dispose of all waste materials
- PA0306 Complete job cards

### ***Applied Knowledge***

- AK0301 Techniques to remove and fit heater units and heating ducting
- AK0302 Standard operating procedures for moving and fitting heater units and heating ducting
- AK0303 Workshop housekeeping rules

### ***Internal Assessment Criteria***

- IAC0301 Selected tools and personal protective equipment is appropriate for the removal, fitting and installation of heater units and heating ducting and used according to standard operating procedures
- IAC0302 Fitted heater units and heating ducting are undamaged following appropriate fitment techniques and processes
- IAC0303 The work area is cleaned and all waste materials are disposed of in accordance with housekeeping rules
- IAC0304 The job cards are legible and accurate, and all relevant documentation is completed correctly

## **11.2.4. PM-11-PS04: Remove and install side panels**

### ***Scope of Practical Skill***

Given side panels (top and bottom), door columns, electric panel covering, other finishing-off panelling, torque tightening tools, ring-flat spanners, pneumatic wrenches, socket set, spirit level, pneumatic pencil grinder, screw drivers, allen keys, torque marking pen, bolts, nuts, washers, spring washers, spacing templates, the learner must be able to:

- PA0401 Identify and use tools
- PA0402 Identify and use personal protective equipment
- PA0403 Remove and fit side panels
- PA0404 Remove and fit door columns
- PA0405 Remove and fit electric panel covering

- PA0406 Remove and fit , finishing-off panelling
- PA0407 Clean and restore the work area and dispose of all waste materials
- PA0408 Complete job cards

#### ***Applied Knowledge***

- AK0401 Techniques to remove and fit side panels and side panel accessories
- AK0402 Standard operating procedures for moving and fitting side panels and side panel accessories
- AK0403 Workshop housekeeping rules

#### ***Internal Assessment Criteria***

- IAC0401 Selected tools and personal protective equipment is appropriate for the removal, fitting and installation of side panels and used according to standard operating procedures
- IAC0402 Fitted side panels (top and bottom), door columns, electric panel covering, other finishing-off panelling are undamaged following appropriate fitment techniques and processes
- IAC0403 The work area is cleaned and all waste materials are disposed of in accordance with housekeeping rules
- IAC0404 The job cards are legible and accurate, and all relevant documentation is completed correctly

### **11.2.5. PM-11-PS05: Remove and install flooring**

#### ***Scope of Practical Skill***

Given impact wrenches, hammers, chisels, LP Gas and heating torch, scraping tools, descaling hammers, skills/circular saws, portable grinder, measuring tools, rollers, loose weights, components and materials, adhesives and cleaning materials, the learner must be able to:

- PA0501 Remove vinyl and mouldings from surface
- PA0502 Remove wood from surface
- PA0503 Prepare previously covered metal for new flooring
- PA0504 Measure floor size
- PA0505 Cut flooring boards (panels) and install onto under-frame
- PA0506 Level surface
- PA0507 Seal surface
- PA0508 Fit vinyl flooring
- PA0509 Weld vinyl joints
- PA0510 Edge sides and corners
- PA0511 Fit flashing mouldings

#### ***Applied Knowledge***

- AK0501 Techniques to fit and seal wooden floors

- AK0502 Techniques to remove vinyl and moulding
- AK0503 Techniques to remove wooden floors
- AK0504 Techniques to prepare and seal surface for new floors
- AK0505 Techniques to prepare floor for new vinyl floor covering

#### ***Internal Assessment Criteria***

- IAC0501 Surface is cleared from any vinyl and flashing moulding using appropriate techniques, tools and equipment safely
- IAC0502 Surface is cleared from any wood using appropriate tools and equipment safely
- IAC0503 Metal surface is primed, levelled and clear of screws, rust and old glue
- IAC0504 Floor substrate is cut to accurate size using appropriate tool and equipment safely
- IAC0505 Floor substrate is fitted onto under-frame applying appropriate mechanical and adhesive techniques correctly
- IAC0506 Surface is levelled and sealed, using cement filler, sicomastic sealant and sanding equipment in accordance with standard operating procedures
- IAC0507 Fitted vinyl is properly glued, following correct drying/curing procedures, all joints are neatly welded and sides and corners edged
- IAC0508 Flashing mouldings are properly fitted using rollers and loose weights according to standard operating procedures

### **11.3 Provider Programme Accreditation Criteria**

#### *Physical Requirements:*

- The provider must have all the PPM, drawings, equipment, tools and materials listed in the scope statement

#### *Human Resource Requirements:*

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

#### *Legal Requirements:*

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

### **11.4 Exemptions**

- None

## **12. 684905000-PM-12, Fit and repair wooden structures (including plywood) , NQF Level 3, Credits 15**

### **12.1 Purpose of the Practical Skill Modules**

The focus of the learning in this module is on providing the learner an opportunity to fit and repair structures made from wood and veneer. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 18.75 days.

The learner will be required to:

- PM-12-PS01: Make and prepare joints
- PM-12-PS02: Cut and shape wood, plywood and veneer
- PM-12-PS03: Finish and fit wooden structures and components

### **12.2 Guidelines for Practical Skills**

#### **12.2.1. PM-12-PS01: Make and prepare joints**

##### ***Scope of Practical Skill***

Given chisels, plane, carpenter hammer, block hammer, measuring tape, mortise gauge, clamps, saws, sander, sand paper, glue, screw drivers and consumables, the learner must be able to:

- PA0101 Identify and use tools
- PA0102 Identify and use personal protective equipment
- PA0103 Read and interpret drawings
- PA0104 Mark-off joints
- PA0105 Cut, drill, plane and chisel joints
- PA0106 Test joint fitment and alignment
- PA0107 Assemble joints
- PA0108 Finish off joints
- PA0109 Finish off joints
- PA0110 Clean and restore the work area and dispose of all waste materials
- PA0111 Complete job cards

##### ***Applied Knowledge***

- AK0101 Techniques to remove wooden panels and accessories
- AK0102 Standard operating procedures for making joints
- AK0103 Workshop housekeeping rules

##### ***Internal Assessment Criteria***

- IAC0101 Selected tools and personal protective equipment is appropriate for making joints and used according to standard operating procedures
- IAC0101 Marked-off joints are correctly positioned in accordance with drawings
- IAC0103 Joints are neat, cut to size, accurate and flush and aligned in accordance with the work instruction

- IAC0104 Fitted side panels (top and bottom), door columns, electric panel covering, other finishing-off panelling are undamaged following appropriate fitment techniques and processes
- IAC0105 The work area is cleaned and all waste materials are disposed of in accordance with housekeeping rules
- IAC0106 The job cards are legible and accurate, and all relevant documentation is completed correctly

### **12.2.2. PM-12-PS02: Cut and shape wood, plywood and veneer**

#### ***Scope of Practical Skill***

Given chisels, plane, carpenter hammer, block hammer, measuring tape, mortice gauge, clamps, saws, sander, sand paper, glue, screw drivers and consumables, the learner must be able to:

- PA0201 Identify and use tools
- PA0202 Identify and use personal protective equipment
- PA0203 Read and interpret drawings
- PA0204 Prepare lay-out and mark-off cutting lines
- PA0205 Cut wood, plywood and veneer
- PA0206 Fit cut sections and panels
- PA0207 Clean and restore the work area and dispose of all waste materials
- PA0208 Complete job cards

#### ***Applied Knowledge***

- AK0201 Techniques to cut and shape wood, plywood and veneer
- AK0202 Standard operating procedures for cutting and shaping wood, plywood and veneer
- AK0203 Workshop housekeeping rules

#### ***Internal Assessment Criteria***

- IAC0201 Selected tools and personal protective equipment is appropriate for cutting and used according to standard operating procedures
- IAC0202 Lay out is nested to minimise wastage of wood, veneer and plywood
- IAC0203 Wood, plywood and veneer is cut to size
- IAC0204 The work area is cleaned and all waste materials are disposed of in accordance with housekeeping rules
- IAC0205 The job cards are legible and accurate, and all relevant documentation is completed correctly

### **12.2.3. PM-12-PS03: Finish and fit wooden structures and components**

#### ***Scope of Practical Skill***

Given chisels, plane, carpenter hammer, block hammer, measuring tape, mortise gauge, clamps, saws, sander, sand paper, glue, screw drivers and consumables, the learner must be able to:

- PA0301 Identify and use tools
- PA0302 Identify and use personal protective equipment
- PA0303 Install wooden structures
- PA0304 Prepare surfaces for veneer
- PA0305 Glue veneer and surface fitting area
- PA0306 Fit veneer to surface
- PA0307 Finish-off
- PA0308 Clean and restore the work area and dispose of all waste materials
- PA0309 Complete job cards

#### ***Applied Knowledge***

- AK0301 Veneering techniques
- AK0302 Techniques to finish and fit wooden structures and components
- AK0303 Standard operating procedures for finishing-off and fitting wooden structures and components
- AK0304 Workshop housekeeping rules

#### ***Internal Assessment Criteria***

- IAC0301 Selected tools and personal protective equipment is appropriate for making joints and used according to standard operating procedures
- IAC0302 Wooden structures are correctly fitted according to drawing
- IAC0303 Veneer is flat, without any bubbles and grain structure runs in correct direction
- IAC0304 The work area is cleaned and all waste materials are disposed of in accordance with housekeeping rules
- IAC0305 The job cards are legible and accurate, and all relevant documentation is completed correctly

### **12.3 Provider Programme Accreditation Criteria**

#### ***Physical Requirements:***

- The provider must have all the PPM, drawings, equipment, tools and materials listed in the scope statement

#### ***Human Resource Requirements:***

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

#### ***Legal Requirements:***

- Certificate of compliance to Health and Safety requirements

- Compliant to SANS requirements

#### **12.4 Exemptions**

- None

## **13. 684905000-PM-13, Maintain and repair vehicle shell, NQF Level 3, Credits 10**

### **13.1 Purpose of the Practical Skill Modules**

The focus of the learning in this module is on providing the learner an opportunity to Maintain and repair vehicle shells. The learning contract time, which is the time that reflects the required duration of enrolment for this module, is at least 12.5 days.

The learner will be required to:

- PM-13-PS01: Remove and replace damaged area
- PM-13-PS02: Conduct in-situ repairs

### **13.2 Guidelines for Practical Skills**

#### **13.2.1. PM-13-PS01: Remove and replace damaged area**

##### ***Scope of Practical Skill***

Given heating torch assembly, abrasive cutting machine and discs and jig saws, the learner must be able to:

- PA0101 Identify and use tools
- PA0102 Identify and use personal protective equipment
- PA0103 Identify and mark area to be repaired or replaced
- PA0104 Determine method to cut out the damaged area
- PA0105 Cut out and remove the damaged area
- PA0106 Clean and prepare area for fitment of new replacement component
- PA0107 Perform quality checks on the repaired and replaced component
- PA0108 Clean and restore the work area and dispose of all waste materials
- PA0109 Complete job cards

##### ***Applied Knowledge***

- AK0101 Techniques to remove and replace damaged body components or sections
- AK0102 Standard operating procedures for removing and replacing damaged body components
- AK0103 Types of quality checks, including dye penetration, MPI, UT, visual and dimensional tests
- AK0104 Workshop housekeeping rules

##### ***Internal Assessment Criteria***

- IAC0101 Selected tools and personal protective equipment is appropriate for the removal, and fitting of body components or sections thereof and are used according to standard operating procedures
- IAC0102 Area to be repaired or replaced is properly and accurately marked
- IAC0103 The damaged area is cut out using appropriate method for the task according to standard operating procedures

- IAC0104 Area for fitment of new components are clean following standard operating procedures
- IAC0105 Quality checks are performed in accordance with applicable quality standards
- IAC0106 The work area is cleaned and all waste materials are disposed of in accordance with housekeeping rules
- IAC0107 The job cards are legible and accurate, and all relevant documentation is completed correctly

### **13.2.2. PM-13-PS02: Conduct in-situ repairs**

#### ***Scope of Practical Skill***

Given heating torch assembly, abrasive cutting machine and discs and jig saws, the learner must be able to:

- PA0201 Identify and use tools
- PA0202 Identify and use personal protective equipment
- PA0203 Identify and mark area to be repaired
- PA0204 Panel beat damaged section
- PA0205 Heat or flame straiten damaged section
- PA0206 Perform quality checks on the repaired and replaced component
- PA0207 Clean and restore the work area and dispose of all waste materials
- PA0208 Complete job cards

#### ***Applied Knowledge***

- AK0201 Techniques to conduct in-situ repairs on damaged body components
- AK0202 Types of quality checks, including dye penetration, MPI, UT, visual and dimensional tests
- AK0203 Standard operating procedures for conducting in-situ repairs on damaged body components
- AK0204 Workshop housekeeping rules

#### ***Internal Assessment Criteria***

- IAC0201 Selected tools and personal protective equipment is appropriate for the removal, fitting and installation of side panels and used according to standard operating procedures
- IAC0202 Area to be repaired or replaced is properly and accurately marked
- IAC0203 The damaged area is neatly repaired and not visible using heat or flame straitening techniques according to standard operating procedures
- IAC0204 Quality checks are performed in accordance with applicable quality standards
- IAC0205 The work area is cleaned and all waste materials are disposed of in accordance with housekeeping rules

- IAC0206 The job cards are legible and accurate, and all relevant documentation is completed correctly

### **13.3 Provider Programme Accreditation Criteria**

#### *Physical Requirements:*

- The provider must have all the PPM, drawings, equipment, tools and materials listed in the scope statement

#### *Human Resource Requirements:*

- Facilitator should have a qualification or proven experience that includes competencies related to vehicle body building
- Facilitator/learner ratio 1 to 15

#### *Legal Requirements:*

- Certificate of compliance to Health and Safety requirements
- Compliant to SANS requirements

### **13.4 Exemptions**

- None

### **SECTION 3C: WORK EXPERIENCE MODULE SPECIFICATIONS**

#### List of Work Experience Module Specifications

- 684905000-WM-01, Vehicle body building preparation and planning processes, NQF Level 2, Credits 20
- 684905000-WM-02, Metal cutting, forming and cleaning processes, NQF Level 4, Credits 43
- 684905000-WM-03, Processes of joining, erecting and assembling metal sub-components and assemblies, NQF Level 4, Credits 50
- 684905000-WM-04, Vehicle shell maintenance processes, NQF Level 4, Credits 50
- 684905000-WM-05, Processes for the installation, maintenance and repair of windows and doors, NQF Level 3, Credits 12
- 684905000-WM-06, Processes for the installation, maintenance and repair of heating and plumbing systems, NQF Level 3, Credits 13
- 684905000-WM-07, Processes for the installation, maintenance and repair of wooden components, ceilings, floors and interior side panels , NQF Level 3, Credits 30
- 684905000-WM-08, Processes and procedures for fitting and maintaining seats and interior accessories, NQF Level 3, Credits 5

## **1. 684905000-WM-01, Vehicle body building preparation and planning processes, NQF Level 2, Credits 20**

### **1.1 Purpose of the Work Experience Modules**

The focus of the work experience is on providing the learner an opportunity to: gain exposure to plan and prepare a work site for the building of vehicle bodies. The Learner will be required to successfully complete each Work Experience at least once over a total duration of 25 days.

The learner will be required to:

- WM-01-WE01: Observe and assist a qualified person to plan and prepare a worksite for vehicle body building for a minimum of 40 hours
- WM-01-WE02: Plan and prepare a worksite for vehicle body building under the direct guidance and supervision of a qualified artisan for a minimum of 40 hours
- WM-01-WE03: Independently plan and prepare a worksite for vehicle body building under limited supervision and signed off by a qualified artisan, for a minimum of 120 hours

### **1.2 Guidelines for Work Experiences**

#### **1.2.1. WM-01-WE01: Observe and assist a qualified person to plan and prepare a worksite for vehicle body building for a minimum of 40 hours**

##### ***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0101 Determine job requirements and workflow
- WA0102 Conduct a risk assessment
- WA0103 Perform safety checks and clean working environment
- WA0104 Prepare the worksite (safety and all resources)
- WA0105 Obtain tools and equipment and transport to worksite
- WA0106 Prepare working space for working and stacking material
- WA0107 Use lifting and moving equipment
- WA0108 Position equipment for installation

##### ***Supporting Evidence***

- SE0101 A learning journal reflecting the job card number and the key points noted by the learner, signed off by the qualified artisan
- SE0102 Signed job card by both learner and a qualified artisan
- SE0103 Time sheets reflecting time spent on activities
- SE0104 Signed off completed risk assessment checklist by both learner and a qualified artisan

#### **1.2.2. WM-01-WE02: Plan and prepare a worksite for vehicle body building under the direct guidance and supervision of a qualified artisan for a minimum of 40 hours**

##### ***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0201 Determine job requirements and workflow
- WA0202 Conduct a risk assessment
- WA0203 Perform safety checks and clean working environment
- WA0204 Prepare the worksite (safety and all resources)
- WA0205 Obtain tools and equipment and transport to worksite
- WA0206 Prepare working space for working and stacking material
- WA0207 Use lifting and moving equipment
- WA0208 Position equipment for installation
- WA0209 Obtain tools and equipment and transport to worksite
- WA0210 Conduct a risk assessment
- WA0211 Position equipment for installation

### ***Supporting Evidence***

- SE0201 A learning journal reflecting the job card number and the key points noted by the learner, signed off by the qualified artisan
- SE0202 Signed job card by both learner and a qualified artisan
- SE0203 Time sheets reflecting time spent on activities
- SE0203 Signed off completed risk assessment checklist by both learner and a qualified artisan

### **1.2.3. WM-01-WE03: Independently plan and prepare a worksite for vehicle body building under limited supervision and signed off by a qualified artisan, for a minimum of 120 hours**

#### ***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0301 Determine job requirements and workflow
- WA0302 Conduct a risk assessment
- WA0303 Perform safety checks and clean working environment
- WA0304 Prepare the worksite (safety and all resources)
- WA0305 Obtain tools and equipment and transport to worksite
- WA0306 Prepare working space for working and stacking material
- WA0307 Use lifting and moving equipment
- WA0307 Position equipment for installation

### ***Supporting Evidence***

- SE0301 A learning journal reflecting the job card number and the key points noted by the learner, signed off by the qualified artisan
- SE0302 Signed job card by both learner and a qualified artisan
- SE0303 Time sheets reflecting time spent on activities

- SE0304 Signed off completed risk assessment checklist by both learner and a qualified artisan

### **1.3 Contextualised Workplace Knowledge**

1 Work instructions, checklists, specifications and standards

2 Organisational policies and procedures

3 Manufacturer manuals and specifications

4 Organisational diagnostic equipment and error codes

5 Company-specific quality system requirements

6 Waste management policies and procedures

### **1.4 Criteria for Workplace Approval**

*Physical Requirements:*

- Access to an operational, fully equipped workshop

*Human Resource Requirements:*

- Maximum artisan to apprentice ratio of 1:3
- A qualified artisan with at least two years relevant industry experience

*Legal Requirements:*

- Workshop must have a certificate of compliance to Health and Safety requirements

### **1.5 Additional Assignments to be Assessed Externally**

None

## **2. 684905000-WM-02, Metal cutting, forming and cleaning processes, NQF Level 4, Credits 43**

### **2.1 Purpose of the Work Experience Modules**

The focus of the work experience is on providing the learner an opportunity to: gain exposure to cut, form and clean metal components for a vehicle body. The Learner will be required to successfully complete each Work Experience at least once over a over a total duration of 53.75 days.

The learner will be required to:

- WM-02-WE01: Observe and assist a qualified artisan cutting, forming and cleaning metal components for a minimum of 50 hours
- WM-02-WE02: Cut, form and clean metal components under the direct guidance and supervision of a qualified artisan for a minimum of 150 hours
- WM-02-WE03: Independently cut, form and clean metal components under the direct guidance and supervision of a qualified artisan for a minimum of 230 hours

### **2.2 Guidelines for Work Experiences**

#### **2.2.1. WM-02-WE01: Observe and assist a qualified artisan cutting, forming and cleaning metal components for a minimum of 50 hours**

##### ***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0101 Gather the necessary technical information, plan the operation and collect relevant tools and equipment
- WA0102 Conduct risk assessments and perform lock-out processes where applicable
- WA0103 Interpret engineering manufacturing drawings
- WA0104 Mark-off materials
- WA0105 Clean and cut metal to the required size and shape
- WA0106 Bend or roll metal in the required form and shape of the component
- WA0107 Restore the work area and dispose of waste materials
- WA0108 Complete work reports

##### ***Supporting Evidence***

- SE0101 A learning journal reflecting the job card number and the key points noted by the learner, signed off by the qualified artisan
- SE0102 Signed job card by both learner and a qualified artisan
- SE0103 Time sheets reflecting time spent on activities
- SE0104 Signed off completed risk assessment checklist by both learner and a qualified artisan

#### **2.2.2. WM-02-WE02: Cut, form and clean metal components under the direct guidance and supervision of a qualified artisan for a minimum of 150 hours**

### ***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0201 Gather the necessary technical information, plan the operation and collect relevant tools and equipment
- WA0202 Conduct risk assessments and perform lock-out processes where applicable
- WA0203 Interpret engineering manufacturing drawings
- WA0204 Mark-off materials
- WA0205 Clean and cut metal to the required size and shape
- WA0206 Bend or roll metal in the required form and shape of the component
- WA0207 Restore the work area and dispose of waste materials
- WA0208 Complete work reports

### ***Supporting Evidence***

- SE0201 A learning journal reflecting the job card number and the key points noted by the learner, signed off by the qualified artisan
- SE0202 Signed job card by both learner and a qualified artisan
- SE0203 Time sheets reflecting time spent on activities
- SE0204 Signed off completed risk assessment checklist by both learner and a qualified artisan

## **2.2.3. WM-02-WE03: Independently cut, form and clean metal components under the direct guidance and supervision of a qualified artisan for a minimum of 230 hours**

### ***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0301 Gather the necessary technical information, plan the operation and collect relevant tools and equipment
- WA0302 Conduct risk assessments and perform lock-out processes where applicable
- WA0303 Interpret engineering manufacturing drawings
- WA0304 Mark-off materials
- WA0305 Clean and cut metal to the required size and shape
- WA0306 Bend or roll metal in the required form and shape of the component
- WA0307 Restore the work area and dispose of waste materials
- WA0308 Complete work reports

### ***Supporting Evidence***

- SE0301 A learning journal reflecting the job card number and the key points noted by the learner, signed off by the qualified artisan
- SE0302 Signed job card by both learner and a qualified artisan
- SE0303 Time sheets reflecting time spent on activities

- SE0304 Signed off completed risk assessment checklist by both learner and a qualified artisan

### **2.3 Contextualised Workplace Knowledge**

1 Work instructions, checklists, specifications and standards

2 Organisational policies and procedures

3 Manufacturer manuals and specifications

4 Organisational diagnostic equipment and error codes

5 Company-specific quality system requirements

6 Waste management policies and procedures

### **2.4 Criteria for Workplace Approval**

*Physical Requirements:*

- Access to an operational, fully equipped workshop

*Human Resource Requirements:*

- Maximum artisan to apprentice ratio of 1:3
- A qualified artisan with at least two years relevant industry experience

*Legal Requirements:*

- Workshop must have a certificate of compliance to Health and Safety requirements

### **2.5 Additional Assignments to be Assessed Externally**

None

### **3. 684905000-WM-03, Processes of joining, erecting and assembling metal sub-components and assemblies, NQF Level 4, Credits 50**

#### **3.1 Purpose of the Work Experience Modules**

The focus of the work experience is on providing the learner an opportunity to: gain exposure to join, erect and assemble metal sub-components and assemblies of a vehicle body. The Learner will be required to successfully complete each Work Experience at least once over a total duration of 53.75 days.

The learner will be required to:

- WM-03-WE01: Observe and assist a qualified artisan to erect, assemble and join components and assemblies for a minimum of 100 hours
- WM-03-WE02: Erect, assemble and join components and assemblies under the direct guidance and supervision of a qualified artisan for a minimum of 140 hours
- WM-03-WE03: Independently erect, assemble and join components and assemblies under limited supervision and signed off by a qualified artisan, for a minimum of 260 hours

#### **3.2 Guidelines for Work Experiences**

##### **3.2.1. WM-03-WE01: Observe and assist a qualified artisan to erect, assemble and join components and assemblies for a minimum of 100 hours**

##### ***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0101 Gather the necessary technical information, plan the operation and collect relevant tools and equipment
- WA0102 Conduct risk assessments and perform lock-out processes where applicable
- WA0103 Determine assembly sequence
- WA0104 Lay out components
- WA0105 Lift, balance and move components
- WA0106 Align sub components
- WA0107 Assemble components and subcomponents
- WA0108 Weld components
- WA0109 Join components
- WA0110 Restore the work area and dispose of waste materials
- WA0111 Complete work reports

##### ***Supporting Evidence***

- SE0101 Signed job card by both learner and a qualified artisan
- SE0102 Time sheets reflecting time spent on activities
- SE0103 Signed off completed risk assessment checklist by both learner and a qualified artisan

### **3.2.2. WM-03-WE02: Erect, assemble and join components and assemblies under the direct guidance and supervision of a qualified artisan for a minimum of 140 hours**

#### ***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0201 Gather the necessary technical information, plan the operation and collect relevant tools and equipment
- WA0202 Conduct risk assessments and perform lock-out processes where applicable
- WA0203 Determine assembly sequence
- WA0204 Lay out components
- WA0205 Lift, balance and move components
- WA0206 Align sub components
- WA0206 Assemble components and subcomponents
- WA0207 Weld components
- WA0208 Join components
- WA0209 Restore the work area and dispose of waste materials
- WA0210 Complete work reports

#### ***Supporting Evidence***

- SE0201 A learning journal reflecting the job card number and the key points noted by the learner, signed off by the qualified artisan
- SE0202 Signed job card by both learner and a qualified artisan
- SE0203 Time sheets reflecting time spent on activities
- SE0204 Signed off completed risk assessment checklist by both learner and a qualified artisan

### **3.2.3. WM-03-WE03: Independently erect, assemble and join components and assemblies under limited supervision and signed off by a qualified artisan, for a minimum of 260 hours**

#### ***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0301 Gather the necessary technical information, plan the operation and collect relevant tools and equipment
- WA0302 Conduct risk assessments and perform lock-out processes where applicable
- WA0303 Determine assembly sequence
- WA0304 Lay out components
- WA0305 Lift, balance and move components
- WA0306 Align sub components
- WA0307 Assemble components and subcomponents
- WA0308 Weld components

- WA0309 Join components
- WA0310 Restore the work area and dispose of waste materials
- WA0311 Complete work reports

### **Supporting Evidence**

- SE0301 A learning journal reflecting the job card number and the key points noted by the learner, signed off by the qualified artisan
- SE0302 Signed job card by both learner and a qualified artisan
- SE0303 Time sheets reflecting time spent on activities
- SE0304 Signed off completed risk assessment checklist by both learner and a qualified artisan

### **3.3 Contextualised Workplace Knowledge**

- 1 Work instructions, checklists, specifications and standards
- 2 Organisational policies and procedures
- 3 Manufacturer manuals and specifications
- 4 Organisational diagnostic equipment and error codes
- 5 Company-specific quality system requirements
- 6 Waste management policies and procedures

### **3.4 Criteria for Workplace Approval**

#### *Physical Requirements:*

- Access to an operational, fully equipped workshop

#### *Human Resource Requirements:*

- Maximum artisan to apprentice ratio of 1:3
- A qualified artisan with at least two years relevant industry experience

#### *Legal Requirements:*

- Workshop must have a certificate of compliance to Health and Safety requirements

### **3.5 Additional Assignments to be Assessed Externally**

None

## **4. 684905000-WM-04, Vehicle shell maintenance processes, NQF Level 4, Credits 50**

### **4.1 Purpose of the Work Experience Modules**

The focus of the work experience is on providing the learner an opportunity to:

gain exposure to repair and replace sections of a vehicle body shell. The Learner will be required to successfully complete each Work Experience at least once for both panel beating and heat flame straightening over a total duration of 62.5days.

The learner will be required to:

- WM-04-WE01: Observe and assist a qualified artisan to conduct maintenance on the vehicle shell for a minimum of 100 hours
- WM-04-WE02: Conduct maintenance on the vehicle shell under the direct guidance and supervision of a qualified artisan for a minimum of 140 hours
- WM-04-WE03: Independently conduct maintenance on the vehicle shell under limited supervision and signed off by a qualified artisan, for a minimum of 260 hours

### **4.2 Guidelines for Work Experiences**

#### **4.2.1. WM-04-WE01: Observe and assist a qualified artisan to conduct maintenance on the vehicle shell for a minimum of 100 hours**

##### ***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0101 Gather the necessary technical information, plan the operation and collect relevant tools and equipment
- WA0102 Conduct risk assessments and perform lock-out processes
- WA0103 Conduct pre-removal inspections and identify and report any problems
- WA0104 Inspect components and compile condition reports
- WA0105 Remove and replace components where required
- WA0106 Repair sections using panel beating and heat flame techniques
- WA0107 Re-assemble vehicle body panels
- WA0108 Conduct post-assembly inspection and tests
- WA0109 Restore the work area and dispose of waste materials
- WA0111 Complete maintenance reports

##### ***Supporting Evidence***

- SE0101 A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan
- SE0102 Condition and maintenance reports
- SE0103 Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards
- SE0104 Time sheets reflecting time spent on activities

#### **4.2.2. WM-04-WE02: Conduct maintenance on the vehicle shell under the direct guidance and supervision of a qualified artisan for a minimum of 140 hours**

##### ***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0201 Gather the necessary technical information, plan the operation and collect relevant tools and equipment
- WA0202 Conduct risk assessments and perform lock-out processes
- WA0203 Conduct pre-removal inspections and identify and report any problems
- WA0204 Inspect components and compile condition reports
- WA0205 Remove and replace or repair components where required
- WA0206 Remove and replace components where required
- WA0207 Repair sections using panel beating and heat flame techniques
- WA0208 Conduct post-assembly inspection and tests
- WA0209 Restore the work area and dispose of waste materials
- WA0210 Complete maintenance reports

##### ***Supporting Evidence***

- SE0201 A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan
- SE0202 Condition and maintenance reports
- SE0203 Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards
- SE0204 Time sheets reflecting time spent on activities

#### **4.2.3. WM-04-WE03: Independently conduct maintenance on the vehicle shell under limited supervision and signed off by a qualified artisan, for a minimum of 260 hours**

##### ***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0301 Gather the necessary technical information, plan the operation and collect relevant tools and equipment
- WA0302 Conduct risk assessments and perform lock-out processes
- WA0303 Conduct pre-removal inspections and identify and report any problems
- WA0304 Inspect components and compile condition reports
- WA0305 Remove and replace components where required
- WA0306 Repair sections using panel beating and heat flame techniques
- WA0307 Re-assemble vehicle shell
- WA0308 Conduct post-assembly inspection and tests

- WA0309 Restore the work area and dispose of waste materials
- WA0310 Complete maintenance reports

### **Supporting Evidence**

- SE0301 A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan
- SE0302 Condition and maintenance reports
- SE0303 Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards
- SE0304 Time sheets reflecting time spent on activities

### **4.3 Contextualised Workplace Knowledge**

- 1 Work instructions, checklists, specifications and standards
- 2 Organisational policies and procedures
- 3 Manufacturer manuals and specifications
- 4 Organisational diagnostic equipment and error codes
- 5 Company-specific quality system requirements

### **4.4 Criteria for Workplace Approval**

#### *Physical Requirements:*

- Access to an operational, fully equipped workshop

#### *Human Resource Requirements:*

- Maximum artisan to apprentice ratio of 1:3
- A qualified artisan with at least two years relevant industry experience

#### *Legal Requirements:*

- Workshop must have a certificate of compliance to Health and Safety requirements

### **4.5 Additional Assignments to be Assessed Externally**

None

## **5. 684905000-WM-05, Processes for the installation, maintenance and repair of windows and doors, NQF Level 3, Credits 12**

### **5.1 Purpose of the Work Experience Modules**

The focus of the work experience is on providing the learner an opportunity to: gain exposure to the installation, inspection, reparation and replacement of windows and doors in purpose built vehicle bodies. The Learner will be required to successfully complete each Work Experience at least once over a total duration of 15 days

The learner will be required to:

- WM-05-WE01: Observe and assist a qualified artisan installing and maintaining windows and doors for a minimum of 10 hours
- WM-05-WE02: Conduct installation and maintenance of doors and windows under the direct guidance and supervision of a qualified artisan for a minimum of 50 hours
- WM-05-WE03: Independently conduct installation and maintenance of windows and doors under limited supervision and signed off by a qualified artisan, for a minimum of 60 hours

### **5.2 Guidelines for Work Experiences**

#### **5.2.1. WM-05-WE01: Observe and assist a qualified artisan installing and maintaining windows and doors for a minimum of 10 hours**

##### ***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0101 Gather the necessary technical information, plan the operation and collect relevant tools and equipment
- WA0102 Conduct risk assessments and perform lock-out processes where applicable
- WA0103 Inspect windows and doors
- WA0104 Compile condition reports
- WA0105 Install, remove, repair or replace and refit damaged or new doors and windows
- WA0106 Restore the work area and dispose of waste materials
- WA0107 Complete maintenance reports

##### ***Supporting Evidence***

- SE0101 A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan
- SE0102 Condition and maintenance reports
- SE0103 Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards
- SE0104 Time sheets reflecting time spent on activities

#### **5.2.2. WM-05-WE02: Conduct installation and maintenance of doors and windows under the direct guidance and supervision of a qualified artisan for a minimum of 50 hours**

### ***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0201 Gather the necessary technical information, plan the operation and collect relevant tools and equipment
- WA0202 Conduct risk assessments and perform lock-out processes where applicable
- WA0203 Inspect doors and windows
- WA0204 Compile condition reports
- WA0205 Install, remove, repair or replace and refit doors and windows
- WA0206 Restore the work area and dispose of waste materials
- WA0207 Complete maintenance reports

### ***Supporting Evidence***

- SE0201 A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan
- SE0202 Condition and maintenance reports
- SE0203 Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards
- SE0204 Time sheets reflecting time spent on activities

## **5.2.3. WM-05-WE03: Independently conduct installation and maintenance of windows and doors under limited supervision and signed off by a qualified artisan, for a minimum of 60 hours**

### ***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0301 Gather the necessary technical information, plan the operation and collect relevant tools and equipment
- WA0302 Conduct risk assessments and perform lock-out processes where applicable
- WA0303 Inspect doors and windows
- WA0304 Compile condition reports
- WA0305 Install, remove, repair or replace and refit doors and windows
- WA0306 Restore the work area and dispose of waste materials
- WA0307 Complete maintenance reports

### ***Supporting Evidence***

- SE0301 A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan
- SE0302 Condition and maintenance reports

- SE0303 Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards
- SE0304 Time sheets reflecting time spent on activities

### **5.3 Contextualised Workplace Knowledge**

1 Work instructions, checklists, specifications and standards

2 Manufacturer manuals and specifications

3 Organisational diagnostic equipment and error codes

4 Company-specific quality system requirements

5 Waste management policies and procedures

### **5.4 Criteria for Workplace Approval**

*Physical Requirements:*

- Access to an operational, fully equipped workshop

*Human Resource Requirements:*

- Maximum artisan to apprentice ratio of 1:3
- A qualified artisan with at least two years relevant industry experience

*Legal Requirements:*

- Workshop must have a certificate of compliance to Health and Safety requirements

### **5.5 Additional Assignments to be Assessed Externally**

None

## **6. 684905000-WM-06, Processes for the installation, maintenance and repair of heating and plumbing systems, NQF Level 3, Credits 13**

### **6.1 Purpose of the Work Experience Modules**

The focus of the work experience is on providing the learner an opportunity to: gain exposure to install, inspect, repair and replace sanitary plumbing systems and heating equipment. The learner will be required to successfully complete each Work Experience at least once over a total duration of 16.25 days.

The learner will be required to:

- WM-06-WE01: Observe and assist a qualified artisan to conduct maintenance on plumbing and heating systems for a minimum of 10 hours
- WM-06-WE02: Conduct installation and maintenance of heating and plumbing systems under the direct guidance and supervision of a qualified artisan for a minimum of 60 hours
- WM-06-WE03: Independently conduct installation and maintenance of heating and plumbing systems under limited supervision and signed off by a qualified artisan, for a minimum of 60 hours

### **6.2 Guidelines for Work Experiences**

#### **6.2.1. WM-06-WE01: Observe and assist a qualified artisan to conduct maintenance on plumbing and heating systems for a minimum of 10 hours**

##### ***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0101 Identify and use tools
- WA0102 Identify and use personal protective equipment
- WA0103 Inspect, install, remove and fit heating equipment and plumbing systems
- WA0104 Compile condition reports
- WA0105 Remove, repair or replace and refit damaged components
- WA0106 Restore the work area and dispose of waste materials
- WA0107 Complete maintenance reports

##### ***Supporting Evidence***

- SE0101 A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan
- SE0102 Condition and maintenance reports
- SE0103 Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards
- SE0104 Time sheets reflecting time spent on activities

**6.2.2. WM-06-WE02: Conduct installation and maintenance of heating and plumbing systems under the direct guidance and supervision of a qualified artisan for a minimum of 60 hours**

***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0201 Gather the necessary technical information, plan the operation and collect relevant tools and equipment
- WA0202 Conduct risk assessments and perform lock-out processes where applicable
- WA0203 Inspect, install, maintain or replace heating equipment and plumbing systems
- WA0204 Compile condition reports
- WA0205 Remove, repair or replace and refit damaged components
- WA0206 Restore the work area and dispose of waste materials
- WA0207 Complete maintenance reports

***Supporting Evidence***

- SE0201 A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan
- SE0202 Condition and maintenance reports
- SE0203 Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards
- SE0204 Time sheets reflecting time spent on activities

**6.2.3. WM-06-WE03: Independently conduct installation and maintenance of heating and plumbing systems under limited supervision and signed off by a qualified artisan, for a minimum of 60 hours**

***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0301 Gather the necessary technical information, plan the operation and collect relevant tools and equipment
- WA0302 Conduct risk assessments and perform lock-out processes where applicable
- WA0303 Inspect, install, maintain or replace heating equipment and plumbing systems
- WA0304 Compile condition reports
- WA0305 Remove, repair or replace and refit damaged components
- WA0306 Restore the work area and dispose of waste materials
- WA0307 Complete maintenance reports

***Supporting Evidence***

- SE0301 A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan
- SE0302 Condition and maintenance reports
- SE0303 Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards
- SE0304 Time sheets reflecting time spent on activities

### **6.3 Contextualised Workplace Knowledge**

1 Work instructions, checklists, specifications and standards

2 Organisational policies and procedures

3 Manufacturer manuals and specifications

4 Organisational diagnostic equipment and error codes

5 Company-specific quality system requirements 6 Waste management policies and procedures

### **6.4 Criteria for Workplace Approval**

*Physical Requirements:*

- Access to an operational, fully equipped workshop

*Human Resource Requirements:*

- Maximum artisan to apprentice ratio of 1:3
- A qualified artisan with at least two years relevant industry experience

*Legal Requirements:*

- Workshop must have a certificate of compliance to Health and Safety requirements

### **6.5 Additional Assignments to be Assessed Externally**

None

## **7. 684905000-WM-07, Processes for the installation, maintenance and repair of wooden components, ceilings, floors and interior side panels, NQF Level 3, Credits 30**

### **7.1 Purpose of the Work Experience Modules**

The focus of the work experience is on providing the learner an opportunity to:

gain exposure to inspect, install, repair and replace components manufactured from wood, ceilings, floors and interior side panels. The Learner will be required to successfully complete each Work Experience at least once over a total duration of 37.5 days.

The learner will be required to:

- WM-07-WE01: installation and maintenance on wooden components, ceilings, floors and interior side panels for a minimum of 40 hours
- WM-07-WE02: Conduct installation, maintenance and repair on wooden components, ceilings, floors and interior side panels under the direct guidance and supervision of a qualified artisan for a minimum of 130 hours
- WM-07-WE03: Independently conduct installation, maintenance and repair on wooden components, ceilings, floors and interior side panels under limited supervision and signed off by a qualified artisan, for a minimum of 130 hours

### **7.2 Guidelines for Work Experiences**

#### **7.2.1. WM-07-WE01: installation and maintenance on wooden components, ceilings, floors and interior side panels for a minimum of 40 hours**

##### ***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0101 Gather the necessary technical information, plan the operation and collect relevant tools and equipment
- WA0102 Conduct risk assessments and perform lock-out processes where applicable
- WA0103 Inspect wooden components, ceilings, floors and interior side panels
- WA0104 Compile condition reports
- WA0105 Install, remove, repair or replace and refit damaged components
- WA0106 Restore the work area and dispose of waste materials
- WA0107 Complete maintenance reports

##### ***Supporting Evidence***

- SE0101 A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan
- SE0102 Condition and maintenance reports
- SE0103 Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards
- SE0104 Time sheets reflecting time spent on activities

**7.2.2. WM-07-WE02: Conduct installation, maintenance and repair on wooden components, ceilings, floors and interior side panels under the direct guidance and supervision of a qualified artisan for a minimum of 130 hours**

***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0201 Gather the necessary technical information, plan the operation and collect relevant tools and equipment
- WA0202 Conduct risk assessments and perform lock-out processes where applicable
- WA0203 Inspect wooden components, ceilings, floors and interior side panels
- WA0204 Compile condition reports
- WA0205 Install, remove, repair or replace and refit damaged components
- WA0206 Restore the work area and dispose of waste materials
- WA0207 Complete maintenance reports

***Supporting Evidence***

- SE0201 A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan
- SE0202 Condition and maintenance reports
- SE0203 Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards
- SE0204 Time sheets reflecting time spent on activities

**7.2.3. WM-07-WE03: Independently conduct installation, maintenance and repair on wooden components, ceilings, floors and interior side panels under limited supervision and signed off by a qualified artisan, for a minimum of 130 hours**

***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0301 Gather the necessary technical information, plan the operation and collect relevant tools and equipment
- WA0302 Conduct risk assessments and perform lock-out processes where applicable
- WA0303 Inspect wooden components, ceilings, floors and interior side panels
- WA0304 Compile condition reports
- WA0305 Install, remove, repair or replace and refit damaged components
- WA0306 Restore the work area and dispose of waste materials
- WA0306 Complete maintenance reports

***Supporting Evidence***

- SE0301 A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan
- SE0302 Condition and maintenance reports
- SE0303 Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards
- SE0304 Time sheets reflecting time spent on activities

### **7.3 Contextualised Workplace Knowledge**

1 Work instructions, checklists, specifications and standards

2 Organisational policies and procedures

3 Company-specific quality system requirements

4 Waste management policies and procedures

### **7.4 Criteria for Workplace Approval**

*Physical Requirements:*

- Access to an operational, fully equipped workshop

*Human Resource Requirements:*

- Maximum artisan to apprentice ratio of 1:3
- A qualified artisan with at least two years relevant industry experience

*Legal Requirements:*

- Workshop must have a certificate of compliance to Health and Safety requirements

### **7.5 Additional Assignments to be Assessed Externally**

None

## **8. 684905000-WM-08, Processes and procedures for fitting and maintaining seats and interior accessories, NQF Level 3, Credits 5**

### **8.1 Purpose of the Work Experience Modules**

The focus of the work experience is on providing the learner an opportunity to: gain exposure to the installation, inspection, repair and replacement of seats, beds and accessories such as hand rails, foot rests anchor brackets, luggage racks, strap hangers, window shrouds and air vent covers. The Learner will be required to successfully complete each Work Experience at least once over a period of 6.25 days.

The learner will be required to:

- WM-08-WE01: Observe and assist a qualified artisan to conduct maintenance on seats and interior accessories for a minimum of 5 hours
- WM-08-WE02: Conduct maintenance and repair on seats and interior accessories under the direct guidance and supervision of a qualified artisan for a minimum of 22 hours
- WM-08-WE03: Independently conduct maintenance and repair of seats and interior accessories under limited supervision and signed off by a qualified artisan, for a minimum of 23hours

### **8.2 Guidelines for Work Experiences**

#### **8.2.1. WM-08-WE01: Observe and assist a qualified artisan to conduct maintenance on seats and interior accessories for a minimum of 5 hours**

##### ***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0101 Gather the necessary technical information, plan the operation and collect relevant tools and equipment
- WA0102 Conduct risk assessments and perform lock-out processes where applicable
- WA0103 Inspect seats and interior accessories
- WA0104 Compile condition reports
- WA0105 Install, remove, repair or replace and refit damaged components
- WA0106 Restore the work area and dispose of waste materials
- WA0107 Complete maintenance reports

##### ***Supporting Evidence***

- SE0101 A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan
- SE0102 Condition and maintenance reports
- SE0103 Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards
- SE0104 Time sheets reflecting time spent on activitie

**8.2.2. WM-08-WE02: Conduct maintenance and repair on seats and interior accessories under the direct guidance and supervision of a qualified artisan for a minimum of 22 hours**

***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0201 Gather the necessary technical information, plan the operation and collect relevant tools and equipment
- WA0202 Conduct risk assessments and perform lock-out processes where applicable
- WA0203 Inspect components including seats and interior accessories
- WA0204 Compile condition reports
- WA0205 Install, remove, repair or replace and refit damaged components
- WA0206 Install, remove, repair or replace and refit damaged components
- WA0206 Restore the work area and dispose of waste materials
- WA0207 Complete maintenance reports

***Supporting Evidence***

- SE0201 A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan
- SE0202 Condition and maintenance reports
- SE0203 Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards
- SE0204 Time sheets reflecting time spent on activities

**8.2.3. WM-08-WE03: Independently conduct maintenance and repair of seats and interior accessories under limited supervision and signed off by a qualified artisan, for a minimum of 23hours**

***Scope of Work Experience***

The person will be expected to engage in the following work activities:

- WA0301 Gather the necessary technical information, plan the operation and collect relevant tools and equipment
- WA0302 Conduct risk assessments and perform lock-out processes where applicable
- WA0303 Inspect seats and interior accessories
- WA0304 Compile condition reports
- WA0305 Install, remove, repair or replace and refit damaged components
- WA0306 Restore the work area and dispose of waste materials
- WA0307 Complete maintenance reports

***Supporting Evidence***

- SE0301 A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan
- SE0302 Condition and maintenance reports
- SE0303 Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards
- SE0304 Time sheets reflecting time spent on activities

### **8.3 Contextualised Workplace Knowledge**

1 Work instructions, checklists, specifications and standards

2 Organisational policies and procedures

3 Company-specific quality system requirements

4 Waste management policies and procedures

### **8.4 Criteria for Workplace Approval**

*Physical Requirements:*

*Human Resource Requirements:*

*Legal Requirements:*

### **8.5 Additional Assignments to be Assessed Externally**

None

**SECTION 4: STATEMENT OF WORK EXPERIENCE**

<b>Curriculum Number:</b>	684905000
<b>Curriculum Title:</b>	Vehicle Body Builder

<b>Learner Details</b>	
<b>Name:</b>	
<b>ID Number:</b>	

<b>Employer Details</b>	
<b>Company Name:</b>	
<b>Address:</b>	
<b>Supervisor Name:</b>	
<b>Work Telephone:</b>	
<b>E-Mail:</b>	

**684905000-WM-01, Vehicle body building preparation and planning processes, NQF Level 2,  
Credits 20**

WM-01-WE01	Observe and assist a qualified person to plan and prepare a worksite for vehicle body building for a minimum of 40 hours		
	<b>Scope Work Experience</b>	Date	Signature
WA0101	Determine job requirements and workflow		
WA0102	Conduct a risk assessment		
WA0103	Perform safety checks and clean working environment		
WA0104	Prepare the worksite (safety and all resources)		
WA0105	Obtain tools and equipment and transport to worksite		
WA0106	Prepare working space for working and stacking material		
WA0107	Use lifting and moving equipment		
WA0108	Position equipment for installation		
	<b>Supporting Evidence</b>	Date	Signature
SE0101	A learning journal reflecting the job card number and the key points noted by the learner, signed off by the qualified artisan		
SE0102	Signed job card by both learner and a qualified artisan		
SE0103	Time sheets reflecting time spent on activities		
SE0104	Signed off completed risk assessment checklist by both learner and a qualified artisan		
WM-01-WE02	Plan and prepare a worksite for vehicle body building under the direct guidance and supervision of a qualified artisan for a minimum of 40 hours		

	<b>Scope Work Experience</b>	Date	Signature
WA0201	Determine job requirements and workflow		
WA0202	Conduct a risk assessment		
WA0203	Perform safety checks and clean working environment		
WA0204	Prepare the worksite (safety and all resources)		
WA0205	Obtain tools and equipment and transport to worksite		
WA0206	Prepare working space for working and stacking material		
WA0207	Use lifting and moving equipment		
WA0208	Position equipment for installation		
WA0209	Obtain tools and equipment and transport to worksite		
WA0210	Conduct a risk assessment		
WA0211	Position equipment for installation		
	<b>Supporting Evidence</b>	Date	Signature
SE0201	A learning journal reflecting the job card number and the key points noted by the learner, signed off by the qualified artisan		
SE0202	Signed job card by both learner and a qualified artisan		
SE0203	Time sheets reflecting time spent on activities		
SE0203	Signed off completed risk assessment checklist by both learner and a qualified artisan		
WM-01-WE03	Independently plan and prepare a worksite for vehicle body building under limited supervision and signed off by a qualified artisan, for a minimum of 120 hours		

	<b>Scope Work Experience</b>	Date	Signature
WA0301	Determine job requirements and workflow		
WA0302	Conduct a risk assessment		
WA0303	Perform safety checks and clean working environment		
WA0304	Prepare the worksite (safety and all resources)		
WA0305	Obtain tools and equipment and transport to worksite		
WA0306	Prepare working space for working and stacking material		
WA0307	Use lifting and moving equipment		
WA0307	Position equipment for installation		
	<b>Supporting Evidence</b>	Date	Signature
SE0301	A learning journal reflecting the job card number and the key points noted by the learner, signed off by the qualified artisan		
SE0302	Signed job card by both learner and a qualified artisan		
SE0303	Time sheets reflecting time spent on activities		
SE0304	Signed off completed risk assessment checklist by both learner and a qualified artisan		

	<b>Contextualised Workplace Knowledge</b>	Date	Signature
1	Work instructions, checklists, specifications and standards		
2	Organisational policies and procedures		

3	Manufacturer manuals and specifications		
4	Organisational diagnostic equipment and error codes		
5	Company-specific quality system requirements		
6	Waste management policies and procedures		

	<b>Additional Assignments to be Assessed Externally</b>	Date	Signature
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**684905000-WM-02, Metal cutting, forming and cleaning processes, NQF Level 4, Credits 43**

WM-02-WE01	Observe and assist a qualified artisan cutting, forming and cleaning metal components for a minimum of 50 hours		
	<b>Scope Work Experience</b>	Date	Signature
WA0101	Gather the necessary technical information, plan the operation and collect relevant tools and equipment		
WA0102	Conduct risk assessments and perform lock-out processes where applicable		
WA0103	Interpret engineering manufacturing drawings		
WA0104	Mark-off materials		
WA0105	Clean and cut metal to the required size and shape		
WA0106	Bend or roll metal in the required form and shape of the component		

WA0107	Restore the work area and dispose of waste materials		
WA0108	Complete work reports		
	<b>Supporting Evidence</b>	Date	Signature
SE0101	A learning journal reflecting the job card number and the key points noted by the learner, signed off by the qualified artisan		
SE0102	Signed job card by both learner and a qualified artisan		
SE0103	Time sheets reflecting time spent on activities		
SE0104	Signed off completed risk assessment checklist by both learner and a qualified artisan		
WM-02-WE02	Cut, form and clean metal components under the direct guidance and supervision of a qualified artisan for a minimum of 150 hours		
	<b>Scope Work Experience</b>	Date	Signature
WA0201	Gather the necessary technical information, plan the operation and collect relevant tools and equipment		
WA0202	Conduct risk assessments and perform lock-out processes where applicable		
WA0203	Interpret engineering manufacturing drawings		
WA0204	Mark-off materials		
WA0205	Clean and cut metal to the required size and shape		
WA0206	Bend or roll metal in the required form and shape of the component		
WA0207	Restore the work area and dispose of waste materials		
WA0208	Complete work reports		

	<b>Supporting Evidence</b>	Date	Signature
SE0201	A learning journal reflecting the job card number and the key points noted by the learner, signed off by the qualified artisan		
SE0202	Signed job card by both learner and a qualified artisan		
SE0203	Time sheets reflecting time spent on activities		
SE0204	Signed off completed risk assessment checklist by both learner and a qualified artisan		
WM-02-WE03	Independently cut, form and clean metal components under the direct guidance and supervision of a qualified artisan for a minimum of 230 hours		
	<b>Scope Work Experience</b>	Date	Signature
WA0301	Gather the necessary technical information, plan the operation and collect relevant tools and equipment		
WA0302	Conduct risk assessments and perform lock-out processes where applicable		
WA0303	Interpret engineering manufacturing drawings		
WA0304	Mark-off materials		
WA0305	Clean and cut metal to the required size and shape		
WA0306	Bend or roll metal in the required form and shape of the component		
WA0307	Restore the work area and dispose of waste materials		
WA0308	Complete work reports		
	<b>Supporting Evidence</b>	Date	Signature

SE0301	A learning journal reflecting the job card number and the key points noted by the learner, signed off by the qualified artisan		
SE0302	Signed job card by both learner and a qualified artisan		
SE0303	Time sheets reflecting time spent on activities		
SE0304	Signed off completed risk assessment checklist by both learner and a qualified artisan		

	<b>Contextualised Workplace Knowledge</b>	Date	Signature
1	Work instructions, checklists, specifications and standards		
2	Organisational policies and procedures		
3	Manufacturer manuals and specifications		
4	Organisational diagnostic equipment and error codes		
5	Company-specific quality system requirements		
6	Waste management policies and procedures		

	<b>Additional Assignments to be Assessed Externally</b>	Date	Signature

**684905000-WM-03, Processes of joining, erecting and assembling metal sub-components and assemblies, NQF Level 4, Credits 50**

WM-03-WE01	Observe and assist a qualified artisan to erect, assemble and join components and assemblies for a minimum of 100 hours		
	<b>Scope Work Experience</b>	Date	Signature
WA0101	Gather the necessary technical information, plan the operation and collect relevant tools and equipment		
WA0102	Conduct risk assessments and perform lock-out processes where applicable		
WA0103	Determine assembly sequence		
WA0104	Lay out components		
WA0105	Lift, balance and move components		
WA0106	Align sub components		
WA0107	Assemble components and subcomponents		
WA0108	Weld components		
WA0109	Join components		
WA0110	Restore the work area and dispose of waste materials		
WA0111	Complete work reports		
	<b>Supporting Evidence</b>	Date	Signature
SE0101	Signed job card by both learner and a qualified artisan		
SE0102	Time sheets reflecting time spent on activities		
SE0103	Signed off completed risk assessment checklist by both learner and a qualified artisan		
WM-03-WE02	Erect, assemble and join components and assemblies under the direct guidance and		

	supervision of a qualified artisan for a minimum of 140 hours		
	<b>Scope Work Experience</b>	Date	Signature
WA0201	Gather the necessary technical information, plan the operation and collect relevant tools and equipment		
WA0202	Conduct risk assessments and perform lock-out processes where applicable		
WA0203	Determine assembly sequence		
WA0204	Lay out components		
WA0205	Lift, balance and move components		
WA0206	Align sub components		
WA0206	Assemble components and subcomponents		
WA0207	Weld components		
WA0208	Join components		
WA0209	Restore the work area and dispose of waste materials		
WA0210	Complete work reports		
	<b>Supporting Evidence</b>	Date	Signature
SE0201	A learning journal reflecting the job card number and the key points noted by the learner, signed off by the qualified artisan		
SE0202	Signed job card by both learner and a qualified artisan		
SE0203	Time sheets reflecting time spent on activities		
SE0204	Signed off completed risk assessment checklist by both learner and a qualified artisan		
WM-03-WE03	Independently erect, assemble and join components and assemblies under limited		

	supervision and signed off by a qualified artisan, for a minimum of 260 hours		
	<b>Scope Work Experience</b>	Date	Signature
WA0301	Gather the necessary technical information, plan the operation and collect relevant tools and equipment		
WA0302	Conduct risk assessments and perform lock-out processes where applicable		
WA0303	Determine assembly sequence		
WA0304	Lay out components		
WA0305	Lift, balance and move components		
WA0306	Align sub components		
WA0307	Assemble components and subcomponents		
WA0308	Weld components		
WA0309	Join components		
WA0310	Restore the work area and dispose of waste materials		
WA0311	Complete work reports		
	<b>Supporting Evidence</b>	Date	Signature
SE0301	A learning journal reflecting the job card number and the key points noted by the learner, signed off by the qualified artisan		
SE0302	Signed job card by both learner and a qualified artisan		
SE0303	Time sheets reflecting time spent on activities		
SE0304	Signed off completed risk assessment checklist by both learner and a qualified artisan		

	<b>Contextualised Workplace Knowledge</b>	Date	Signature
1	Work instructions, checklists, specifications and standards		
2	Organisational policies and procedures		
3	Manufacturer manuals and specifications		
4	Organisational diagnostic equipment and error codes		
5	Company-specific quality system requirements		
6	Waste management policies and procedures		

	<b>Additional Assignments to be Assessed Externally</b>	Date	Signature

**684905000-WM-04, Vehicle shell maintenance processes, NQF Level 4, Credits 50**

WM-04-WE01	Observe and assist a qualified artisan to conduct maintenance on the vehicle shell for a minimum of 100 hours		
	<b>Scope Work Experience</b>	Date	Signature
WA0101	Gather the necessary technical information, plan the operation and collect relevant tools and equipment		
WA0102	Conduct risk assessments and perform lock-out processes		

WA0103	Conduct pre-removal inspections and identify and report any problems		
WA0104	Inspect components and compile condition reports		
WA0105	Remove and replace components where required		
WA0106	Repair sections using panel beating and heat flame techniques		
WA0107	Re-assemble vehicle body panels		
WA0108	Conduct post-assembly inspection and tests		
WA0109	Restore the work area and dispose of waste materials		
WA0111	Complete maintenance reports		
	<b>Supporting Evidence</b>	Date	Signature
SE0101	A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan		
SE0102	Condition and maintenance reports		
SE0103	Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards		
SE0104	Time sheets reflecting time spent on activities		
WM-04-WE02	Conduct maintenance on the vehicle shell under the direct guidance and supervision of a qualified artisan for a minimum of 140 hours		
	<b>Scope Work Experience</b>	Date	Signature

WA0201	Gather the necessary technical information, plan the operation and collect relevant tools and equipment		
WA0202	Conduct risk assessments and perform lock-out processes		
WA0203	Conduct pre-removal inspections and identify and report any problems		
WA0204	Inspect components and compile condition reports		
WA0205	Remove and replace or repair components where required		
WA0206	Remove and replace components where required		
WA0207	Repair sections using panel beating and heat flame techniques		
WA0208	Conduct post-assembly inspection and tests		
WA0209	Restore the work area and dispose of waste materials		
WA0210	Complete maintenance reports		
	<b>Supporting Evidence</b>	Date	Signature
SE0201	A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan		
SE0202	Condition and maintenance reports		
SE0203	Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards		
SE0204	Time sheets reflecting time spent on activities		

WM-04-WE03	Independently conduct maintenance on the vehicle shell under limited supervision and signed off by a qualified artisan, for a minimum of 260 hours		
	<b>Scope Work Experience</b>	Date	Signature
WA0301	Gather the necessary technical information, plan the operation and collect relevant tools and equipment		
WA0302	Conduct risk assessments and perform lock-out processes		
WA0303	Conduct pre-removal inspections and identify and report any problems		
WA0304	Inspect components and compile condition reports		
WA0305	Remove and replace components where required		
WA0306	Repair sections using panel beating and heat flame techniques		
WA0307	Re-assemble vehicle shell		
WA0308	Conduct post-assembly inspection and tests		
WA0309	Restore the work area and dispose of waste materials		
WA0310	Complete maintenance reports		
	<b>Supporting Evidence</b>	Date	Signature
SE0301	A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan		
SE0302	Condition and maintenance reports		
SE0303	Checklist completed by the artisan verifying task completion in accordance with all		

	applicable organisational, safety, quality, environmental and administrative procedures and standards		
SE0304	Time sheets reflecting time spent on activities		

	<b>Contextualised Workplace Knowledge</b>	Date	Signature
1	Work instructions, checklists, specifications and standards		
2	Organisational policies and procedures		
3	Manufacturer manuals and specifications		
4	Organisational diagnostic equipment and error codes		
5	Company-specific quality system requirements		

	<b>Additional Assignments to be Assessed Externally</b>	Date	Signature

**684905000-WM-05, Processes for the installation, maintenance and repair of windows and doors, NQF Level 3, Credits 12**

WM-05-WE01	Observe and assist a qualified artisan installing and maintaining windows and doors for a minimum of 10 hours		
	<b>Scope Work Experience</b>	Date	Signature

WA0101	Gather the necessary technical information, plan the operation and collect relevant tools and equipment		
WA0102	Conduct risk assessments and perform lock-out processes where applicable		
WA0103	Inspect windows and doors		
WA0104	Compile condition reports		
WA0105	Install, remove, repair or replace and refit damaged or new doors and windows		
WA0106	Restore the work area and dispose of waste materials		
WA0107	Complete maintenance reports		
	<b>Supporting Evidence</b>	Date	Signature
SE0101	A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan		
SE0102	Condition and maintenance reports		
SE0103	Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards		
SE0104	Time sheets reflecting time spent on activities		
WM-05-WE02	Conduct installation and maintenance of doors and windows under the direct guidance and supervision of a qualified artisan for a minimum of 50 hours		
	<b>Scope Work Experience</b>	Date	Signature
WA0201	Gather the necessary technical information, plan the operation and collect relevant tools and equipment		

WA0202	Conduct risk assessments and perform lock-out processes where applicable		
WA0203	Inspect doors and windows		
WA0204	Compile condition reports		
WA0205	Install, remove, repair or replace and refit doors and windows		
WA0206	Restore the work area and dispose of waste materials		
WA0207	Complete maintenance reports		
	<b>Supporting Evidence</b>	Date	Signature
SE0201	A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan		
SE0202	Condition and maintenance reports		
SE0203	Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards		
SE0204	Time sheets reflecting time spent on activities		
WM-05-WE03	Independently conduct installation and maintenance of windows and doors under limited supervision and signed off by a qualified artisan, for a minimum of 60 hours		
	<b>Scope Work Experience</b>	Date	Signature
WA0301	Gather the necessary technical information, plan the operation and collect relevant tools and equipment		
WA0302	Conduct risk assessments and perform lock-out processes where applicable		

WA0303	Inspect doors and windows		
WA0304	Compile condition reports		
WA0305	Install, remove, repair or replace and refit doors and windows		
WA0306	Restore the work area and dispose of waste materials		
WA0307	Complete maintenance reports		
	<b>Supporting Evidence</b>	Date	Signature
SE0301	A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan		
SE0302	Condition and maintenance reports		
SE0303	Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards		
SE0304	Time sheets reflecting time spent on activities		

	<b>Contextualised Workplace Knowledge</b>	Date	Signature
1	Work instructions, checklists, specifications and standards		
2	Manufacturer manuals and specifications		
3	Organisational diagnostic equipment and error codes		
4	Company-specific quality system requirements		

5	Waste management policies and procedures		
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	<b>Additional Assignments to be Assessed Externally</b>	Date	Signature
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**684905000-WM-06, Processes for the installation, maintenance and repair of heating and plumbing systems, NQF Level 3, Credits 13**

WM-06-WE01	Observe and assist a qualified artisan to conduct maintenance on plumbing and heating systems for a minimum of 10 hours		
	<b>Scope Work Experience</b>	Date	Signature
WA0101	Identify and use tools		
WA0102	Identify and use personal protective equipment		
WA0103	Inspect, install, remove and fit heating equipment and plumbing systems		
WA0104	Compile condition reports		
WA0105	Remove, repair or replace and refit damaged components		
WA0106	Restore the work area and dispose of waste materials		
WA0107	Complete maintenance reports		
	<b>Supporting Evidence</b>	Date	Signature
SE0101	A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan		
SE0102	Condition and maintenance reports		

SE0103	Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards		
SE0104	Time sheets reflecting time spent on activities		
WM-06-WE02	Conduct installation and maintenance of heating and plumbing systems under the direct guidance and supervision of a qualified artisan for a minimum of 60 hours		
	<b>Scope Work Experience</b>	Date	Signature
WA0201	Gather the necessary technical information, plan the operation and collect relevant tools and equipment		
WA0202	Conduct risk assessments and perform lock-out processes where applicable		
WA0203	Inspect, install, maintain or replace heating equipment and plumbing systems		
WA0204	Compile condition reports		
WA0205	Remove, repair or replace and refit damaged components		
WA0206	Restore the work area and dispose of waste materials		
WA0207	Complete maintenance reports		
	<b>Supporting Evidence</b>	Date	Signature
SE0201	A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan		
SE0202	Condition and maintenance reports		
SE0203	Checklist completed by the artisan verifying task completion in accordance with all		

	applicable organisational, safety, quality, environmental and administrative procedures and standards		
SE0204	Time sheets reflecting time spent on activities		
WM-06-WE03	Independently conduct installation and maintenance of heating and plumbing systems under limited supervision and signed off by a qualified artisan, for a minimum of 60 hours		
	<b>Scope Work Experience</b>	Date	Signature
WA0301	Gather the necessary technical information, plan the operation and collect relevant tools and equipment		
WA0302	Conduct risk assessments and perform lock-out processes where applicable		
WA0303	Inspect, install, maintain or replace heating equipment and plumbing systems		
WA0304	Compile condition reports		
WA0305	Remove, repair or replace and refit damaged components		
WA0306	Restore the work area and dispose of waste materials		
WA0307	Complete maintenance reports		
	<b>Supporting Evidence</b>	Date	Signature
SE0301	A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan		
SE0302	Condition and maintenance reports		
SE0303	Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality,		

	environmental and administrative procedures and standards		
SE0304	Time sheets reflecting time spent on activities		

	<b>Contextualised Workplace Knowledge</b>	Date	Signature
1	Work instructions, checklists, specifications and standards		
2	Organisational policies and procedures		
3	Manufacturer manuals and specifications		
4	Organisational diagnostic equipment and error codes		
5	Company-specific quality system requirements 6 Waste management policies and procedures		

	<b>Additional Assignments to be Assessed Externally</b>	Date	Signature

**684905000-WM-07, Processes for the installation, maintenance and repair of wooden components, ceilings, floors and interior side panels , NQF Level 3, Credits 30**

WM-07-WE01	installation and maintenance on wooden components, ceilings, floors and interior side panels for a minimum of 40 hours		
	<b>Scope Work Experience</b>	Date	Signature

WA0101	Gather the necessary technical information, plan the operation and collect relevant tools and equipment		
WA0102	Conduct risk assessments and perform lock-out processes where applicable		
WA0103	Inspect wooden components, ceilings, floors and interior side panels		
WA0104	Compile condition reports		
WA0105	Install, remove, repair or replace and refit damaged components		
WA0106	Restore the work area and dispose of waste materials		
WA0107	Complete maintenance reports		
	<b>Supporting Evidence</b>	Date	Signature
SE0101	A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan		
SE0102	Condition and maintenance reports		
SE0103	Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards		
SE0104	Time sheets reflecting time spent on activities		
WM-07-WE02	Conduct installation, maintenance and repair on wooden components, ceilings, floors and interior side panels under the direct guidance and supervision of a qualified artisan for a minimum of 130 hours		
	<b>Scope Work Experience</b>	Date	Signature

WA0201	Gather the necessary technical information, plan the operation and collect relevant tools and equipment		
WA0202	Conduct risk assessments and perform lock-out processes where applicable		
WA0203	Inspect wooden components, ceilings, floors and interior side panels		
WA0204	Compile condition reports		
WA0205	Install, remove, repair or replace and refit damaged components		
WA0206	Restore the work area and dispose of waste materials		
WA0207	Complete maintenance reports		
	<b>Supporting Evidence</b>	Date	Signature
SE0201	A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan		
SE0202	Condition and maintenance reports		
SE0203	Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards		
SE0204	Time sheets reflecting time spent on activities		
WM-07-WE03	Independently conduct installation, maintenance and repair on wooden components, ceilings, floors and interior side panels under limited supervision and signed off by a qualified artisan, for a minimum of 130 hours		
	<b>Scope Work Experience</b>	Date	Signature

WA0301	Gather the necessary technical information, plan the operation and collect relevant tools and equipment		
WA0302	Conduct risk assessments and perform lock-out processes where applicable		
WA0303	Inspect wooden components, ceilings, floors and interior side panels		
WA0304	Compile condition reports		
WA0305	Install, remove, repair or replace and refit damaged components		
WA0306	Restore the work area and dispose of waste materials		
WA0306	Complete maintenance reports		
	<b>Supporting Evidence</b>	Date	Signature
SE0301	A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan		
SE0302	Condition and maintenance reports		
SE0303	Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards		
SE0304	Time sheets reflecting time spent on activities		

	<b>Contextualised Workplace Knowledge</b>	Date	Signature
1	Work instructions, checklists, specifications and standards		

2	Organisational policies and procedures		
3	Company-specific quality system requirements		
4	Waste management policies and procedures		

	<b>Additional Assignments to be Assessed Externally</b>	Date	Signature
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**684905000-WM-08, Processes and procedures for fitting and maintaining seats and interior accessories, NQF Level 3, Credits 5**

WM-08-WE01	Observe and assist a qualified artisan to conduct maintenance on seats and interior accessories for a minimum of 5 hours		
	<b>Scope Work Experience</b>	Date	Signature
WA0101	Gather the necessary technical information, plan the operation and collect relevant tools and equipment		
WA0102	Conduct risk assessments and perform lock-out processes where applicable		
WA0103	Inspect seats and interior accessories		
WA0104	Compile condition reports		
WA0105	Install, remove, repair or replace and refit damaged components		
WA0106	Restore the work area and dispose of waste materials		
WA0107	Complete maintenance reports		

	<b>Supporting Evidence</b>	Date	Signature
SE0101	A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan		
SE0102	Condition and maintenance reports		
SE0103	Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards		
SE0104	Time sheets reflecting time spent on activities		
WM-08-WE02	Conduct maintenance and repair on seats and interior accessories under the direct guidance and supervision of a qualified artisan for a minimum of 22 hours		
	<b>Scope Work Experience</b>	Date	Signature
WA0201	Gather the necessary technical information, plan the operation and collect relevant tools and equipment		
WA0202	Conduct risk assessments and perform lock-out processes where applicable		
WA0203	Inspect components including seats and interior accessories		
WA0204	Compile condition reports		
WA0205	Install, remove, repair or replace and refit damaged components		
WA0206	Install, remove, repair or replace and refit damaged components		
WA0206	Restore the work area and dispose of waste materials		
WA0207	Complete maintenance reports		

	<b>Supporting Evidence</b>	Date	Signature
SE0201	A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan		
SE0202	Condition and maintenance reports		
SE0203	Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards		
SE0204	Time sheets reflecting time spent on activities		
WM-08-WE03	Independently conduct maintenance and repair of seats and interior accessories under limited supervision and signed off by a qualified artisan, for a minimum of 23hours		
	<b>Scope Work Experience</b>	Date	Signature
WA0301	Gather the necessary technical information, plan the operation and collect relevant tools and equipment		
WA0302	Conduct risk assessments and perform lock-out processes where applicable		
WA0303	Inspect seats and interior accessories		
WA0304	Compile condition reports		
WA0305	Install, remove, repair or replace and refit damaged components		
WA0306	Restore the work area and dispose of waste materials		
WA0307	Complete maintenance reports		
	<b>Supporting Evidence</b>	Date	Signature

SE0301	A learning journal reflecting the job card number and the key points noted by the learner, signed off by the artisan		
SE0302	Condition and maintenance reports		
SE0303	Checklist completed by the artisan verifying task completion in accordance with all applicable organisational, safety, quality, environmental and administrative procedures and standards		
SE0304	Time sheets reflecting time spent on activities		

	<b>Contextualised Workplace Knowledge</b>	Date	Signature
1	Work instructions, checklists, specifications and standards		
2	Organisational policies and procedures		
3	Company-specific quality system requirements		
4	Waste management policies and procedures		

	<b>Additional Assignments to be Assessed Externally</b>	Date	Signature