No. 1279 **5 December 2008**

SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)

In accordance with Regulation 24(c) of the National Standards Bodies Regulations of 28 March 1998, the Standards Generating Body (SGB) for

Vehicle Maintenance

registered by Organising Field 06 – Manufacturing, Engineering and Technology, publishes the following Qualification and Unit Standard for public comment.

This notice contains the titles, fields, sub-fields, NQF levels, credits, and purpose of the Qualification and Unit Standard. The full Qualification and Unit Standard can be accessed via the SAQA web-site at **www.saqa.org.za**. Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, SAQA House, 1067 Arcadia Street, Hatfield, Pretoria.

Comment on the Qualification and Unit Standard should reach SAQA at the address below and ***no later than 5 January 2009.*** All correspondence should be marked **Standards Setting – SGB for Vehicle Maintenance** and addressed to

The Director: Standards Setting and Development
SAQA
Attention: Mr. E. Brown
Postnet Suite 248
Private Bag X06
Waterkloof
0145
or faxed to 012 – 431-5144
e-mail: ebrown@saqa.org.za

D. MPHUTHING
ACTING DIRECTOR: STANDARDS SETTING AND DEVELOPMENT

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:
National Certificate: Automotive Body Repair

SAQA QUAL ID	*QUALIFICATION TITLE*		
64709	National Certificate: Automotive Body Repair		
ORIGINATOR		*PROVIDER*	
SGB Vehicle Maintenance			
QUALIFICATION TYPE	*FIELD*	*SUBFIELD*	
National Certificate	6 - Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	*MINIMUM CREDITS*	*NQF LEVEL*	*QUAL CLASS*
Undefined	120	Level 2	Regular-Unit Stds Based

This qualification does not replace any other qualification and is not replaced by another qualification.

PURPOSE AND RATIONALE OF THE QUALIFICATION
Purpose:

The purpose of this qualification is to provide learners with the standards and the range of learning required to work effectively in the Automotive Body Repair industry. This qualification will enable learners to meet the challenges of an industry that has shown a rapid increase through the introduction of new technology in body repair methods.

This qualification also serves to develop new skills for new technology. It creates an infrastructure of sound technological support and opportunities in a labour market with a growing demand to recognise people for their skills and to meet the challenges of the automotive body repair environment.

The primary skill that is recognised in this qualification is the ability to understand and apply the relevant theory of auto body construction and passive- and active safety systems in order to repair minor dents. Hand skills also play an important role in this qualification and successful learners will need to apply hand skills in completing their tasks.

After achieving this qualification learners will be able to:

> Communicate with peers and supervisors in an automotive work context.
> Use and maintain automotive workshop tools and equipment.
> Prepare a vehicle for automotive body repair work.
> Repair minor accident damage to vehicles.

Rationale:

The automotive body repair industry is subjected to the ever increasing new technology of body repair methods. This necessitates that learning programmes are developed so that learners entering this field of learning are introduced to this new technology at an early stage of their career.

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Introducing learners at this level of learning also forms the support structure in an automotive body repair shop from where learning gradually progresses to more advanced repair techniques at higher levels of learning, thereby exposing learners to more advanced and sophisticated body repair methods and equipment.

This is the first qualification in a series and forms the basis for learners who want to follow a career in the field of automotive body repair. This qualification focuses on developing skills and knowledge necessary to begin such a career. It also provides learners who have gained relevant experience in the workplace with an opportunity to obtain credits through an RPL process.

This qualification recognises the skills, knowledge and values relevant in the workplace and will cater for learners who:

> Have attended courses and need to apply the knowledge gained to activities in the workplace.
> Are already workers and have acquired skills and knowledge without having attended formal training.
> Are part of a learnership programme which integrates structured learning and operational experience.

RECOGNIZE PREVIOUS LEARNING?
Y

LEARNING ASSUMED IN PLACE
Learners registering for this qualification should already have achieved a General Education and Training Certificate at NQF Level 1or equivalent.

If the learner does not already have such a qualification, learning in preparation for this qualification should include:

> Literacy and numeracy at NQF Level 1.
> Basic concepts of science and technology at NQF Level 1.

Recognition of Prior Learning:

The structure of this qualification makes the Recognition of Prior Learning possible, if the learner is able to demonstrate competence in the knowledge, skills, values and attitudes implicit in this Qualification. Recognition of Prior Learning will be done by means of an Integrated Assessment as mentioned in the previous paragraph.

This Recognition of Prior Learning may allow:

> For accelerated access to further learning.
> Gaining of credits towards any of the Exit Level Outcomes in this qualification.

All recognition of Prior Learning is subject to quality assurance by the relevant accredited Education and Training Quality Assurance Body (ETQA) and must be conducted by a registered workplace assessor. Identified outcomes may have been acquired in a range of economic sectors and these will be considered as appropriate where the candidate provides evidence of the applicability of that learning to this qualification.

Access to the Qualification:

This qualification is open for anyone who wishes to pursue a career in automotive body repair, but prior achievement of the "Learning Assumed to be in Place" would facilitate an easier progression into learning programmes to address the outcomes of this qualification.

QUALIFICATION RULES
Rules of combination for this qualification are as follows:

> All Fundamental unit standards are compulsory (36 Credits).

> All Core unit standards are compulsory (51 Credits).

> Additional Elective unit standards accounting for 33 credits must be selected to achieve a total of 120 credits for this qualification.

EXIT LEVEL OUTCOMES
1. Communicate with peers and supervisors in an automotive work context.

2. Use and maintain automotive workshop tools and equipment.

3. Prepare a vehicle for automotive body repair work.

4. Repair minor accident damage to vehicles.

Critical Cross-Field Outcomes:

This qualification addresses the following critical cross-field outcomes, as detailed in the unit standards:

> Identifying and solving problems in which responses indicate that responsible decisions using critical and creative thinking have been made.
> Working effectively with others as a member of a team, group, organisation or community.
> Organising and managing oneself and one's activities responsibly and effectively.
> Collecting, analysing, organising and critically evaluating information.
> Communicating effectively using visual, mathematical and/or language skills in the modes of oral/written persuasion.
> Using science and technology effectively and critically, showing responsibility towards the environment and health of others.
> Demonstrating and understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation.

ASSOCIATED ASSESSMENT CRITERIA
Associated Assessment Criteria for Exit Level Outcome 1:

1.1 Oral communication is maintained and adapted as required to promote effective interaction in a work context.
1.2 Terminology used is appropriate to the situation and in accordance with normal workplace usage.
1.3 Information related to work tasks is accessed and interpreted from a range of written and oral sources to ensure that work requirements are understood.
1.4 Communication is clear and unambiguous and at an appropriate level for designated target audiences.
1.5 Information communicated is accurate and conveyed in accordance with acceptable timeframes.
1.6 Communication is effective, regular and ongoing.

Associated Assessment Criteria for Exit Level Outcome 2:

2.1 Tools and equipment are selected and used in accordance with their design and are appropriate for the task at hand.

2.2 Tools and equipment required for the scope of work are sourced from available supplies.
2.3 Tools and equipment are checked for condition prior to use.
2.4 Faulty tools are identified and replaced or repaired according to workplace procedures.
2.5 Tools and equipment are used according to manufacturer operating guidelines.

Associated Assessment Criteria for Exit Level Outcome 3:

3.1 The vehicle is made safe to work with in accordance with manufacturer specifications.
3.2 Body construction features of the vehicle are identified in relation to access to damaged area.
3.3 Vehicle safety features are identified in terms of precautions when working near activation points.
3.4 Damaged panels are prepared for repair in accordance with workplace procedures.
3.5 Damaged components are cleaned and dismantled according to organisational requirements.
3.6 Work is conducted with due consideration for other team members and overall productivity.

Associated Assessment Criteria for Exit Level Outcome 4:

4.1 Vehicles are moved and lifted in accordance with accepted workplace procedures.
4.2 Damaged components are removed and replaced according to manufacturer specifications.
4.3 Consequences of not replacing components correctly are described in terms of safety hazards and customer satisfaction.
4.4 Damaged body panels are repaired to original manufacturer specifications.
4.5 Repaired panels are replaced and sealed in accordance with manufacturer specifications.
4.6 Work is conducted with due consideration for other team members and overall productivity.

Integrated Assessment:

Because assessment practices must be open, transparent, fair, valid, and reliable and ensure that no learner is disadvantaged in any way whatsoever, an integrated assessment approach is incorporated into the Qualification. Learning, teaching and assessment are inextricably linked. Whenever possible, the assessment of knowledge, skills, attitudes and values shown in the exit level outcomes should be integrated.

A variety of methods must be used in assessment tools and activities must be appropriate to the context in which the learner is working. Where it is not possible to assess the learner in the workplace or on-the-job, simulations, case studies, role-plays and other similar techniques should be used to provide a context appropriate to the assessment.

The term 'Integrated Assessment' implies that theoretical and practical components should be assessed together. During integrated assessments the assessor should make use of formative and summative assessment methods and assess combinations of practical, applied, foundational and reflective competencies. Assessors should assess and give credit for the evidence of learning that has already been acquired through formal, informal and non-formal learning and work experience.

Assessment should ensure that all outcomes, embedded knowledge and critical cross-field outcomes are assessed. The assessment of the critical cross-field outcomes should be integrated with the assessment of specific outcomes and embedded knowledge.

INTERNATIONAL COMPARABILITY

This qualification is part of a series of qualifications in the field of Automotive Body Repair and was compared to other, similar outcomes-based qualifications in various countries as follows:

New Zealand:

The National Certificate in Motor Industry (Panelbeating) is a New Zealand qualification at NQF Level 4. This is a three year qualification without qualifications or exit level outcomes at the intermediate levels. The qualification is pitched at NQF Level 4 on their NQF with only unit standards and credits at NQF Levels 1 to 4. This notwithstanding, the technical content of this qualification does correspond with the equivalent level of qualification in Automotive Body Repair in New Zealand.

United Kingdom:

The Level 2 Certificate in Automotive Engineering covers aspects related to this qualification but also includes more broadly defined work aspects such as Motor Vehicle Refinisher, Motor Vehicle Builder, Motor Vehicle Mechanic and Motor Vehicle Technician. The scope is way beyond that of a panel beater and includes aspects of vehicle engine performance and improved suspension for racing.

The basic methods of assessment include Coursework, Oral Examination, Portfolio of Evidence, Practical Demonstration/Assignment, Practical Examination and Written Examination. No units are specified as compulsory, and the learner may select any units they like, totalling 120 credits. Notes are given regarding accepted grouping of units and progression to further levels of education.

The Level of the Level 2 Certificate in Automotive Engineering is much higher than the South African NQF Level 2 and covers various aspects included in the South African qualifications at Levels 3 and 4.

Elements of the Institute of Motor Industry (IMI) in the UK have been used in benchmarking best practice procedures in some of the unit standards used in this qualification. The NVQ qualifications offered in the UK cover all the same objectives of this series of qualifications at various levels of complexity. The qualifications are offered as an internship wherein the learner enrols with a college or training centre for the theoretical component, and achieves the practical component in-house. The qualifications are all based on specific levels of performance, and lead to progressive levels of complexity, but are identified as separate qualifications. The learning towards these qualifications is offered through long-term learner-employer relationships, with short-term stints at a training centre. Qualification titles in the UK include:

> Vehicle Refinishing - Level 3: (Q1017590).
> Vehicle Body Repair - Level 3: (Q1015917).
> Vehicle Body Fitting - Level 2: (Q1015913).

Australia:

The Certificate in Automotive Vehicle Body Repair is a 3 year course for artisans to learn how to repair and paint vehicles. The qualification has 2 specialisation areas: one for spray painting and one for panel beating. Both specialisation areas comprise less than 1200 notional learning hours, but are spread out over 3 Levels, with core units being specified at the entry level (Level 2).

There are a range of elective units that may be selected from different categories, but the rules of combination indicate that all units must be selected, thereby not allowing the learner any choice in learning. The qualification aims at targeting competence at artisan level only with no recognition for achievement of less than the whole qualification.

Denmark:

The Danish panel beater qualification is spread over 4 years with 55 weeks of formal education and training and 153 weeks of on-the-job training. Danish vocational education and training programmes are alternating programmes, which means that the education and training activities alternate between education and training at a school and on-the-job training in an enterprise. The training programme is a full vocational education and training programme, equivalent to Level 3 in the Isced system.

No breakdown of the qualification is given in terms of units of learning, but the end point equates to the South African Level 4 Panel Beater. There is no recognition for achievement of less than the whole qualification.

Germany:

The qualifications offered in Germany are also predominantly vocational qualifications with theoretical components being achieved through a specified period at a training centre. The qualifications are aimed at achieving complete competence in all aspects of vehicle maintenance through the progressive series of qualifications and includes mechanical, electrical and coach works (panel beating). The training programmes are progressive qualifications of one-year duration each and include ongoing training through workbooks in which the trainee is required to complete evidence of understanding for each month of the registered year of learning. Germany has a requirement that competent people be licensed to operate under the meister (master craftsman) programme, and this licence is valid for a period of two years. The qualification titles offered in Germany include:

> Auto Fachman - Level 1.
> Auto Fachman - Level 2.
> Auto Fachman - Level 3.
> Auto Fachman - Meister.

United States of America:

America uses a system of specialisation areas, with a master technician being identified as a person who is competent in all areas and will be able to perform on almost any part of a vehicle. The learning is conducted through apprenticeships and has specialisation areas for:

> Engine technicians.
> Transmission technicians.
> Steering and suspension technicians.
> Brake technicians.
> Electrical system technicians.
> Heating and air-conditioning technicians.
> Driveability and performance technicians.
> Lubrication technicians.
> Coachwork technicians.

SADC:

None of the SADC countries have their own qualifications relating to vehicle maintenance, but use the British City and Guilds Standards for training learners in the automotive field. Namibia has indicated interest in the South African qualifications and may implement this qualification once it has been registered.

Conclusion:

Most other countries have a streamlined qualification process that ends in a required result, but does not recognise competence in parts of the qualification. This has been identified as a

problem in the South African context, and that was why the move to the NQF and unit standards was made. Through achieving this qualification, learners will given recognition for their abilities after just one year of learning. Alternately, learners may achieve employable skills by electing to exit with one or more Exit Level Outcomes instead of the entire qualification.

ARTICULATION OPTIONS
This Qualification lends itself to both vertical and horizontal articulation possibilities.

Horizontal articulation is possible with the following Qualifications:

> ID 49689 - National Certificate: Automotive Repair and Maintenance, NQF Level 2.
> ID 21004 - National Certificate: Automotive Component Manufacturing and Assembly, NQF Level 2.
> ID 22858 - National Certificate: Autotronics, NQF Level 2.
> ID 63473 - National Certificate: Mechanical Engineering: Fitting: Manufacturing and Engineering, NQF Level 2.
> ID 22770 - National Certificate: Mechatronics, NQF Level 2.
> ID 62709 - National Certificate: Service Station Operations, NQF Level 2.
> ID 64410 - National Certificate: Automotive Spray Painting, NQF Level 2.

Vertical articulation is possible with the following qualifications:

> ID 64529 - National Certificate: Automotive Body Repair at NQF Level 3.

MODERATION OPTIONS
> Any institution offering learning that will enable the achievement of this Qualification must be accredited as a provider with the relevant Education and Training Quality Assurance Body (ETQA).

> Anyone assessing a learner or moderating the assessment of a learner against this Qualification must be registered as an assessor with the relevant ETQA.

> Assessment and moderation of assessment will be overseen by the relevant ETQA according to the ETQA's policies and guidelines for assessment and moderation, in terms of agreements reached around assessment and moderation between ETQAs (including professional bodies).

> Moderation must include both internal and external moderation of assessments at exit points of the Qualification, unless ETQA policies specify otherwise. Moderation should also encompass achievement of the competence described in the ELOs of the Qualification and will include integration of skills relevant to the economic sector.

CRITERIA FOR THE REGISTRATION OF ASSESSORS
Assessors must be registered in terms of the requirements of SAQA and the relevant ETQA. In addition, assessors should have:

> A minimum of 3 (three) years' practical, relevant occupational experience.
> A relevant Qualification at NQF Level 3 or higher.
> The ability to meet the outcomes of this qualification.

NOTES
N/A

UNIT STANDARDS

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Fundamental	119463	Access and use information from texts	Level 2	5

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Fundamental	9009	Apply basic knowledge of statistics and probability to influence the use of data and procedures in order to investigate life related problems	Level 2	3
Fundamental	7480	Demonstrate understanding of rational and irrational numbers and number systems	Level 2	3
Fundamental	9008	Identify, describe, compare, classify, explore shape and motion in 2-and 3-dimensional shapes in different contexts	Level 2	3
Fundamental	119454	Maintain and adapt oral/signed communication	Level 2	5
Fundamental	119460	Use language and communication in occupational learning programmes	Level 2	5
Fundamental	7469	Use mathematics to investigate and monitor the financial aspects of personal and community life	Level 2	2
Fundamental	9007	Work with a range of patterns and functions and solve problems	Level 2	5
Fundamental	119456	Write/present for a defined context	Level 2	5
Core	260158	Apply sealers and cavity fillers on vehicles	Level 2	4
Core	13220	Keep the work area safe and productive	Level 2	8
Core	119734	Perform surface preparation on a body panel	Level 2	8
Core	119741	Remove, replace and align body parts	Level 2	8
Core	119747	Repair minor dents on ferrous body shell and parts	Level 2	8
Core	15123	Select and use vehicle lifting equipment	Level 2	3
Core	119744	Select, use and care for engineering hand tools	Level 2	8
Core	119736	Understand the body construction and safety features of a vehicle	Level 2	4
Elective	116932	Operate a personal computer system	Level 1	3
Elective	119752	Adjust headlights	Level 2	2
Elective	13217	Collect and use information	Level 2	5
Elective	119745	Conduct an inspection	Level 2	4
Elective	243067	Cut materials using the oxy-fuel gas cutting process (manual cutting)	Level 2	6
Elective	12465	Develop a learning plan and a portfolio for assessment	Level 2	6
Elective	12466	Explain the individual`s role within business	Level 2	4
Elective	9268	Manage basic personal finance	Level 2	6
Elective	119753	Perform basic welding/joining of metals	Level 2	8
Elective	260159	Polish automotive painted panels	Level 2	6
Elective	12219	Select, use and care for engineering power tools	Level 2	6

LEARNING PROGRAMMES RECORDED AGAINST THIS QUALIFICATION
None

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:
National Certificate: Automotive Body Repair

SAQA QUAL ID	***QUALIFICATION TITLE***		
64529	National Certificate: Automotive Body Repair		
ORIGINATOR		***PROVIDER***	
SGB Vehicle Maintenance			
QUALIFICATION TYPE	***FIELD***	***SUBFIELD***	
National Certificate	6 - Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	***MINIMUM CREDITS***	***NQF LEVEL***	***QUAL CLASS***
Undefined	135	Level 3	Regular-Unit Stds Based

This qualification does not replace any other qualification and is not replaced by another qualification.

PURPOSE AND RATIONALE OF THE QUALIFICATION
Purpose:

The purpose of this qualification is to provide learners with the standards and the range of learning required to work effectively in the Automotive Body Repair industry. This qualification will enable learners to meet the challenges of an industry that has shown a rapid increase through the introduction of new technology in body repair methods.

This qualification also serves to develop new skills for new technology. It creates an infrastructure of sound technological support and opportunities in a labour market with a growing demand to recognise people for their skills and to meet the challenges of the automotive body repair environment.

The primary skill that is recognised in this qualification is the ability to apply detailed knowledge of vehicle metallurgy and repair techniques in order to repair major dents. Hand skills also play an important role in this qualification and successful learners will need to apply hand skills in completing their tasks.

After achieving this qualification learners will be able to:

> Communicate with peers and supervisors in an automotive work context.
> Solve recurring problems in an automotive workshop.
> Use and maintain automotive workshop tools and equipment.
> Remove and replace vehicle parts.
> Repair damaged ferrous metal panels.

Rationale:

The automotive body repair industry is subjected to the ever increasing new technologies of body repair methods. At the level of this qualification, learners will be required to conduct various complex repair processes for which the use of sophisticated tools, equipment and processes are necessary. Most vehicles are now equipped with electronic controlled devises and safety restraint systems that are all interlinked and controlled by on board computers and

therefore insurance companies demand from the Automotive Body Repair Industry that only skilled people are allowed to perform the repair work on vehicles.

This is the second qualification in a series and forms the main competence for learners who want to follow a career in the field of automotive body repair. This qualification focuses on developing skills and knowledge necessary to be successful in such a career and can be built on to develop skills at NQF Level 4 in chassis straightening and structural repair. It also provides learners who have gained relevant experience in the workplace with an opportunity to obtain credits through an RPL process.

This qualification recognises the skills, knowledge and values relevant in the workplace and will cater for learners who:

> Have attended courses and need to apply the knowledge gained to activities in the workplace.
> Are already workers and have acquired skills and knowledge without having attended formal training.
> Are part of a learnership programme which integrates structured learning and operational experience.

RECOGNIZE PREVIOUS LEARNING?
Y

LEARNING ASSUMED IN PLACE
Learners registering for this qualification should already have achieved the National Certificate in Automotive Body Repair at NQF Level 2, as this qualification builds on the learning acquired at that level.

If the learner does not already have such a qualification, learning in preparation for this qualification should include:

> Literacy and numeracy at NQF Level 2.
> Basic concepts of science and technology at NQF Level 2.
> Use of automotive workshop tools and equipment at NQF Level 2.
> Repairing minor accident damage to vehicles at NQF Level 2.

Recognition of Prior Learning:

The structure of this qualification makes the Recognition of Prior Learning possible, if the learner is able to demonstrate competence in the knowledge, skills, values and attitudes implicit in this Qualification. Recognition of Prior Learning will be done by means of an Integrated Assessment as mentioned in the previous paragraph.

This Recognition of Prior Learning may allow:

> For accelerated access to further learning.
> Gaining of credits towards any of the Exit Level Outcomes in this qualification.

All recognition of Prior Learning is subject to quality assurance by the relevant accredited Education and Training Quality Assurance Body (ETQA) and must be conducted by a registered workplace assessor. Identified outcomes may have been acquired in a range of economic sectors and these will be considered as appropriate where the candidate provides evidence of the applicability of that learning to this qualification.

Access to the Qualification:

This qualification is open for anyone who wishes to pursue a career in automotive body repair, but prior achievement of the "Learning Assumed to be in Place" would facilitate an easier progression into learning programmes to address the outcomes of this qualification.

QUALIFICATION RULES
Rules of combination for this qualification are as follows:

> All Fundamental unit standards are compulsory (36 Credits).
> All Core unit standards are compulsory (85 Credits).
> Additional Elective unit standards accounting for 14 credits must be selected to achieve a total of 135 credits for this qualification.

EXIT LEVEL OUTCOMES
1. Communicate with peers and supervisors in an automotive work context.

2. Solve recurring problems in an automotive workshop.

3. Use and maintain automotive workshop tools and equipment.

4. Remove and replace vehicle parts.

5. Repair damaged ferrous metal panels.

Critical Cross-Field Outcomes:

This qualification addresses the following critical cross-field outcomes, as detailed in the unit standards:

> Identifying and solving problems in which responses indicate that responsible decisions using critical and creative thinking have been made.
> Working effectively with others as a member of a team, group, organisation or community.
> Organising and managing oneself and one's activities responsibly and effectively.
> Collecting, analysing, organising and critically evaluating information.
> Communicating effectively using visual, mathematical and/or language skills in the modes of oral/written persuasion.
> Using science and technology effectively and critically, showing responsibility towards the environment and health of others.
> Demonstrating and understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation.

ASSOCIATED ASSESSMENT CRITERIA
Associated Assessment Criteria for Exit Level Outcome 1:

1.1 Oral communication is maintained and adapted as required to promote effective interaction in a work context.
1.2 Terminology used is appropriate to the situation and in accordance with normal workplace usage.
1.3 Information related to work tasks is accessed and interpreted from a range of written and oral sources to ensure that work requirements are understood.
1.4 Communication is clear and unambiguous and at an appropriate level for designated target audiences.
1.5 Information communicated is accurate and conveyed in accordance with acceptable timeframes.
1.6 Communication is effective, regular and ongoing.
1.7 Interaction with others to process the completed work is effective and in accordance with the workplace procedures.

1.8 Reports are completed according to workplace scheduling requirements in a timely manner and in the required format.

Associated Assessment Criteria for Exit Level Outcome 2:

2.1 Problems are identified within an acceptable timeframe.
2.2 The problem is described in terms of the scope of the problem, possible solutions, costs and the effect on customer satisfaction.
2.3 Solutions applied are suited to the problem and lead to cost effective results.
2.4 Problems that do not have immediate solutions are reported to relevant personnel in accordance with workplace procedures.

Associated Assessment Criteria for Exit Level Outcome 3:

3.1 Tools and equipment are selected and used in accordance with their design and are appropriate for the task at hand.
3.2 Tools and equipment required for the scope of work are sourced from available supplies.
3.3 Tools and equipment are checked for condition prior to use. Faulty tools are identified and replaced or repaired as appropriate.
3.4 Cutting and joining of metals is in accordance with manufacturer specifications.

Associated Assessment Criteria for Exit Level Outcome 4:

4.1 The vehicle is made safe to work with in accordance with manufacturer specifications.
4.2 Body construction features of the vehicle are identified in relation to access to damaged parts.
4.3 Vehicle safety features are identified in terms of precautions when working near activation points.
4.4 Pre and post removal and installation procedures are carried out in accordance with the workplace procedures and the manufacturer's specifications at an appropriate time during the process.
4.5 All the relevant liquids are removed and dispensed of in accordance with the workplace and SHE procedures.
4.6 Vehicle parts are removed and replaced in accordance with the workplace and manufacturer specifications without damage to the surrounding area, parts or components.
4.7 Consequences of not replacing parts correctly are described in terms of safety hazards and customer satisfaction.
4.8 Work is conducted with due consideration for other team members and overall productivity.

Associated Assessment Criteria for Exit Level Outcome 5:

5.1 The required repair processes are performed completed and quality assured in accordance with the workplace procedures and the manufacturer's specifications.
5.2 Repaired panels are fitted and aligned to other panels in accordance with manufacturer specifications.
5.3 Work is conducted with due consideration for other team members and overall productivity.

Integrated Assessment:

Because assessment practices must be open, transparent, fair, valid, and reliable and ensure that no learner is disadvantaged in any way whatsoever, an integrated assessment approach is incorporated into the Qualification. Learning, teaching and assessment are inextricably linked. Whenever possible, the assessment of knowledge, skills, attitudes and values shown in the exit level outcomes should be integrated.

A variety of methods must be used in assessment tools and activities must be appropriate to the context in which the learner is working. Where it is not possible to assess the learner in the workplace or on-the-job, simulations, case studies, role-plays and other similar techniques should be used to provide a context appropriate to the assessment.

The term 'Integrated Assessment' implies that theoretical and practical components should be assessed together. During integrated assessments the assessor should make use of formative and summative assessment methods and assess combinations of practical, applied, foundational and reflective competencies. Assessors should assess and give credit for the evidence of learning that has already been acquired through formal, informal and non-formal learning and work experience.

Assessment should ensure that all outcomes, embedded knowledge and critical cross-field outcomes are assessed. The assessment of the critical cross-field outcomes should be integrated with the assessment of specific outcomes and embedded knowledge.

INTERNATIONAL COMPARABILITY
This qualification is part of a series of qualifications in the field of Automotive Body Repair and was compared to other, similar outcomes-based qualifications in various countries as follows:

New Zealand:

The National Certificate in Motor Industry (Panelbeating) is a New Zealand qualification at NQF Level 4. This is a three year qualification without qualifications or exit level outcomes at the intermediate levels. The qualification is pitched at NQF Level 4 on their NQF with only unit standards and credits at NQF Levels 1 to 4. This notwithstanding, the technical content of this qualification does correspond with the equivalent level of qualification in Automotive Body Repair in New Zealand.

United Kingdom:

The Level 2 Certificate in Automotive Engineering covers aspects related to this qualification but also includes more broadly defined work aspects such as Motor Vehicle Refinisher, Motor Vehicle Builder, Motor Vehicle Mechanic and Motor Vehicle Technician. The scope is way beyond that of a panel beater and includes aspects of vehicle engine performance and improved suspension for racing.

The basic methods of assessment include Coursework, Oral Examination, Portfolio of Evidence, Practical Demonstration/Assignment, Practical Examination and Written Examination. No units are specified as compulsory, and the learner may select any units they like, totalling 120 credits. Notes are given regarding accepted grouping of units and progression to further levels of education.

The level of the level 2 Certificate in Automotive Engineering is much higher than the South African NQF level 3 and covers various aspects included in the South African qualifications at Levels 2 and 4.

Elements of the Institute of Motor Industry (IMI) in the UK have been used in benchmarking best practice procedures in some of the unit standards used in this qualification. The NVQ qualifications offered in the UK cover all the same objectives of this series of qualifications at various levels of complexity. The qualifications are offered as an internship wherein the learner enrols with a college or training centre for the theoretical component, and achieves the practical component in-house. The qualifications are all based on specific levels of performance, and lead to progressive levels of complexity, but are identified as separate qualifications. The learning towards these qualifications is offered through long-term learner-employer relationships, with short-term stints at a training centre. Qualification titles in the UK include:

> Vehicle Refinishing - Level 3: (Q1017590).
> Vehicle Body Repair - Level 3: (Q1015917).
> Vehicle Body Fitting - Level 2: (Q1015913).

Australia:

The Certificate in Automotive Vehicle Body Repair is a 3 year course for artisans to learn how to repair and paint vehicles. The qualification has 2 specialisation areas: one for spray painting and one for panel beating. Both specialisation areas comprise less than 1200 notional learning hours, but are spread out over 3 levels, with core units being specified at the entry level (Level 2).

There are a range of elective units that may be selected from different categories, but the rules of combination indicate that all units must be selected, thereby not allowing the learner any choice in learning. The qualification aims at targeting competence at artisan level only with no recognition for achievement of less than the whole qualification.

Denmark:

The Danish panel beater qualification is spread over 4 years with 55 weeks of formal education and training and 153 weeks of on-the-job training. Danish vocational education and training programmes are alternating programmes, which means that the education and training activities alternate between education and training at a school and on-the-job training in an enterprise. The training programme is a full vocational education and training programme, equivalent to level 3 in the ISCED system.

No breakdown of the qualification is given in terms of units of learning, but the end point equates to the South African level 4 Panel Beater. There is no recognition for achievement of less than the whole qualification.

Germany:

The qualifications offered in Germany are also predominantly vocational qualifications with theoretical components being achieved through a specified period at a training centre. The qualifications are aimed at achieving complete competence in all aspects of vehicle maintenance through the progressive series of qualifications and includes mechanical, electrical and coach works (panel beating). The training programmes are progressive qualifications of one-year duration each and include ongoing training through workbooks in which the trainee is required to complete evidence of understanding for each month of the registered year of learning. Germany has a requirement that competent people be licensed to operate under the meister (master craftsman) programme, and this licence is valid for a period of two years. The qualification titles offered in Germany include:

> Auto Fachman - Level 1.
> Auto Fachman - Level 2.
> Auto Fachman - Level 3.
> Auto Fachman - Meister.

United States of America:

America uses a system of specialisation areas, with a master technician being identified as a person who is competent in all areas and will be able to perform on almost any part of a vehicle. The learning is conducted through apprenticeships and has specialisation areas for:

> Engine technicians.

> Transmission technicians.
> Steering and suspension technicians.
> Brake technicians.
> Electrical system technicians.
> Heating and air-conditioning technicians.
> Driveability and performance technicians.
> Lubrication technicians.
> Coachwork technicians.

SADC:

None of the SADC countries have their own qualifications relating to vehicle maintenance, but use the British City and Guilds Standards for training learners in the automotive field. Namibia has indicated interest in the South African qualifications and may implement this qualification once it has been registered.

Conclusion:

Most other countries have a streamlined qualification process that ends in a required result, but does not recognise competence in parts of the qualification. This has been identified as a problem in the South African context, and that was why the move to the NQF and unit standards was made. Through achieving this qualification, learners will be given recognition for their abilities after just one year of learning. Alternately, learners may achieve employable skills by electing to exit with one or more Exit Level Outcomes instead of the entire qualification.

ARTICULATION OPTIONS
This Qualification lends itself to both vertical and horizontal articulation possibilities.

Horizontal articulation is possible with the following Qualifications:

> ID 58497: Automotive repair and maintenance, NQF Level 3.
> ID 22859: Autotronics, NQF Level 3.
> Mechanical engineering: Fitting, NQF Level 3.
> ID 2277: Mechatronics, NQF Level 3.

Vertical articulation is possible with the following qualifications:

> ID National Certificate: Automotive Body Repair at NQF Level 4.

MODERATION OPTIONS
> Any institution offering learning that will enable the achievement of this Qualification must be accredited as a provider with the relevant Education and Training Quality Assurance Body (ETQA).

> Anyone assessing a learner or moderating the assessment of a learner against this Qualification must be registered as an assessor with the relevant ETQA.

> Assessment and moderation of assessment will be overseen by the relevant ETQA according to the ETQA's policies and guidelines for assessment and moderation, in terms of agreements reached around assessment and moderation between ETQAs (including professional bodies).

> Moderation must include both internal and external moderation of assessments at exit points of the Qualification, unless ETQA policies specify otherwise. Moderation should also encompass achievement of the competence described in the ELOs of the Qualification and will include integration of skills relevant to the economic sector.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

Assessors must be registered in terms of the requirements of SAQA and the relevant ETQA. In addition, assessors should have:

> A minimum of 3 (three) years' practical, relevant occupational experience.
> A relevant Qualification at NQF Level 4 or higher.
> The ability to meet the outcomes of this qualification.

NOTES

N/A

UNIT STANDARDS

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Fundamental	119472	Accommodate audience and context needs in oral/signed communication	Level 3	5
Fundamental	9010	Demonstrate an understanding of the use of different number bases and measurement units and an awareness of error in the context of relevant calculations	Level 3	2
Fundamental	9013	Describe, apply, analyse and calculate shape and motion in 2-and 3-dimensional space in different contexts	Level 3	4
Fundamental	119466	Interpret a variety of literary texts	Level 3	5
Fundamental	119457	Interpret and use information from texts	Level 3	5
Fundamental	9012	Investigate life and work related problems using data and probabilities	Level 3	5
Fundamental	7456	Use mathematics to investigate and monitor the financial aspects of personal, business and national issues	Level 3	5
Fundamental	119465	Write/present/sign texts for a range of communicative contexts	Level 3	5
Core	243067	Cut materials using the oxy-fuel gas cutting process (manual cutting)	Level 2	6
Core	119753	Perform basic welding/joining of metals	Level 2	8
Core	13234	Apply quality procedures	Level 3	8
Core	13223	Apply safety, health and environmental protection procedures	Level 3	6
Core	244052	Install automotive main components	Level 3	6
Core	9530	Manage work time effectively	Level 3	3
Core	244111	Remove and install a dashboard	Level 3	5
Core	244059	Remove automotive main components	Level 3	6
Core	244112	Remove, fit and align the body panels of a vehicle	Level 3	8
Core	244116	Repair deformed ferrous metal panels	Level 3	11
Core	244115	Replace vehicle trim	Level 3	6
Core	260437	Trace and repair auto electrical circuit faults	Level 3	8
Core	244056	Understand the fundamentals of engine technology	Level 3	4
Elective	119745	Conduct an inspection	Level 2	4
Elective	116937	Use a Graphical User Interface (GUI)-based spreadsheet application to create and edit spreadsheets	Level 2	4
Elective	117924	Use a Graphical User Interface (GUI)-based word processor to format documents	Level 2	5
Elective	15100	Check and adjust steering geometry	Level 3	4
Elective	116703	Check and maintain air-conditioners in vehicles	Level 3	4
Elective	12457	Develop learning strategies and techniques	Level 3	3
Elective	12456	Explain and use organisational procedures	Level 3	6
Elective	244114	Replace vehicle glass	Level 3	3
Elective	244051	Test and repair an engine cooling system	Level 3	4
Elective	253734	Cut materials using plasma cutting	Level 4	4

LEARNING PROGRAMMES RECORDED AGAINST THIS QUALIFICATION

None

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:
Further Education and Training Certificate: Automotive Body Repair

SAQA QUAL ID	***QUALIFICATION TITLE***		
64549	Further Education and Training Certificate: Automotive Body Repair		
ORIGINATOR		***PROVIDER***	
SGB Vehicle Maintenance			
QUALIFICATION TYPE	***FIELD***	***SUBFIELD***	
Further Ed and Training Cert	6 - Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	***MINIMUM CREDITS***	***NQF LEVEL***	***QUAL CLASS***
Undefined	135	Level 4	Regular-Unit Stds Based

This qualification does not replace any other qualification and is not replaced by another qualification.

PURPOSE AND RATIONALE OF THE QUALIFICATION
Purpose:

The purpose of this qualification is to provide learners with the standards and the range of learning required to work effectively in the Automotive Body Repair industry. This qualification will enable learners to meet the challenges of an industry that has shown a rapid increase through the introduction of new technology in body repair methods.

This qualification also serves to develop new skills for new technology. It creates an infrastructure of sound technological support and opportunities in a labour market with a growing demand to recognise people for their skills and to meet the challenges of the automotive body repair environment.

The primary skill that is recognised in this qualification is the ability to apply relevant theory in order to conduct integral structural repairs to vehicles. Hand skills also play an important role in this qualification and successful learners will need to apply hand skills in completing their tasks.

After achieving this qualification learners will be able to:

> Communicate with peers and customers in an automotive work context.
> Analyse problems and provide solutions in an automotive workshop.
> Co-ordinate work activities in an automotive context.
> Repair damaged vehicle panels.
> Repair structural damage to vehicles.

Rationale:

The automotive body repair industry is subjected to the ever increasing new technologies of body repair methods. At the level of this qualification, learners will be required to conduct various complex repair processes for which the use of sophisticated tools, equipment and processes are necessary. Most vehicles are now equipped with electronic controlled devises and safety restraint systems that are all interlinked and controlled by on board computers and

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therefore the insurance companies demand from the Automotive Body Repair Industry that only skilled people are allowed to perform the repair work on vehicles.

This is the third qualification in a series and forms the main competence for learners who want to be recognised as a skilled artisan in the field of automotive body repair. This qualification focuses on developing skills and knowledge necessary to be successful in such a career and can be built on to develop skills at NQF Level 5 in managing people to become a workshop foreman. It also provides learners who have gained relevant experience in the workplace with an opportunity to obtain credits through an RPL process.

This qualification recognises the skills, knowledge and values relevant in the workplace and will cater for learners who:

> Have attended courses and need to apply the knowledge gained to activities in the workplace.
> Are already workers and have acquired skills and knowledge without having attended formal training.
> Are part of a learnership programme which integrates structured learning and operational experience.

RECOGNIZE PREVIOUS LEARNING?
Y

LEARNING ASSUMED IN PLACE
Learners registering for this qualification should already have achieved the National Certificate in Automotive Body Repair at NQF Level 3, as this qualification builds on the learning acquired at that level.

If the learner does not already have such a qualification, learning in preparation for this qualification should include:

> Literacy and numeracy at NQF Level 3.
> Basic concepts of science and technology at NQF Level 3.
> Use of automotive workshop tools and equipment at NQF Level 3.
> Repairing damaged ferrous metal panels at NQF Level 3.

Recognition of Prior Learning:

The structure of this qualification makes the Recognition of Prior Learning possible, if the learner is able to demonstrate competence in the knowledge, skills, values and attitudes implicit in this Qualification. Recognition of Prior Learning will be done by means of an Integrated Assessment as mentioned in the previous paragraph.

This Recognition of Prior Learning may allow:

> For accelerated access to further learning.
> Gaining of credits towards any of the Exit Level Outcomes in this qualification.

All recognition of Prior Learning is subject to quality assurance by the relevant accredited Education and Training Quality Assurance Body (ETQA) and must be conducted by a registered workplace assessor. Identified outcomes may have been acquired in a range of economic sectors and these will be considered as appropriate where the candidate provides evidence of the applicability of that learning to this qualification.

Access to the Qualification:

This qualification is open for anyone who wishes to pursue a career in automotive body repair, but prior achievement of the "Learning Assumed to be in Place" would facilitate an easier progression into learning programmes to address the outcomes of this qualification.

QUALIFICATION RULES
Rules of combination for this qualification are as follows:

> All Fundamental unit standards are compulsory (56 Credits).

> All Core unit standards are compulsory (70 Credits).

> Additional Elective unit standards accounting for 9 credits must be selected to achieve a total of 135 credits for this qualification.

EXIT LEVEL OUTCOMES
1. Communicate with peers and customers in an automotive work context.

2. Analyse problems and provide solutions in an automotive workshop.

3. Co-ordinate work activities in an automotive context.

4. Repair damaged vehicle panels.
> Range: Repair includes removing dents and/or replacing panels.

5. Repair structural damage to vehicles.

Critical Cross-Field Outcomes:

This qualification addresses the following critical cross-field outcomes, as detailed in the unit standards:

> Communicate with peers and supervisors in an automotive work context.
> Solve recurring problems in an automotive workshop.
> Use and maintain automotive workshop tools and equipment.
> Remove and replace vehicle parts.
> Repair damaged ferrous metal panels.

Identifying and solving problems in which responses indicate that responsible decisions using critical and creative thinking have been made.

Working effectively with others as a member of a team, group, organisation or community.

Organising and managing oneself and one's activities responsibly and effectively.

Collecting, analysing, organising and critically evaluating information.

Communicating effectively using visual, mathematical and/or language skills in the modes of oral/written persuasion.

Using science and technology effectively and critically, showing responsibility towards the environment and health of others.

Demonstrating and understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation.

ASSOCIATED ASSESSMENT CRITERIA

Associated Assessment Criteria for Exit Level Outcome 1:

1.1 Oral communication is maintained and adapted as required to promote effective interaction in a work context.
1.2 Terminology used is appropriate to the situation and in accordance with normal workplace usage.
1.3 Information related to work tasks is accessed and interpreted from a range of written and oral sources to ensure that work requirements are understood.
1.4 Communication is clear and unambiguous and at an appropriate level for designated target audiences.
1.5 Information communicated is accurate and conveyed in accordance with acceptable timeframes.
1.6 Communication is effective, regular and ongoing.
1.7 Interaction with others to process the completed work is effective and in accordance with the workplace procedures.
1.8 Reports are completed according to workplace scheduling requirements in a timely manner and in the required format.

Associated Assessment Criteria for Exit Level Outcome 2:

2.1 Problems are identified within an acceptable timeframe.
2.2 The problem is described in terms of the scope of the problem, possible solutions, costs and the effect on customer satisfaction.
2.3 Solutions applied are suited to the problem and lead to cost effective results.
2.4 Problems that do not have immediate solutions are reported to relevant personnel in accordance with workplace procedures.

Associated Assessment Criteria for Exit Level Outcome 3:

3.1 Organizational procedures are explained in relation to the work environment.
3.2 Financial implications of actions taken are understood in relation to efficiency of business.
3.3 Subordinates` activities are co-ordinated to achieve work targets with available resources.
3.4 Quality is ensured in accordance with workshop standards.
3.5 Time is managed in accordance with workplace requirements.

Associated Assessment Criteria for Exit Level Outcome 4:

4.1 The required repair processes are performed, completed and quality assured in accordance with the workplace procedures and the manufacturer's specifications.
4.2 Repaired panels are fitted and aligned to other panels in accordance with manufacturer specifications.
4.3 Pre and post removal and installation procedures are carried out in accordance with the workplace procedures and the manufacturer's specifications at an appropriate time during the process.
4.4 Vehicle parts are removed and replaced in accordance with the workplace and manufacturer specifications without damage to the surrounding area, parts or components.
4.5 Consequences of not replacing parts correctly are described in terms of safety hazards and customer satisfaction.
4.6 Work is conducted with due consideration for other team members and overall productivity.

Associated Assessment Criteria for Exit Level Outcome 5:

5.1 The vehicle is made safe to work with in accordance with manufacturer specifications.
5.2 Body construction features of the vehicle are identified in relation to access to damaged parts.

5.3 Vehicle safety features are identified in terms of precautions when working near activation points.
5.4 Pre and post repair procedures are carried out in accordance with the workplace procedures and the manufacturer's specifications at an appropriate time during the process.
5.5 The required repair processes are performed, completed and quality assured in accordance with the workplace procedures and the manufacturer's specifications.
5.6 Work is conducted with due consideration for other team members and overall productivity.

Integrated Assessment:

Because assessment practices must be open, transparent, fair, valid, and reliable and ensure that no learner is disadvantaged in any way whatsoever, an integrated assessment approach is incorporated into the Qualification. Learning, teaching and assessment are inextricably linked. Whenever possible, the assessment of knowledge, skills, attitudes and values shown in the exit level outcomes should be integrated.

A variety of methods must be used in assessment tools and activities must be appropriate to the context in which the learner is working. Where it is not possible to assess the learner in the workplace or on-the-job, simulations, case studies, role-plays and other similar techniques should be used to provide a context appropriate to the assessment.

The term 'Integrated Assessment' implies that theoretical and practical components should be assessed together. During integrated assessments the assessor should make use of formative and summative assessment methods and assess combinations of practical, applied, foundational and reflective competencies. Assessors should assess and give credit for the evidence of learning that has already been acquired through formal, informal and non-formal learning and work experience.

Assessment should ensure that all outcomes, embedded knowledge and critical cross-field outcomes are assessed. The assessment of the critical cross-field outcomes should be integrated with the assessment of specific outcomes and embedded knowledge.

INTERNATIONAL COMPARABILITY
This qualification is part of a series of qualifications in the field of Automotive Body Repair and was compared to other, similar outcomes-based qualifications in various countries as follows:

New Zealand:

The National Certificate in Motor Industry (Panelbeating) is a New Zealand qualification at NQF Level 4. This is a three year qualification without qualifications or exit level outcomes at the intermediate levels. The qualification is pitched at NQF Level 4 on their NQF with only unit standards and credits at NQF Levels 1 to 4. This notwithstanding, the technical content of this qualification does correspond with the equivalent level of qualification in Automotive Body Repair in New Zealand.

United Kingdom:

The Level 2 Certificate in Automotive Engineering covers aspects related to this qualification but also includes more broadly defined work aspects such as Motor Vehicle Refinisher, Motor Vehicle Builder, Motor Vehicle Mechanic and Motor Vehicle Technician. The scope is way beyond that of a panel beater and includes aspects of vehicle engine performance and improved suspension for racing.

The basic methods of assessment include Coursework, Oral Examination, Portfolio of Evidence, Practical Demonstration/Assignment, Practical Examination and Written Examination. No units are specified as compulsory, and the learner may select any units they like, totalling 120 credits.

Notes are given regarding accepted grouping of units and progression to further levels of education.

The level of the Level 2 Certificate in Automotive Engineering is much higher than the South African NQF level 2 and covers various aspects included in the South African qualifications at Levels 3 and 4.

Elements of the Institute of Motor Industry (IMI) in the UK have been used in benchmarking best practice procedures in some of the unit standards used in this qualification. The NVQ qualifications offered in the UK cover all the same objectives of this series of qualifications at various levels of complexity. The qualifications are offered as an internship wherein the learner enrols with a college or training centre for the theoretical component, and achieves the practical component in-house. The qualifications are all based on specific levels of performance, and lead to progressive levels of complexity, but are identified as separate qualifications. The learning towards these qualifications is offered through long-term learner-employer relationships, with short-term stints at a training centre. Qualification titles in the UK include:

> Vehicle Refinishing: Level 3: (Q1017590).
> Vehicle Body Repair: Level 3: (Q1015917).
> Vehicle Body Fitting: Level 2: (Q1015913).

Australia:

The Certificate in Automotive Vehicle Body Repair is a 3 year course for artisans to learn how to repair and paint vehicles. The qualification has 2 specialisation areas: one for spray painting and one for panel beating. Both specialisation areas comprise less than 1200 notional learning hours, but are spread out over 3 levels, with core units being specified at the entry level (Level 2).

There are a range of elective units that may be selected from different categories, but the rules of combination indicate that all units must be selected, thereby not allowing the learner any choice in learning. The qualification aims at targeting competence at artisan level only with no recognition for achievement of less than the whole qualification.

Denmark:

The Danish panel beater qualification is spread over 4 years with 55 weeks of formal education and training and 153 weeks of on-the-job training. Danish vocational education and training programmes are alternating programmes, which means that the education and training activities alternate between education and training at a school and on-the-job training in an enterprise. The training programme is a full vocational education and training programme, equivalent to Level 3 in the ISCED system.

No breakdown of the qualification is given in terms of units of learning, but the end point equates to the South African level 4 Panel Beater. There is no recognition for achievement of less than the whole qualification.

Germany:

The qualifications offered in Germany are also predominantly vocational qualifications with theoretical components being achieved through a specified period at a training centre. The qualifications are aimed at achieving complete competence in all aspects of vehicle maintenance through the progressive series of qualifications and includes mechanical, electrical and coach works (panel beating). The training programmes are progressive qualifications of one-year duration each and include ongoing training through workbooks in which the trainee is required to complete evidence of understanding for each month of the registered year of

learning. Germany has a requirement that competent people be licensed to operate under the meister (master craftsman) programme, and this licence is valid for a period of two years. The qualification titles offered in Germany include:

> Auto Fachman: Level 1.
> Auto Fachman: Level 2.
> Auto Fachman: Level 3.
> Auto Fachman: Meister.

United States of America:

America uses a system of specialisation areas, with a master technician being identified as a person who is competent in all areas and will be able to perform on almost any part of a vehicle. The learning is conducted through apprenticeships and has specialisation areas for:

> Engine technicians.
> Transmission technicians.
> Steering and suspension technicians.
> Brake technicians.
> Electrical system technicians.
> Heating and air-conditioning technicians.
> Driveability and performance technicians.
> Lubrication technicians.
> Coachwork technicians.

SADC:

None of the SADC countries have their own qualifications relating to vehicle maintenance, but use the British City and Guilds Standards for training learners in the automotive field. Namibia has indicated interest in the South African qualifications and may implement this qualification once it has been registered.

Conclusion:

Most other countries have a streamlined qualification process that ends in a required result, but does not recognise competence in parts of the qualification. This has been identified as a problem in the South African context, and that was why the move to the NQF and unit standards was made. Through achieving this qualification, learners will be given recognition for their abilities after just one year of learning. Alternately, learners may achieve employable skills by electing to exit with one or more Exit Level Outcomes instead of the entire qualification.

ARTICULATION OPTIONS
This Qualification lends itself to both vertical and horizontal articulation possibilities.

Horizontal articulation is possible with the following Qualifications:

> ID 58539: Further Education and Training Certificate: Automotive Repair and Maintenance, NQF Level 4.
> ID 21006: National Certificate: Automotive Component Manufacturing and Assembly, NQF Level 4.
> ID 22860: National Certificate: Autotronics, NQF Level 4.
> ID 23275: National Certificate: Mechanical Engineering: Fitting, NQF Level 4.
> ID 22772: National Certificate: Mechatronics, NQF Level 4.

Vertical articulation is possible with the following qualifications:

> National Certificate: Automotive repair and maintenance, NQF Level 5.
> ID 59201: National Certificate: Generic management, NQF Level 5.
> ID 58341: Diploma: Business management, NQF Level 5.

MODERATION OPTIONS

> Any institution offering learning that will enable the achievement of this Qualification must be accredited as a provider with the relevant Education and Training Quality Assurance Body (ETQA).

> Anyone assessing a learner or moderating the assessment of a learner against this Qualification must be registered as an assessor with the relevant ETQA.

> Assessment and moderation of assessment will be overseen by the relevant ETQA according to the ETQA's policies and guidelines for assessment and moderation, in terms of agreements reached around assessment and moderation between ETQAs (including professional bodies).

> Moderation must include both internal and external moderation of assessments at exit points of the Qualification, unless ETQA policies specify otherwise. Moderation should also encompass achievement of the competence described in the ELOs of the Qualification and will include integration of skills relevant to the economic sector.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

Assessors must be registered in terms of the requirements of SAQA and the relevant ETQA. In addition, assessors should have:

> A minimum of 3 (three) years' practical, relevant occupational experience.
> A relevant Qualification at NQF Level 4 or higher.
> The ability to meet the outcomes of this qualification.

NOTES

N/A

UNIT STANDARDS

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Fundamental	119472	Accommodate audience and context needs in oral/signed communication	Level 3	5
Fundamental	119458	Analyse and respond to a variety of literary texts	Level 3	5
Fundamental	119466	Interpret a variety of literary texts	Level 3	5
Fundamental	119457	Interpret and use information from texts	Level 3	5
Fundamental	9015	Apply knowledge of statistics and probability to critically interrogate and effectively communicate findings on life related problems	Level 4	6
Fundamental	119462	Engage in sustained oral/signed communication and evaluate spoken/signed texts	Level 4	5
Fundamental	119469	Read/view, analyse and respond to a variety of texts	Level 4	5
Fundamental	9016	Represent analyse and calculate shape and motion in 2- and 3-dimensional space in different contexts	Level 4	4
Fundamental	119471	Use language and communication in occupational learning programmes	Level 4	5
Fundamental	7468	Use mathematics to investigate and monitor the financial aspects of personal, business, national and international issues	Level 4	6
Fundamental	119459	Write/present/sign for a wide range of contexts	Level 4	5
Core	15100	Check and adjust steering geometry	Level 3	4
Core	116714	Lead a team, plan, allocate and assess their work	Level 3	4
Core	244051	Test and repair an engine cooling system	Level 3	4
Core	244167	Assess and align the body shell with chassis anchorage equipment	Level 4	16
Core	253734	Cut materials using plasma cutting	Level 4	4
Core	244168	Fit external components to an engine	Level 4	6

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Core	244172	Perform a pre-delivery quality assurance inspection	Level 4	4
Core	244166	Repair non-ferrous metal body components	Level 4	8
Core	244164	Repair non-metal body components	Level 4	8
Core	12234	Diagnose and repair supplementary restraint systems (SRS)	Level 5	12
Elective	244110	Conduct paintless dent removal	Level 3	9
Elective	123258	Foster and maintain customer relations	Level 3	10
Elective	117877	Perform one-to-one training on the job	Level 3	4
Elective	12455	Perform the role of a safety, health and environmental protection representative	Level 3	4
Elective	244129	Book in work for an automotive business	Level 4	4
Elective	13254	Contribute to the implementation and maintenance of business processes	Level 4	10
Elective	244136	Diagnose and repair cooling systems	Level 4	4
Elective	244144	Diagnose and repair steering system components	Level 4	4
Elective	244134	Estimate the cost and duration of an automotive repair	Level 4	6
Elective	230462	Analyse failure of vehicle parts	Level 5	12
Elective	12232	Diagnose and repair vehicle stability, traction and drive control (VSTDC) systems	Level 5	20

LEARNING PROGRAMMES RECORDED AGAINST THIS QUALIFICATION
None

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Trace and repair auto electrical circuit faults

SAQA US ID	*UNIT STANDARD TITLE*		
260437	Trace and repair auto electrical circuit faults		
ORIGINATOR		*PROVIDER*	
SGB Vehicle Maintenance			
FIELD		*SUBFIELD*	
6 - Manufacturing, Engineering and Technology		Manufacturing and Assembly	
ABET BAND	*UNIT STANDARD TYPE*	*NQF LEVEL*	*CREDITS*
Undefined	Regular	Level 3	8

This unit standard replaces:

US ID	Unit Standard Title	NQF Level	Credits	Replacement Status
12221	Trace and repair auto-electrical circuits on automobiles	Level 3	20	Will occur as soon as 260437 is registered

SPECIFIC OUTCOME 1
Interpret auto electrical circuit diagrams and symbols.

SPECIFIC OUTCOME 2
Locate faults on auto electrical circuits.

SPECIFIC OUTCOME 3
Remove and fit auto electrical components.

SPECIFIC OUTCOME 4
Complete fault finding documentation.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

	ID	QUALIFICATION TITLE	LEVEL
Core	64529	National Certificate: Automotive Body Repair	Level 3