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Pearson Edexcel Level 2 NVQ Diploma in Bus and Coach Engineering and Maintenance (Body) (QCF)

Pearson Edexcel Level 2 NVQ Diploma in Bus and Coach Engineering and Maintenance (Electrical) (QCF)

Pearson Edexcel Level 2 NVQ Diploma in Bus and Coach Engineering and Maintenance (Mechanical) (QCF)

Specification

NVQ/Competence-based qualification

First registration August 2014

Pearson Education Limited is one of the largest awarding organisations in the United Kingdom. Pearson is recognised and regulated by Ofqual and the Scottish Qualifications Authority (SQA) to offer accredited qualifications to employers, private training providers, colleges, schools and other places of learning both in the United Kingdom and internationally.

The qualifications offered include National Vocational Qualifications/Competency-based qualifications, Scottish Vocational Qualifications, and other qualifications that attest to competence in the workplace, the suite of BTEC vocationally related qualifications, ranging from Entry Level to Higher National Diplomas, GCSE, GCE AS and GCE A levels. Working in partnership with universities, Pearson Education Limited has Degree awarding powers.

Pearson Education Limited is committed to supporting work-based learning through its BTEC Apprenticeship and Employability Frameworks and our suite of vocational qualifications.

All information in this specification is correct at time of going to publication.

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Contents

Purpose of this specification

This specification sets out:

- the objectives of the qualifications
- any other qualifications that a learner must have completed before taking these qualifications
- any prior knowledge, skills or understanding which the learner is required to have before taking these qualifications
- the combination of units that a learner must have completed before the qualifications will be awarded and any pathways
- any other requirements that a learner must have satisfied before they will be assessed or before the qualifications will be awarded
- the knowledge, skills and understanding that will be assessed as part of the qualifications
- the method of any assessment and any associated requirements relating to it
- the criteria against which a learner's level of attainment will be measured (such as assessment criteria)
- assessment requirements and/or evidence requirements required as specified by the relevant Sector Skills Council/Standards Setting Body
- assessment requirements/strategy as published by the relevant Sector Skills Council/Standards Setting Body
- the Apprenticeship Framework in which the qualifications are included.

1 Introducing Pearson Edexcel NVQ/ Competence-based qualifications

What are NVQ/Competence-based qualifications?

National Vocational Qualifications (NVQs) or Competence-based qualifications reflect the skills and knowledge needed to do a job effectively. They are work-based qualifications that give learners the opportunity to demonstrate their competence in the area of work or job role to which the qualification relates.

NVQs/Competence-based qualifications are outcomes-based with no fixed learning programme, allowing flexibility in their delivery to meet the individual learner's needs. The qualifications are based on the National Occupational Standards (NOS) for the sector, which define what employees, or potential employees, must be able to do and know, and how well they should undertake work tasks and work roles.

Most NVQ/Competence-based qualifications form the competence component of Apprenticeship Frameworks. They are suitable for those in employment or those who are studying at college and have a part-time job or access to a substantial work placement.

Most learners will work towards their qualification in the workplace or in settings that replicate the working environment as specified in the assessment requirements/strategy for the sector. Colleges, training centres and/or employers can offer these qualifications provided they have access to appropriate physical and human resources.

There are three sizes of NVQ/Competence-based qualification in the QCF:

- Award (1 to 12 credits)
- Certificate (13 to 36 credits)
- Diploma (37 credits and above).

Every unit and qualification in the QCF has a credit value.

The credit value of a unit specifies the number of credits that will be awarded to a learner who has met the learning outcomes of the unit.

The credit value of a unit is based on:

- one credit for those learning outcomes achievable in 10 hours of learning
- learning time – defined as the time taken by learners at the level of the unit, on average, to complete the learning outcomes of the unit to the standard determined by the assessment criteria.

2 Qualification summary and key information

Qualification title	Pearson Edexcel Level 2 NVQ Diploma in Bus and Coach Engineering and Maintenance (Body) (QCF)
QCF Qualification Number (QN)	600/9586/6
Qualification framework	Qualifications and Credit Framework (QCF)
Regulation start date	05/06/2013
Operational start date	01/08/2014
Approved age ranges	16-18 19+ Please note that sector-specific requirements or regulations may prevent learners of a particular age from embarking on this qualification. Please refer to the assessment requirements/strategy.
Credit value	Minimum 37
Assessment	Portfolio of Evidence (internal assessment)
Guided learning hours	Minimum 260 Maximum 296
Grading information	The qualification and units are graded pass/fail.
Entry requirements	No prior knowledge, understanding, skills or qualifications are required before learners register for this qualification. However, centres must follow the Edexcel Access and Recruitment policy (see *Section 9, Access and Recruitment*)
Funding	The qualifications are eligible for funding in England. Please check the Learning Aims Reference Service (LARS), which replaces the Learning Aim Reference Application (LARA).

Qualification title	Pearson Edexcel Level 2 NVQ Diploma in Bus and Coach Engineering and Maintenance (Electrical) (QCF)
QCF Qualification Number (QN)	600/9587/8
Qualification framework	Qualifications and Credit Framework (QCF)
Regulation start date	05/06/2013
Operational start date	01/08/2014
Approved age ranges	16-18 19+ Please note that sector-specific requirements or regulations may prevent learners of a particular age from embarking on this qualification. Please refer to the assessment requirements/strategy.
Credit value	Minimum 38
Assessment	Portfolio of Evidence (internal assessment)
Guided learning hours	Minimum 241 Maximum 261
Grading information	The qualification and units are graded pass/fail.
Entry requirements	No prior knowledge, understanding, skills or qualifications are required before learners register for this qualification. However, centres must follow the Edexcel Access and Recruitment policy (see *Section 9, Access and Recruitment*)
Funding	The qualifications are eligible for funding in England. Please check the Learning Aims Reference Service (LARS), which replaces the Learning Aim Reference Application (LARA).

Qualification title	Pearson Edexcel Level 2 NVQ Diploma in Bus and Coach Engineering and Maintenance (Mechanical) (QCF)
QCF Qualification Number (QN)	600/9588/X
Qualification framework	Qualifications and Credit Framework (QCF)
Regulation start date	05/06/2013
Operational start date	01/08/2014
Approved age ranges	16-18 19+ Please note that sector-specific requirements or regulations may prevent learners of a particular age from embarking on this qualification. Please refer to the assessment requirements/strategy.
Credit value	Minimum 45
Assessment	Portfolio of Evidence (internal assessment)
Guided learning hours	Minimum 288 Maximum 308
Grading information	The qualification and units are graded pass/fail.
Entry requirements	No prior knowledge, understanding, skills or qualifications are required before learners register for this qualification. However, centres must follow the Edexcel Access and Recruitment policy (see *Section 9, Access and Recruitment*)
Funding	The qualifications are eligible for funding in England. Please check the Learning Aims Reference Service (LARS), which replaces the Learning Aim Reference Application (LARA).

QCF qualification number and qualification title

Centres will need to use the QCF Qualification Number (QN) when they seek public funding for their learners. As well as a QN, each unit within a qualification has a QCF unit reference number (URN).

The qualification title, unit titles and QN will appear on each learner's final certificate. Centres should tell learners this when recruiting them and registering them with Pearson. There is more information about certification in the *Edexcel Information Manual,* available on our website: www.edexcel.com

Qualifications objectives (Body)

The Pearson Edexcel Level 2 NVQ Diploma in Bus and Coach Engineering and Maintenance (Body) is for learners who work in, or want to work in the Passenger Transport Sector.

It gives learners the opportunity to:

- demonstrate competence in providing technical support for the passenger transport industry in roles such as bus/coach body repairer
- develop knowledge and skills related to the specified job roles in the passenger transport sector
- have existing skills recognised
- achieve a nationally-recognised Level 2 qualification
- develop their own personal growth and engagement in learning

Qualifications objectives (Electrical)

The Pearson Edexcel Level 2 NVQ Diploma in Bus and Coach Engineering and Maintenance (Electrical) is for learners who work in, or want to work in the Passenger Transport Sector.

It gives learners the opportunity to:

- demonstrate competence in providing technical support for the passenger transport industry in roles such as bus/coach electrical service technician
- develop knowledge and skills related to the specified job roles in the passenger transport sector
- have existing skills recognised
- achieve a nationally-recognised Level 2 qualification
- develop their own personal growth and engagement in learning

Qualifications objectives (Mechanical)

The Pearson Edexcel Level 2 NVQ Diploma in Bus and Coach Engineering and Maintenance (Mechanical) (QCF) is for learners who work in, or want to work in the Passenger Transport Sector.

It gives learners the opportunity to:

- demonstrate competence in providing technical support for the passenger transport industry in roles such as bus/coach mechanical service technician
- develop knowledge and skills related to the specified job roles in the passenger transport sector
- have existing skills recognised
- achieve a nationally-recognised Level 2 qualification
- develop their own personal growth and engagement in learning.

Relationship with previous qualifications

These qualifications are a replacement for the EDI Level 2 NVQ Diploma in Bus and Coach Engineering and Maintenance (Body) (QCF), EDI Level 2 NVQ Diploma in Bus and Coach Engineering and Maintenance (Electrical) (QCF) and EDI Level 2 NVQ Diploma in Bus and Coach Engineering and Maintenance (Mechanical) (QCF).

Apprenticeships

People 1st include the Pearson Edexcel Level 2 NVQ Diploma in Bus and Coach Engineering and Maintenance (Body); Pearson Edexcel Level 2 NVQ Diploma in Bus and Coach Engineering and Maintenance (Electrical) and Pearson Edexcel Level 2 NVQ Diploma in Bus and Coach Engineering and Maintenance (Maintenance) as competence components for the Intermediate Apprenticeship in Bus and Coach Engineering and Maintenance.

Progression opportunities

Learners who have achieved the Pearson Edexcel Level 2 NVQ Diploma in Bus and Coach Engineering and Maintenance can progress to the Pearson Edexcel Level 3 Diploma in Bus and Coach Engineering and Maintenance in the three areas: Body, Electrical and Mechanical. Learners can also progress to the knowledge qualifications Pearson BTEC Level 2 and Level 3 Certificate and Diploma in Bus and Coach Engineering and Maintenance (QCF) in Body, Electrical and Mechanical.

Industry support and recognition

These qualifications are supported by People 1st (GoSkills), the Skills Council for hospitality, passenger transport and travel and tourism.

Relationship with National Occupational Standards

These qualifications are based on the National Occupational Standards (NOS) in Bus and Coach Engineering and Maintenance, which were set and designed by People 1st (GoSkills), the Sector Skills Council for the sector.

3 Qualification structures

Pearson Edexcel Level 2 NVQ Diploma in Bus and Coach Engineering and Maintenance (Body) (QCF)

The learner will need to meet the requirements outlined in the table below before the qualification can be awarded.

Minimum number of credits that must be achieved	37
Number of mandatory credits that must be achieved	33
Number of optional credits that must be achieved	4

Unit	Unit reference number	Mandatory units	Level	Credit	Guided learning hours
1	Y/502/6302	Contribute to Safe Working Practices in Bus/Coach Engineering and Maintenance	2	4	34
2	H/502/6304	Contribute to Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance	2	10	56
3	K/502/6305	Achieve Effective Working Relationships with Colleagues in Bus/Coach Engineering and Maintenance	2	4	27
4	D/502/6320	Complete Routine Assembly of Bus/Coach Body Components	2	5	39
5	K/502/6322	Identify Bus/Coach Damage and Recommend Suitable Repair Techniques	2	5	36
6	M/502/6323	Rectify Body Damage on Bus/Coach Vehicle Body Components	2	5	39
Unit	**Unit reference number**	**Optional units**	**Level**	**Credit**	**Guided learning hours**
7	M/502/6306	Use Hand Tools and Equipment in Bus/Coach Engineering and Maintenance	2	4	29
8	A/502/6308	Carry Out Bus/Coach Servicing	2	8	47
9	J/502/6313	Identify and Locate Mechanical Faults in Bus/Coach Systems and Components	2	8	46

Unit	Unit reference number	Optional units	Level	Credit	Guided learning hours
10	L/502/6314	Identify and Locate Electrical Faults in Bus/Coach Systems and Components	2	8	46
11	H/502/6318	Rectify Electrical Faults in Bus/Coach Systems and Components	2	8	49
12	L/502/6359	Repair Mechanical Faults in Bus/Coach Systems and Components	3	7	44
13	D/502/6365	Complete Thermal Joining of Bus/Coach Components	3	5	29
14	Y/502/6364	Conduct Inspections of Buses/Coaches	3	6	26
15	F/502/6326	Prepare and Treat Surfaces and Apply Paint Coats to Bus/Coach Body Panels and Components	3	10	65
16	H/502/6335	Operate an IT System in a Bus/Coach Engineering and Maintenance Environment	2	6	45

Pearson Edexcel Level 2 NVQ Diploma in Bus and Coach Engineering and Maintenance (Electrical) (QCF)

The learner will need to meet the requirements outlined in the table below before the qualification can be awarded.

Minimum number of credits that must be achieved	38
Number of mandatory credits that must be achieved	34
Number of optional credits that must be achieved	4

Unit	Unit reference number	Mandatory units	Level	Credit	Guided learning hours
1	Y/502/6302	Contribute to Safe Working Practices in Bus/Coach Engineering and Maintenance	2	4	34
2	H/502/6304	Contribute to Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance	2	10	56
3	K/502/6305	Achieve Effective Working Relationships with Colleagues in Bus/Coach Engineering and Maintenance	2	4	27
11	H/502/6318	Rectify electrical faults in Bus/Coach systems and components	2	8	49
10	L/502/6314	Identify and locate electrical faults in Bus/Coach systems and components	2	8	46
Unit	**Unit reference number**	**Optional units**	**Level**	**Credit**	**Guided learning hours**
7	M/502/6306	Use Hand Tools and Equipment in Bus/Coach Engineering and Maintenance	2	4	29
8	A/502/6308	Carry Out Bus/Coach Servicing	2	8	47
9	J/502/6313	Identify and Locate Mechanical Faults in Bus/Coach Systems and Components	2	8	46
19	D/502/6317	Rectify mechanical faults in Bus/Coach systems and components	2	7	49

Unit	Unit reference number	Optional units	Level	Credit	Guided learning hours
13	D/502/6365	Complete Thermal Joining of Bus/Coach Components	3	5	29
14	Y/502/6364	Conduct Inspections of Buses/Coaches	3	6	26
4	D/502/6320	Complete routine assembly of Bus/Coach body components	2	5	39
5	K/502/6322	Identify Bus/Coach damage and recommend suitable repair techniques	2	5	36
6	M/502/6323	Rectify Body Damage on Bus/Coach Vehicle Body Components	2	5	39
18	J/502/6327	Drive the Bus/Coach for testing and vehicle recovery	2	6	36
17	L/502/6328	Provide roadside assistance for broken down Buses/Coaches	2	7	46
16	H/502/6335	Operate an IT System in a Bus/Coach Engineering and Maintenance Environment	2	6	45

Pearson Edexcel Level 2 NVQ Diploma in Bus and Coach Engineering and Maintenance (Mechanical) (QCF)

The learner will need to meet the requirements outlined in the table below before the qualification can be awarded.

Minimum number of credits that must be achieved	45
Number of mandatory credits that must be achieved	41
Number of optional credits that must be achieved	4

Unit	Unit reference number	Mandatory units	Level	Credit	Guided learning hours
1	Y/502/6302	Contribute to Safe Working Practices in Bus/Coach Engineering and Maintenance	2	4	34
2	H/502/6304	Contribute to Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance	2	10	56
3	K/502/6305	Achieve Effective Working Relationships with Colleagues in Bus/Coach Engineering and Maintenance	2	4	27
8	A/502/6308	Carry Out Bus/Coach Servicing	2	8	47
9	J/502/6313	Identify and Locate Mechanical Faults in Bus/Coach Systems and Components	2	8	46
19	D/502/6317	Rectify mechanical faults in Bus/Coach systems and components	2	7	49
Unit	**Unit reference number**	**Optional units**	**Level**	**Credit**	**Guided learning hours**
7	M/502/6306	Use Hand Tools and Equipment in Bus/Coach Engineering and Maintenance	2	4	29
10	L/502/6314	Identify and Locate Electrical Faults in Bus/Coach Systems and Components	2	8	46
11	H/502/6318	Rectify electrical faults in Bus/Coach systems and components	2	8	49

Unit	Unit reference number	Optional units	Level	Credit	Guided learning hours
14	Y/502/6364	Conduct Inspections of Buses/Coaches	3	6	26
4	D/502/6320	Complete routine assembly of Bus/Coach body components	2	5	39
5	K/502/6322	Identify Bus/Coach damage and recommend suitable repair techniques	2	5	36
6	M/502/6323	Rectify Body Damage on Bus/Coach Vehicle Body Components	2	5	39
18	J/502/6327	Drive the Bus/Coach for testing and vehicle recovery	2	6	36
17	L/502/6328	Provide roadside assistance for broken down Buses/Coaches	2	7	46
16	H/502/6335	Operate an IT System in a Bus/Coach Engineering and Maintenance Environment	2	6	45

Centres should be aware that within the Level 2 qualification in this specification, learners will be required to meet the demands of units at level 3. Centres are advised to consider the support, guidance and opportunities they give to learners to meet the demands of the higher level units during delivery and assessment of the qualification.

4 Assessment

These qualifications are assessed through an externally verified Portfolio of Evidence that consists of evidence gathered during the course of the learner's work.

To achieve a pass for the full qualification, the learner must achieve all the required units in the stated qualification structure. Each unit has specified learning outcomes and assessment criteria. To pass each unit the learner must:

- achieve **all** the specified learning outcomes
- satisfy **all** the assessment criteria by providing sufficient and valid evidence for each criterion
- prove that the evidence is their own.

The learner must have an assessment record that identifies the assessment criteria that have been met, and it should be cross-referenced to the evidence provided. The assessment record should include details of the type of evidence and the date of assessment. The unit specification or suitable centre documentation can be used to form an assessment record.

It is important that the evidence provided to meet the assessment criteria of the unit and learning outcomes is:

Valid	relevant to the standards for which competence is claimed
Authentic	produced by the learner
Current	sufficiently recent to create confidence that the same skill, understanding or knowledge persist at the time of the claim
Reliable	indicates that the learner can consistently perform at this level
Sufficient	fully meets the requirements of the standards.

Learners can provide evidence of occupational competence from:

- **current practice** where evidence is generated from a current job role
- a **programme of development** where evidence comes from assessment opportunities built into a learning programme, whether at or away from the workplace. The evidence provided must meet the requirements of the Sector Skills Council's assessment strategy.
- the **Recognition of Prior Learning (RPL)** where a learner can demonstrate that they can meet the assessment criteria within a unit through knowledge, understanding or skills they already possess without undertaking a course of development. They must submit sufficient, reliable, authentic and valid evidence for assessment. Evidence submitted based on RPL should provide confidence that the same level of skill/understanding/knowledge exists at the time of claim as existed at the time the evidence was produced. RPL is acceptable for accrediting a unit, several units, or a whole qualification.
- Further guidance is available in the policy document *Recognition of Prior Learning Policy*, available on the Edexcel website.
- a **combination** of these.

Assessment strategy

The assessment strategy for these qualifications has been included in *Annexe A*. It sets out the overarching assessment principles and the framework for assessing the qualifications to ensure that they remain valid and reliable. They have been developed by People 1st (GoSkills) in partnership with employers, training providers, awarding organisations and the regulatory authorities.

Types of evidence

To achieve a unit, the learner must gather evidence that shows that they have met the required standard specified in the assessment criteria. As stated in People 1st (GoSkills) assessment strategy, the evidence for these qualifications can take a variety of forms as indicated below:

- direct observation of the learner's performance by their assessor (O)
- outcomes from oral or written questioning (Q&A)
- products of the learner's work (P)
- personal statements and/or reflective accounts (RA)
- outcomes from simulation, see the assessment strategy for details (S)
- professional discussion (PD)
- assignment, project/case studies (A)
- authentic statements/witness testimony (WT)
- expert witness testimony (EWT)
- evidence of Recognition of Prior Learning (RPL).

Learners can use the abbreviations for cross-referencing purposes in their portfolios.

Learners can also use one piece of evidence to prove their knowledge, skills and understanding across different assessment criteria and/or across different units. It is not necessary for learners to have each assessment criterion assessed separately. They should be encouraged to reference evidence to the relevant assessment criteria. Evidence must be available to the assessor, internal verifier and Pearson standards verifier.

Any specific evidence requirements for individual units are stated in the unit introduction for the units in *Section 11*.

There is further guidance about assessment on our website. Please see *Section 12* for details.

Credit transfer

Credit transfer describes the process of using a credit or credits awarded in the context of a different qualification or awarded by a different awarding organisation towards the achievement requirements of another qualification. All awarding organisations recognise the credits awarded by all other awarding organisations that operate within the QCF.

If learners achieve credits with other awarding organisations, they do not need to retake any assessment for the same units. The centre must keep evidence of unit achievement.

5 Centre resource requirements

As part of the approval process, centres must make sure that the resource requirements below are in place before offering the qualification.

- Centres must have the appropriate physical resources to support both the delivery and assessment of the qualifications. For example, a workplace in line with industry standards, or a Realistic Working Environment (RWE), where permitted, as specified in the assessment strategy for the sector, equipment, IT, learning materials, teaching rooms.
- Where permitted, RWE must offer the same conditions as the normal day-to-day working environment, with a similar range of demands, pressures and requirements for cost-effective working.
- Centres must meet any specific human and physical resource requirements outlined in the assessment strategy in Annexe A. Staff assessing learners must meet the occupational competence requirements within the overarching assessment strategy for the sector.
- There must be systems in place to ensure the continuing professional development for staff delivering the qualifications.
- Centres must have appropriate health and safety policies, procedures and practices in place for the delivery of the qualifications.
- Centres must deliver the qualifications in accordance with current equality legislation. For further details on Pearson's commitment to the Equality Act 2010, please see *Section 9 Access and recruitment* and *Section 10 Access to qualifications for learners with disabilities or specific needs*. For full details on the Equality Act 2010, please go to the Home Office website, www.gov.uk/government/organisations/home-office

6 Centre recognition and approval

Centre recognition

Centres that have not previously offered Pearson Edexcel accredited vocational qualifications need to apply for and be granted centre recognition and approval as part of the process for approval to offer individual qualifications.

Existing centres will be given 'automatic approval' for a new qualification if they are already approved for a qualification that is being replaced by a new qualification and the conditions for automatic approval are met.

Guidance on seeking approval to deliver Pearson Edexcel vocational qualifications is available at www.pearsonwbl.edexcel.com/qualifications-approval.

Approvals agreement

All centres are required to enter into an approval agreement, which is a formal commitment by the head or principal of a centre, to meet all the requirements of the specification and any associated codes, Conditions or regulations. Pearson will act to protect the integrity of the awarding of qualifications. If centres do not comply with the agreement, this could result in the suspension of certification or withdrawal of approval.

7 Quality assurance of centres

Quality assurance is at the heart of vocational qualifications. Centres will internally assess NVQs/Competence-based qualifications using internal quality assurance procedures to ensure standardisation of assessment across all learners. Pearson uses external quality assurance procedures to check that all centres are working to national standards. It gives us the opportunity to identify and provide support, if needed, to safeguard certification. It also allows us to recognise and support good practice.

For the qualifications in this specification, the Pearson quality assurance model is as described below.

Centres offering Pearson Edexcel NVQs/Competence-based qualifications will usually receive two standards verification visits per year (a total of two days per year). The exact frequency and duration of standards verifier visits must reflect the centre's performance, taking account of the number:

- of assessment sites
- and throughput of learners
- and turnover of assessors
- and turnover of internal verifiers.

For centres offering a full Pearson BTEC Apprenticeship (i.e. all elements of the Apprenticeship are delivered with Pearson through registration of learners on a Pearson BTEC Apprenticeship framework) a single standards verifier will be allocated to verify all elements of the Pearson BTEC Apprenticeship programme. If a centre is also offering stand-alone NVQs/Competence-based qualifications in the same sector as a full Pearson BTEC Apprenticeship, the same standards verifier will be allocated.

In order for certification to be released, confirmation is required that the National Occupational Standards (NOS) for assessment, verification and for the specific occupational sector are being consistently met.

Centres are required to declare their commitment to ensuring quality and to providing appropriate opportunities for learners that lead to valid and accurate assessment outcomes.

For further details, please go to the UK NVQ Quality Assurance Centre Handbook and the *Edexcel NVQs, SVQs and competence-based qualifications – Delivery Requirements and Quality Assurance Guidance* on our website, at www.pearsonwbl.edexcel.com/NVQ-competence-based.

8 Programme delivery

Centres are free to offer the qualifications using any mode of delivery (for example full-time, part-time, evening only, distance learning,) that meets learners' needs. However, centres must make sure that learners have access to the resources identified in the specification and to the sector specialists delivering and assessing the units. Centres must have due regard to Pearson's policies that may apply to different modes of delivery.

Those planning the programme should aim to address the occupational nature of the qualification by:

- engaging with learners, initially, through planned induction, and subsequently through the involvement of learners in planning for assessment opportunities
- using naturally occurring workplace activities and products to present evidence for assessment against the requirements of the qualification
- developing a holistic approach to assessment by matching evidence to different assessment criteria, learning outcomes and units, as appropriate, thereby reducing the assessment burden on learners and assessors
- taking advantage of suitable digital methods to capture evidence.

9 Access and recruitment

Pearson's policy regarding access to its qualifications is that:

- they should be available to everyone who is capable of reaching the required standards
- they should be free from any barriers that restrict access and progression
- there should be equal opportunities for all wishing to access the qualifications.

Centres must ensure that their learner recruitment process is conducted with integrity. This includes ensuring that applicants have appropriate information and advice about the qualification to ensure that it will meet their needs.

Centres should review applicants' prior qualifications and/or experience, considering whether this profile shows that they have the potential to achieve the qualification.

For learners with disabilities and specific needs, this review will need to take account of the support available to them during the delivery and assessment of the qualification. The review must take account of the information and guidance in *Section 10 Access to qualifications for learners with disabilities or specific needs*.

10 Access to qualifications for learners with disabilities or specific needs

Equality and fairness are central to our work. Pearson's Equality Policy requires that all learners should have equal opportunity to access our qualifications and assessments and that our qualifications are awarded in a way that is fair to every learner.

We are committed to making sure that:

- learners with a protected characteristic (as defined by the Equality Act 2010) are not, when they are undertaking one of our qualifications, disadvantaged in comparison to learners who do not share that characteristic
- all learners achieve the recognition they deserve from undertaking a qualification and that this achievement can be compared fairly to the achievement of their peers.

Learners taking a qualification can be assessed in British sign language or Irish sign language where it is permitted for the purpose of reasonable adjustments.

Further information regarding Access Arrangements can be found in the Joint Council Qualification (JCQ) document *Access Arrangements, Reasonable Adjustments and Special Consideration for General and Vocational qualifications*. Further details on how to make adjustments for learners with protected characteristics are given in the *Supplementary Guidance for Reasonable Adjustment and Special Consideration in Vocational Internally Assessed Units*.

These documents are available on our website, at www.edexcel.com/Policies

11 Unit format

Each unit has the following sections.

Unit title

The unit title is on the QCF and this form of words will appear on the learner's Notification of Performance (NOP).

Unit reference number

Each unit is assigned a unit reference number that appears with the unit title on the Register of Regulated Qualifications.

QCF level

All units and qualifications within the QCF have a level assigned to them. There are nine levels of achievement, from Entry to level 8. The QCF Level Descriptors inform the allocation of the level.

Credit value

All units have a credit value. When a learner achieves a unit, they gain the specified number of credits. The minimum credit value is 1 and credits can be awarded in whole numbers only.

Guided learning hours

Guided learning hours are the times when a tutor, trainer or facilitator is present to give specific guidance towards the learning aim for a programme. This definition includes workplace guidance to support the development of practical job-related skills, tutorials and supervised study in, for example, open learning centres and learning workshops. It also includes the time spent by staff assessing learners' achievements, for example in the assessment of competence for NVQs/Competence qualifications.

Unit aim

This gives a summary of what the unit aims to do.

Unit assessment requirements/evidence requirements

The SSC/B set the assessment/evidence requirements. Learners must provide evidence according to each of the requirements stated in this section.

Learning outcomes

The learning outcomes of a unit set out what a learner knows, understands or is able to do as the result of a process of learning.

Assessment criteria

The assessment criteria specify the standard required by the learner to achieve the learning outcome.

Additional guidance

Some of the units in this qualification contain additional information guidance, this section outlines any additional requirements learners must complete to achieve the unit as set by the SSC/B.

Unit 1: Contribute to Safe Working Practices in Bus/Coach Engineering and Maintenance

Unit reference number: Y/502/6302

QCF level: 2

Credit value: 4

Guided learning hours: 34

Unit aim

The purpose of this unit is for learners to demonstrate occupational competence in contributing to safe working practices in engineering and maintenance in the bus/coach industry for the welfare of self and others.

Unit assessment requirements

This unit should be assessed predominately in the workplace. Observation, witness testimony, questioning and professional discussion are all sources of evidence which can be used.

This unit is not a standalone unit. This should be taken in conjunction with Unit 2 Contribute to Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance. This should also be taken along side any of the units related to Bus/Coach Engineering and Maintenance.

Simulation is not permitted.

If this unit is used in an NVQ qualification linked to GoSkills (People 1st) National Occupational Standards, the overarching assessment strategy must be followed. This can be found in Annexe A.

Evidence requirements

Produce evidence of use of personal and vehicle protection, cleaning the work environment and disposal of waste on **four separate occasions**.

Be observed by an approved assessor carrying out the above on at least **one** occasion.

Produce evidence of identifying risks which may result from at least **two** of the items listed below:

- The use and maintenance of machinery or equipment
- The use of materials or substances
- Working practices which do not conform to laid down policies
- Unsafe behaviour
- Accidental breakages and spillages
- Environmental factors

Produce evidence of identifying risks on at least **two** occasions.

Produce evidence of following at least **four** of the workplace policies listed below:

- The use of safe working methods and equipment
- The safe use of hazardous substances
- Smoking, eating, drinking and drugs
- What to do in the event of an emergency
- Personal presentation

Produce evidence of following workplace policies on at least **two** occasions.

Simulation is **not** allowed for this unit.

Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to contribute to safe working practices in engineering and maintenance of bus/coaches.	1.1	Observe relevant statutory health and safety regulations and organisational procedures in the workplace.			
		1.2	Identify appropriate personal protective clothing to wear and relevant equipment to use to carry out the task.			
		1.3	Undertake an inspection of the required safety equipment to ensure that it is fit for purpose and is used in accordance with suppliers', manufacturers' and organisational recommendations and instructions.			
		1.4	Safely isolate electrical, hydraulic and pneumatic equipment before making any adjustments.			
		1.5	Demonstrate how to lift and handle equipment and materials safely ensuring where appropriate that the requirements for the licensed use of lifting equipment is adhered to.			
		1.6	Implement the relevant controls for substances which are hazardous to self, other employees and the general public in accordance with COSHH regulations and manufacturer's and organisational recommendations and instructions.			
		1.7	Undertake safe working practices within limits of own responsibility.			
		1.8	Clearly and effectively communicate health and safety issues.			
		1.9	Clearly and accurately report potential hazards to the appropriate person.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		1.10	In accordance with organisational policies and procedures report any accidents, incidents and emergencies.			
		1.11	Within own area of responsibility correctly use emergency equipment.			
		1.12	Take action to ensure that the fire alarm and evacuation procedures are followed.			
		1.13	Accurately report where replenishment of used safety equipment is required.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know the safe working practices in engineering and maintenance of bus/coaches.	2.1	Describe the relevant safe working procedures when working with equipment, materials and tools which are covered by the following: • Health and Safety at Work Act (HASWA) • Organisational health and safety policy and procedures • Control of Substances Hazardous to Health (COSHH regulations) • Personal Protective Equipment (PPE regulations) • Codes of practice relevant to vehicle maintenance activities • Role of safety representatives.			
		2.2	Describe the different types of personal protective clothing and equipment available including protection for the head, skin, hands and feet, visibility, noise protection, respiratory and facial protection.			
		2.3	Explain what safety equipment is available to protect individuals, work colleagues and/or the general public.			
		2.4	Explain the relevant supplier and manufacturer instructions for the safe use and storage of tools, equipment, materials and products.			
		2.5	Explain the correct safe lifting and handling techniques for the size, mass and shape of the load.			
		2.6	Explain the importance of removing pollution safely including toxic gases and waste.			
		2.7	Clarify the concept and definition of a hazard and risk.			
		2.8	Explain the importance of reporting hazards and risks.			
		2.9	Explain the differences between an incident, accident and emergency.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.10	Explain the importance of communicating health and safety matters and the different methods which can be used to do this.			
		2.11	Explain where different types of emergency equipment, including alarms, extinguishers and first aid equipment can be located.			
		2.12	Explain the procedures for emergencies and evacuation.			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Additional guidance

The range of safety equipment available to protect individuals should include the following:

- Exhaust and fume extraction
- Dust extraction
- Safety guards
- Containment stores
- Insulation
- Welding screens
- Walkways and guard rails
- Machine isolators.

Lifting and handling techniques should include as appropriate:

- Hoists
- Cranes
- Trolleys
- Jacks
- Manual lifting.

Learners should use a range of equipment, machinery and materials including gases in accordance with statutory regulations and manufacturers and organisational recommendations and instructions.

Unit 2: Contribute to Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance

Unit reference number: H/502/6304

QCF level: 2

Credit value: 10

Guided learning hours: 56

Unit aim

The purpose of this unit is for learners to demonstrate occupational competence in carrying out safe working practices in engineering and maintenance in the bus/coach industry.

Unit assessment requirements

This unit should be assessed predominately in the workplace. Observation, witness testimony, questioning and professional discussion are all sources of evidence which can be used.

This unit is not a standalone unit. This must be taken in conjunction with Unit 1 Contribute to Safe Working Practices in Bus/Coach Engineering and Maintenance and also alongside any of the units related to Bus/Coach Engineering and Maintenance.

Simulation is not permitted.

If this unit is used in an NVQ qualification linked to GoSkills (People 1st) National Occupational Standards, the overarching assessment strategy must be followed. This can be found in Annexe A.

Evidence requirements

Produce **three** pieces of evidence of keeping the immediate work area in a clean, tidy and hazard free state and that all emergency exits and designated walkways in immediate work area are free from obstructions at all times- reporting where appropriate any hazards which need to be dealt with.

Produce **three** pieces of evidence of how to deal with spillages safely, promptly and effectively, and by using appropriate cleaning agents and equipment.

Produce **three** pieces of evidence of checking and storing materials, tools and equipment safely in approved locations — reporting faults accurately and promptly.

Produce **three** pieces of evidence of isolating machines and equipment from the power source ensuring that moving parts are stopped prior to cleaning operations in accordance with manufacturers' recommendations, guidelines and instructions.

Produce three pieces of evidence of disposing of waste material, used cleaning agents and debris safely and in line with relevant legislation and workshop procedures.

Be observed by an approved assessor carrying out **each** of the above on at least **one** occasion.

Simulation is **not** allowed for this unit.

Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to contribute to safe housekeeping practices.	1.1	Demonstrate how to keep immediate work area in a clean, tidy and hazard free state reporting where appropriate any hazards which need to be dealt with.			
		1.2	Take action to ensure that all emergency exits and designated walkways in immediate work area are free from obstructions at all times, reporting obstructions where appropriate.			
		1.3	Demonstrate how to deal with spillages promptly and effectively.			
		1.4	Take action to store materials, tools and equipment safely in approved locations.			
		1.5	Assess all tools and equipment to ensure they are fit for purpose in line with manufacturer guidelines.			
		1.6	Report faults to tools and equipment accurately and promptly in accordance with organisational procedures and in line with manufacturer guidelines.			
		1.7	Under supervision isolate machines and equipment from the power source ensuring that moving parts are stopped prior to cleaning operations in accordance with manufacturers' recommendations, guidelines and instructions.			
		1.8	Using the appropriate cleaning agents and cleaning equipment in accordance with manufacturers' instructions.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		1.9	Dispose of waste material, used cleaning agents and debris safely and in line with relevant legislation and workshop procedures.			
		1.10	Establish substances and discharges which are hazardous to health and ensure that they are stored or disposed of safely and in accordance with COSHH regulations and workshop procedures.			
		1.11	Implement housekeeping practices within limits of own responsibility.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to contribute to housekeeping practices.	2.1	Explain the importance of cleaning, servicing, storing and maintaining tools and equipment.			
		2.2	Illustrate how to detect tool and equipment defects.			
		2.3	Explain the importance of storing expensive, fragile and vulnerable tools and equipment safely.			
		2.4	Explain why it is important to report defects and discrepancies to tools and equipment.			
		2.5	Explain the reporting procedure for tool and equipment defects.			
		2.6	Explain why it is important to keep all emergency exits and walkways clear from obstructions.			
		2.7	Explain the cleaning schedules and the types of warnings which are appropriate for cleaning operations.			
		2.8	Explain why it is important to deal promptly with spillages.			
		2.9	Explain the range and limitations of cleaning methods, materials and equipment available.			
		2.10	Describe the hazards associated with particular cleaning materials and the reporting procedures associate with them.			
		2.11	Explain the organisational procedures for isolating machinery.			
		2.12	Explain organisational and statutory requirements for the storage, disposal, discharge or containment of substances used in vehicle engineering and maintenance workshops.			
		2.13	Explain the relevant supplier and manufacturer instructions for the safe cleaning of tools, equipment, materials and products.			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Unit 3: Achieve Effective Working Relationships with Colleagues in Bus/Coach Engineering and Maintenance

Unit reference number: K/502/6305

QCF level: 2

Credit value: 4

Guided learning hours: 27

Unit aim

The purpose of this unit is for learners to demonstrate occupational competence in achieving effective working relationships with colleagues in Bus/Coach Engineering and Maintenance.

Unit assessment requirements

This unit should be assessed predominately in the workplace. Observation, witness testimony, questioning, professional discussion, written and product evidence are all sources of evidence which can be used.

Simulation is not permitted.

This unit must be taken alongside the health and safety units Unit 1 Contribute to the Safe Working Practices in Bus/Coach Engineering and Maintenance and Unit 2 Contribute to the Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance.

If this unit is used in an NVQ qualification linked to GoSkills (People 1st) National Occupational Standards, the overarching assessment strategy must be followed. This can be found in Annexe A.

Evidence requirements

Produce evidence of dealing with requests from colleagues on at least **two** occasions.

Be observed by an approved assessor on at least **one** occasion.

Produce a witness testimony from your peers **and** supervisor that you have worked well with others.

Simulation is **not** allowed for this unit.

Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to achieve effective working relationships with colleagues.	1.1	Deal with a request from colleagues without disrupting own work.			
		1.2	Take action to carry out work within agreed timescales.			
		1.3	Record and report back accurately and promptly information required by colleagues.			
		1.4	Where difficulties in working relationships or work practices arise follow company procedures.			
		1.5	Identify where appropriate potential areas of conflicts with colleagues.			
		1.6	Identify a solution in dealing with a potential conflict situation with colleagues.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know the importance of effective working relationships with colleagues.	2.1	Explain the need for effective working relationships and goodwill in the workplace.			
		2.2	Describe organisational standards and guidelines relating to behaviour in the workplace.			
		2.3	Outline how to balance giving help to colleagues with undertaking own workload.			
		2.4	Describe the limits of own responsibilities and those of colleagues.			
		2.5	Illustrate an awareness of the learning needs of colleagues who are being trained.			
		2.6	Explain organisational procedures for dealing with and discussing difficulties in working relationships.			
		2.7	Explain organisational procedures for dealing with conflict in the workplace.			
		2.8	Describe the skills that could be used to resolve conflicts and aggressive behaviour in the workplace.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Be able to achieve effective communications with colleagues.	3.1	Obtain information required from colleagues using organisational procedures.			
		3.2	Present colleagues with relevant information that will meet their needs.			
		3.3	Communicate effectively with colleagues giving information in a format that is appropriate.			
		3.4	Take action to confirm that the information provided is given by an authorised person.			
		3.5	Gain the necessary help where there is difficulty in communicating effectively with colleagues.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Know how to achieve effective communications with your colleagues.	4.1	Describe the importance of providing accurate and relevant information to be communicated within the workplace.			
		4.2	Describe the methods of receiving and giving information between colleagues.			
		4.3	Define limits of own authority relating to providing information.			
		4.4	Describe the different formats that can be used to communicate information and their uses.			
		4.5	Explain the importance of providing colleagues with opportunities to communicate freely and openly.			
		4.6	Describe ways to provide colleagues with opportunities to communicate freely and openly.			
		4.7	Describe organisational procedures for dealing with and reporting difficulties in communicating freely and openly.			
		4.8	Outline how to identify and deal with weaknesses with own communication skills.			
5	Be able to promote equality and diversity in the workplace.	5.1	Take action to ensure that all behaviour, words and actions promote equality and diversity in the workplace.			
		5.2	Identify personal responsibilities and liabilities under equality legislation and relevant codes of practice.			
		5.3	Take action to identify prejudice, discrimination and bullying in the workplace.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
6	Know how to promote equality and diversity in the workplace.	6.1	Explain why equality and diversity in the workplace is important.			
		6.2	Explain what can cause prejudice and discrimination in the workplace.			
		6.3	Explain organisational policy on equality and diversity.			
		6.4	Explain relevant legislation and codes of conduct aimed at achieving equality and diversity.			
		6.5	Describe own responsibility regarding equality and diversity in the workplace.			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Unit 4: Complete Routine Assembly of Bus/Coach Body Components

Unit reference number: D/502/6320

QCF level: 2

Credit value: 5

Guided learning hours: 39

Unit aim

The purpose of this unit is for learners to demonstrate occupational competency in completing routine assembly activities in accordance with organisational procedures on bus/coach body components or parts. Learners should be able to source and interpret relevant information for planning and progressing work.

Unit assessment requirements

This unit should be assessed predominately in the workplace. Observation, witness testimony, questioning and product evidence are all sources of evidence which can be used.

Realistic workplace simulation may be used to assess areas that cover non routine situations.

All simulations using specially constructed environments need to be approved by the awarding organisation prior to use. The setting up or devising of assessment situations do not need to be approved by the awarding organisation if they take place in the normal workplace environment.

This unit must be taken alongside the Health and Safety Unit 1 Contribute to the Safe Working Practices in Bus/Coach Engineering and Maintenance and unit 2 Contribute to the Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance.

If this unit is used in an NVQ qualification linked to GoSkills (People 1st) National Occupational Standards, the overarching assessment strategy must be followed. This can be found in Annexe A.

Evidence requirements

Practical assessment of this unit should be completed by:

Observation on at least one occasion, other evidence could come from product evidence, witness testimony, a report or questioning.

Assessment should cover as a minimum:

- **one** internal and **one** external component
- the use of hand and power tools.

Covering **five** different fastening methods from:

- threaded
- positive
- friction locked
- self tapping
- self drilling
- rivets, and proprietary fasteners
- Piercing
- clips, cables and clamps
- adhesive bonding
- gasket e.g. glazing.

Using **six** different compliance checks from:

- use of Pythagoras
- visual
- tactile
- operational
- measurement
- cleanliness
- alignment
- aesthetic
- condition
- security
- aural.

Be observed by an approved assessor on at least **one** occasion.

Simulation **is** allowed for this unit.

Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to complete routine assembly of body components.	1.1	Identify and follow the relevant instructions, assembly drawings and other specifications.			
		1.2	Make available the specified components and ensure they are fit for purpose.			
		1.3	Assemble the components in their correct positions using the appropriate methods and techniques.			
		1.4	Using the specified connectors and securing devices secure the body components.			
		1.5	Follow the correct assembly sequence, including where appropriate the use of temporary fixing methods to allow other work to be carried out.			
		1.6	Implement checks at critical/key stages of the assembly process.			
		1.7	Inspect the completed assembly to ensure that all operations have been completed and meet the required specification.			
		1.8	Accurately complete all relevant work records.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to complete routine assembly of body components.	2.1	Describe the assembly sequences used for techniques such as riveting roof panels and fitting glazing units.			
		2.2	Explain why it is important to follow the assembly sequence to ensure the work activity can be completed without any difficulties or interruptions.			
		2.3	Explain the need for assembling components temporarily to allow other work to be carried out without any difficulties or interruptions, this should include checking alignment, profile, dimensions and correct operation.			
		2.4	Explain the methods used to check compliance with specification including checks for: • Correct operation • Accuracy • Alignment • Profile • Security.			
		2.5	Explain the methods used to support and protect large, heavy and fragile materials during the assembly process.			
		2.6	Explain what preparation methods are required for assembly methods used.			
		2.7	Describe the factors which influence the assembly methods and techniques used.			
		2.8	Describe the workshop tools and equipment used for routine assembly of body components.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.9	Describe the extent of own responsibility and to whom any unsolved problems should be reported to.			
		2.10	Explain the procedures for referring assembly tools and equipment within own area of responsibility including: • Electrically and pneumatic powered tools • Air powered tools • Torque wrenches • Riveting guns.			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Additional guidance

The evidence should relate to a range of techniques which could include:

- Fasteners and retainers
- Welding/cutting
- Adhesives/bonding
- Gaskets (e.g. indirect glazing)
- Lifting and supporting equipment
- Manual lifting and carrying
- Positioning and securing
- Temporary fastening.

Learners will be required to carry out routine assembly activities relating to buses/coaches covering the following areas as appropriate:

- Exterior claddings
- Interior claddings
- Frame and structural components
- Interior trim
- Exterior trim
- Body furniture and hardware
- Glazing
- Door units.

Unit 5: Identify Bus/Coach Damage and Recommend Suitable Repair Techniques

Unit reference number: K/502/6322

QCF level: 2

Credit value: 5

Guided learning hours: 36

Unit aim

The purpose of this unit is for learners to demonstrate occupational competency in identifying non-complex body damage and recommending efficient and effective repair techniques in accordance with approved procedures. Learners will be required to identify and assess the condition of the body damage and determine the feasibility of a repair to the following areas as appropriate:

- Exterior claddings
- Interior claddings
- Frame and structural components
- Interior trim
- Exterior trim
- Body furniture and hardware
- Glazing
- Door units

Unit assessment requirements

This unit should be assessed predominately in the workplace. Observation, witness testimony, questioning and product evidence are all sources of evidence which can be used.

Simulation is not permitted.

This unit must be taken alongside the health and safety units Unit 1 Contribute to the Safe Working Practices in Bus/Coach Engineering and Maintenance and Unit 2 Contribute to the Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance.

If this unit is used in an NVQ qualification linked to GoSkills (People 1st) National Occupational Standards, the overarching assessment strategy must be followed. This can be found in Annexe A.

Evidence requirements

Practical assessment of this unit should be completed by:

Observation on at least one occasion of identifying damage to body component, other evidence could come from product evidence, witness testimony, a report or questioning.

Assessment should cover as a minimum:

Identifying damage to **one** structural component from each of the **four** areas below:

- Main frame members
- Brackets and frame support
- Chassis components
- Structural body panels.

Identifying damage to one **non** structural component.

One GRP component and components made from **three** other materials from:

- aluminium and its alloys
- carbon steel
- stainless steel
- timber and its composites
- trim materials
- safety glass
- natural and synthetic rubber
- thermoplastics
- thermosetting plastics
- reinforced plastics
- sealants
- adhesives.

Identify when to use **five** principles of repair from:

- disassembly procedures
- material preparation
- assembly sequence
- fabrication and forming sequence
- rivet pitch
- edge distance
- grip range
- clamping and work holding.

Be observed by an approved assessor on at least **one** occasion.

Simulation is **not** allowed for this unit.

Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to identify body damage and recommend suitable repair techniques.	1.1	Establish the location and extent of body damage.			
		1.2	Identify the relevant specifications to follow for the component to be repaired.			
		1.3	Evaluate the amount or level of wear or damage to the component and decide what techniques are required to bring the component back to the specified condition.			
		1.4	Clearly and effectively report on findings and conclusions on the feasibility of repairs.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to identify body damage and recommend suitable repair techniques.	2.1	Describe the methods used to check damaged and potentially damaged components for compliance.			
		2.2	Explain the techniques used to repair body components.			
		2.3	Explain the factors which determine whether a damaged component should be repaired or replaced, this should include: • The availability of components • An awareness of the costs incurred as a result of vehicle downtime.			
		2.4	Describe how to compare and report on the methods used for the repair of body components to enable an informed assessment to be made and any constraints that may apply, to include: • Time • Availability of materials and equipment • Properties and characteristics of the materials used.			
		2.5	Describe the different factors which influence the repair methods and techniques used including legislation, quality standards and manufacturers' warranties.			
		2.6	Describe organisational, manufacturers' and regulatory standards and expectations which relate to repair methods.			
		2.7	Describe the extent of own responsibility and to whom any unsolved problems should be reported.			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Unit 6: Rectify Body Damage on Bus/Coach Vehicle Body Components

Unit reference number: M/502/6323

QCF level: 2

Credit value: 5

Guided learning hours: 39

Unit aim

The purpose of this unit is for learners to demonstrate occupational competency in rectifying bus/coach body damage through repair in accordance with organisational procedures. Learners will be required to carry out body repairs on a range of body components, using effective and efficient repair methods, techniques, processes and materials.

Unit assessment requirements

This unit should be assessed predominately in the workplace. Observation, witness testimony, questioning and product evidence are all sources of evidence which can be used.

Realistic workplace simulation may be used to assess areas that cover non routine situations.

All simulations using specially constructed environments need to be approved by the awarding organisation prior to use. The setting up or devising of assessment situations do not need to be approved by the awarding organisation if they take place in the normal workplace environment.

This unit must be taken alongside the health and safety units Unit 1 Contribute to the Safe Working Practices in Bus/Coach Engineering and Maintenance and Unit 2 Contribute to the Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance.

If this unit is used in an NVQ qualification linked to GoSkills (People 1st) National Occupational Standards, the overarching assessment strategy must be followed. This can be found in Annexe A.

Evidence requirements

Practical assessment of this unit should be completed by:

Observation on at least one occasion of rectifying damage to body component, other evidence could come from product evidence, witness testimony, a report or questioning.

Assessment should cover as a minimum:

Rectifying **one** structural component from each of the **four** areas below:

- Main frame members
- Brackets and frame support
- Chassis components
- Structural body panels.

Rectifying **one** non structural component.

Rectifying GRP damage and rectifying damage to **three** other materials from:

- aluminium and its alloys
- carbon steel
- stainless steel
- timber and its composites
- trim materials
- safety glass
- natural and synthetic rubber
- thermoplastics
- thermosetting plastics
- reinforced plastics
- sealants
- adhesives.

Use **five** principles of repair from:

- disassembly procedures
- material preparation
- assembly sequence
- fabrication and forming sequence
- rivet pitch
- edge distance
- grip range
- clamping and work holding.

Be observed by an approved assessor on at least **one** occasion.

Simulation is **not** allowed for this unit.

Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to rectify body damage on bus/coach vehicle body components.	1.1	Assess and diagnose damaged component for repair.			
		1.2	Obtain and follow the relevant specifications for the component to be repaired.			
		1.3	Take action to prepare the component for repair.			
		1.4	Take action to carry out the repairs using approved materials, components, methods and procedures within the agreed timescale.			
		1.5	Examine and carry out relevant checks at critical or key stages of the repair process.			
		1.6	Undertake an examination of the repaired component ensuring that it meets specified operating conditions.			
		1.7	Take action to clean the work area and safely dispose of waste materials in accordance with safe working practices and organisational procedures.			
		1.8	Complete records of all repair work carried out, clearly and accurately and in line with organisational procedures.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to rectify body damage on bus/coach vehicle body components.	2.1	Explain how to source components and how to ensure they are fit for purpose.			
		2.2	Describe the different body repair techniques.			
		2.3	Describe the best repair methods for a bus/coach body repair activity taking into consideration the type of vehicle construction, materials used, anticipated loading, warranty and legislation.			
		2.4	Describe how to use relevant information for planning and progressing work including: • Electronically stored information • Manufacturers' workshop manuals.			
		2.5	Explain why it is important to ensure that the completed repair meets the required organisational, manufacturer and regulatory expectations.			
		2.6	Explain the purpose and use of the tools and equipment used for repairing bus/coach body components.			
		2.7	Explain how to apply safe working methods and techniques.			
		2.8	Explain how to recognise tool and equipment techniques.			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Additional guidance

The evidence should relate to a range of repairs which should include where appropriate:

- Exterior claddings
- Exterior trim
- Interior claddings
- Body furniture and hardware
- Frame and structural components
- Glazing
- Interior trim
- Door units
- Flooring.

Unit 7: Use Hand Tools and Equipment in Bus/Coach Engineering and Maintenance

Unit reference number: M/502/6306

QCF level: 2

Credit value: 4

Guided learning hours: 29

Unit aim

The purpose of this unit is for learners to demonstrate occupational competency in identifying, selecting and using a range of hand tools and equipment commonly used in bus/coach engineering and maintenance workshops.

Unit assessment requirements

This unit should be assessed predominately in the workplace. Observation, witness testimony and questioning are all sources of evidence which can be used.

Realistic workplace simulation may be used to assess areas that cover non routine situations.

All simulations using specially constructed environments need to be approved by the awarding organisation prior to use. The setting up or devising of assessment situations do not need to be approved by the awarding organisation if they take place in the normal workplace environment.

This unit must be taken alongside the health and safety units Unit 1 Contribute to the Safe Working Practices in Bus/Coach Engineering and Maintenance and Unit 2 Contribute to the Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance.

If this unit is used in an NVQ qualification linked to GoSkills (People 1st) National Occupational Standards, the overarching assessment strategy must be followed. This can be found in Annexe A.

Evidence requirements

Produce evidence of undertaking basic routine checks of hand tools measuring devices and workshop equipment on at least **four** occasions covering all of those listed below:

- Electrical
- Mechanical
- Pneumatic
- Hydraulic.

Be observed carrying out the above by an approved assessor on at least **one** occasion.

Produce evidence of using, maintaining, cleaning and storing tools and equipment on at least **four** occasions.

Be observed carrying out the above by an approved assessor on at least **one** occasion.

Simulation **is** allowed for this unit.

Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to identify and use a range of hand tools and equipment.	1.1	Identify the relevant tools and equipment needed to undertake duties.			
		1.2	Assess tools and equipment for safe operation in accordance with manufacturing specifications.			
		1.3	Carry out the task required selecting and safely using the correct tool or item of equipment.			
		1.4	Accurately record and interpret data from a range of measuring tools.			
		1.5	Demonstrate how to clean and store tools and equipment for future use or operation in accordance with company and manufacturer guidelines.			
		1.6	Use hand tools and equipment within limits of own responsibility.			
		1.7	Maintain tools and equipment within limits of own responsibility.			
		1.8	Take action to clean the work area and safely dispose of waste materials in accordance with safe working practices and organisational procedures.			
		1.9	Clearly and accurately complete work records relevant to using hand tools and equipment as required.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to identify and use a range of hand tools and equipment.	2.1	Describe how to select and use the correct hand tools and equipment for relevant jobs in a bus/coach engineering and maintenance workshop.			
		2.2	Describe a range of hand tools and equipment used in a bus/coach engineering and maintenance workshop.			
		2.3	Explain how to use a range of measuring tools and equipment to determine: • Length • Diameter • Depth • Ovality • Taper • Run-out • Angles • Deviation • Tolerance • Volts • Amps • Ohms • Watts • Airflow • Volume.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.4	Explain how to check tools and equipment to ensure they operate to specification.			
		2.5	Describe how to clean and safely store basic hand tools and equipment for relevant bus/coach engineering and maintenance workshop in accordance with company and manufacturer guidelines.			
		2.6	Explain the importance of disposing of waste materials safely and the consequences of not doing so to others and the environment when working with hand tools and equipment.			
		2.7	Describe how to read, calculate and interpret data from hand tools and equipment used in a bus/coach maintenance workshop.			
		2.8	Explain the importance of reporting defects and discrepancies to tools and equipment.			
		2.9	Describe how to maintain the tools and equipment used within limits of own level of responsibility.			
		2.10	Know the extent of own responsibility and identify who to report to if there are problems that cannot be resolved.			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Additional guidance

Learners must be able to carry out a range of visual safety checks under supervision to ensure that the tools and equipment are fit for the purpose intended. Learners should use a range of tools and equipment which can include:

- General workshop tools
- Jacks
- Stands
- Cranes
- Lifts
- Hoists
- Presses
- Pullers
- Punches
- Drifts
- Installers
- Platforms
- Grinders
- Saw.

Assessment criteria 2.2

The range should include tools and equipment used for the following:

- Measuring
- Removal and replacement
- Fixing and securing
- Cutting
- Forming
- Fabrication
- Shaping
- Joining
- Assembly/disassembly
- Welding
- Sealing
- Bonding
- Cleaning
- Preparing
- Finishing
- Lifting and supporting.

Assessment criteria 2.4

The range of specifications to be covered should include:

- Calibration
- Accuracy
- Tension
- Torque
- Grip
- Balance
- Adjustment
- Cutting – sharpness.

Unit 8: Carry Out Bus/Coach Servicing

Unit reference number: A/502/6308

QCF level: 2

Credit value: 8

Guided learning hours: 47

Unit aim

The purpose of this unit is for learners to demonstrate occupational competency in carrying out bus/coach servicing activities in accordance with approved procedures. Learners will be able to follow the requirements of the maintenance schedule and carry out servicing to the standards required which will be mainly routine and supervised.

Unit assessment requirements

This unit should be assessed predominately in the workplace. Observation, witness testimony, questioning and product evidence are all sources of evidence which can be used.

Simulation is not permitted.

This unit must be taken alongside the health and safety units Unit 1 Contribute to the Safe Working Practices in Bus/Coach Engineering and Maintenance and Unit 2 Contribute to the Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance.

If this unit is used in an NVQ qualification linked to GoSkills (People 1st) National Occupational Standards, the overarching assessment strategy must be followed. This can be found in Annexe A.

Evidence requirements

Produce evidence of carrying out servicing activities on **at least three different vehicles** which covers the learning outcomes.

Be observed by an approved assessor on at least **one** occasion.

Simulation is **not** allowed for this unit.

Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Carry out bus or coach servicing.	1.1	Under supervision follow the relevant maintenance schedules and carry out the required work.			
		1.2	Within the limits of personal authority and trade area, carry out the checks and servicing activities in the specified sequence and within agreed timescales.			
		1.3	Identify any defects outside the planned schedule and accurately report these and any instances where the checks and servicing activities cannot be fully met.			
		1.4	Accurately complete relevant maintenance records and pass these to the appropriate person.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to carry out bus or coach servicing.	2.1	Explain what maintenance schedules are required to comply with organisational policies and procedures including legal requirements. This may include first use inspection, daily, weekly, monthly and annual service.			
		2.2	Explain how to complete servicing activities including the methods, materials and tests used.			
		2.3	Describe the range of activities relevant to bus and coach servicing, including: • Replenishment • Replacement • Adjustment • Settings • Tensions • PressureWear • Gaps/play • Levels.			
		2.4	Explain the timescales allocated for checks and servicing and the procedures for obtaining authorisation to change or modify the laid down service specification.			
		2.5	Explain the importance of recording service activities.			
		2.6	Describe how to correctly dispose of the waste materials produced as a result of servicing operations.			
		2.7	Know the extent of own responsibility and identify who to report to if there are problems that cannot be resolved.			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Additional guidance

The evidence could relate to any of the following:

- Cab area
- Engine compartment
- Vehicle interior
- Vehicle exterior
- Under floor
- Electrical.

The range of examination tasks could include the following as appropriate:

- Aural
- Visual
- Damage
- Function
- Wear
- Leaks
- Security
- Alignment/adjustment
- Tactile
- Position
- Movement
- Condition and serviceability
- Defect report.

Unit 9: Identify and Locate Mechanical Faults in Bus/Coach Systems and Components

Unit reference number: J/502/6313

QCF level: 2

Credit value: 8

Guided learning hours: 46

Unit aim

The purpose of this unit is for learners to demonstrate occupational competency in identifying and locating faults across a range of bus/coach mechanical systems and components. Learners will be required to interpret instructions, select the correct procedures and tools and diagnose the presented fault which could include as appropriate:

- Visual
- Aural
- Odour
- Measuring instruments
- Gauges
- Kinethstatic
- Indicators.

Unit assessment requirements

This unit should be assessed predominately in the workplace. Observation, witness testimony, questioning and product evidence are all sources of evidence which can be used.

Realistic workplace simulation may be used to assess areas that cover non routine situations.

All simulations using specially constructed environments need to be approved by the Awarding Organisation prior to use. The setting up or devising of assessment situations do not need to be approved by the awarding organisation if they take place in the normal workplace environment.

This unit must be taken alongside the health and safety units, Unit 1 Contribute to the Safe Working Practices in Bus/Coach Engineering and Maintenance and Unit 2 Contribute to the Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance.

If this unit is used in an NVQ qualification linked to GoSkills (People 1st) National Occupational Standards, the overarching assessment strategy must be followed. This can be found in Annexe A.

Evidence requirements

Produce evidence of carrying out the identification of faults from engine mechanical units and components from **four different systems out of the five listed below**:

- Engine mechanical systems
- Cooling systems
- Air supply and exhaust systems
- Fuel systems
- Lubrication systems.

Be observed by an approved assessor on at least **one** occasion.

Produce evidence of carrying out the identification of faults on at least **four** occasions covering all **three different** systems. Your evidence must include demonstration of skill in **each** aspect of mechanical and hydraulic and/or pneumatic unit or component removal and replacement.

- Steering
- Suspension
- Braking.

Be observed by an approved assessor on at least **one** occasion.

Produce evidence of carrying out the identification of **three** faults on three different vehicles **from at least two of the areas** as listed below:

- Clutch or fluid coupling
- Gearbox (manual or automatic)
- Drive line (shafts, couplings, hubs and bearings)
- Final drive.

Be observed by an approved assessor on at least **one** occasion.

Simulation **is** allowed for this unit.

Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to identify and find mechanical faults.	1.1	Assess and review all the relevant information on the symptoms and problems associated with the products or assets.			
		1.2	Investigate and establish the causes of the faults.			
		1.3	Take action to select the appropriate techniques, tools and aids to locate faults.			
		1.4	Assess the implications of the fault for other work and for safety considerations.			
		1.5	Assess the evidence gained about the probable cause of the fault and draw a valid conclusion.			
		1.6	In the appropriate format accurately record details on the extent and location of the faults.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to identify and locate mechanical faults.	2.1	Explain the possible reasons for breakdowns including continual and intermittent faults.			
		2.2	Describe the relevant aids available to diagnose a range of faults based on an accurate interpretation of work instructions.			
		2.3	Describe the possible causes of mechanical faults in bus/coach systems and how these relate to the most logical method of fault diagnosis.			
		2.4	Explain the preparation procedures required to ensure accuracy of diagnosis, including: The accuracy of test instruments • Calibration • Operating temperature • Component or system access.			
		2.5	Describe the methods employed to diagnose faults including the use of systematic testing using visual, aural, measurement based readings and simulations, touch kinethstatic.			
		2.6	Describe how to analyse and determine results which could include comparisons of efficiency and safety implications.			
		2.7	Explain the risk assessment procedures that have to be adopted when undertaking a diagnostic task.			
		2.8	Explain how to report different forms of information ensuring clarity of detail and understanding.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.9	Explain why it is important to report accurately diagnostic conclusions including: • Safety implications • Potential follow-up work • Purchase requests • Time and cost implications • Good customer service.			
		2.10	Describe the operation and care of workshop test equipment used to diagnose mechanical faults.			
		2.11	Explain why it is important to leave workshop equipment in a clean and workable condition.			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Additional guidance

The evidence should relate to a range of systems which could include:

- Engine, lubrication and cooling systems and their associated components
- Fuel systems and their associated components
- Transmission, automatic/manual, final drive and their associated components
- Foundation brakes and their associated components
- Suspension and steering and its associated components.

The tasks will be mainly routine and carried out under supervision. Learners will be required to locate faults and use the chosen method and diagnostic tool for the perceived fault. These methods could include:

- Visual
- Aural
- Odour
- Measuring instruments
- Gauges
- Indicators
- A range of diagnostic equipment and manufacturer's software
- Multi-meter
- Approved test equipment.

Unit 10: Identify and Locate Electrical Faults in Bus/Coach Systems and Components

Unit reference number: L/502/6314

QCF level: 2

Credit value: 8

Guided learning hours: 46

Unit aim

The purpose of this unit is for learners to demonstrate occupational competency in identifying and locating faults across a range of bus/coach electrical systems and components. Learners will be required to interpret instructions, select the correct diagnostic procedure and tools and diagnose the presented fault which could include as appropriate:

- Visual
- Aural
- Odour
- Measuring instruments
- Gauges
- Kinethstatic
- Indicators.

Unit assessment requirements

This unit should be assessed predominately in the workplace. Observation, witness testimony, questioning and product evidence are all sources of evidence which can be used.

Realistic workplace simulation may be used to assess areas that cover non routine situations.

All simulations using specially constructed environments need to be approved by the awarding organisation prior to use. The setting up or devising of assessment situations do not need to be approved by the awarding organisation if they take place in the normal workplace environment.

This unit must be taken alongside the health and safety units, Unit 1 Contribute to the Safe Working Practices in Bus/Coach Engineering and Maintenance and Unit 2 Contribute to the Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance.

If this unit is used in an NVQ qualification linked to GoSkills (People 1st) National Occupational Standards, the overarching assessment strategy must be followed. This can be found in Annexe A.

Evidence requirements

Produce evidence of carrying out the identification and rectification of **five** faults from at least **three different systems out of the seven listed below**:

- Lighting systems
- Wiper systems
- Security and alarm systems
- Comfort and convenience systems
- Infotainment/communication systems
- Engine starting systems
- Engine charging systems.

Be observed by an approved assessor on at least **one** occasion.

Simulation **is** allowed for this unit.

Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to identify and find electrical faults.	1.1	Assess and review all the relevant information on the symptoms and problems associated with the products or assets.			
		1.2	Investigate and establish the causes of the faults.			
		1.3	Take action to select the appropriate techniques, tools and aids to locate faults.			
		1.4	Assess the implications of the fault for other work and for safety considerations.			
		1.5	Assess the evidence gained about the probable cause of the fault and draw a valid conclusion.			
		1.6	In the appropriate format accurately record details on the extent and location of the faults.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to identify and locate electrical faults.	2.1	Explain the possible reasons for breakdowns including continual and intermittent faults.			
		2.2	Describe the relevant diagnostic aids available to diagnose a range of faults based on an accurate interpretation of work instructions.			
		2.3	Describe the possible causes of electrical faults in bus/coach systems and how these relate to the most logical method of fault diagnosis.			
		2.4	Explain the preparation procedures required to ensure accuracy of diagnosis, including: • The accuracy of test instruments • Calibration • Operating temperature • Component or system access.			
		2.5	Describe the methods employed to diagnose faults including the use of systematic testing using visual, aural, measurement based readings and simulations, touch kinethstatic.			
		2.6	Describe how to analyse and determine diagnostic results which could include comparisons of efficiency and safety implications.			
		2.7	Explain the risk assessment procedures that have to be adopted when undertaking a diagnostic task.			
		2.8	Explain how to report different forms of diagnostic information ensuring clarity of detail and understanding.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.9	Explain why it is important to report accurately diagnostic conclusions including: • Safety implications • Potential follow-up work • Purchase requests • Time and cost implications • Good customer service.			
		2.10	Describe the operation and care of workshop test equipment used to diagnose electrical faults.			
		2.11	Explain why it is important to leave workshop equipment in a clean and workable condition.			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Additional guidance

The evidence should relate to a range of systems which could include:

- Battery and charging systems and their associated components
- Engine, starting systems and their associated components
- Lighting systems and their associated components
- Body electrical systems and their associated components
- Electrical controls and driver controls and their associated components
- Information systems and their associated components
- Transmission and braking electronic systems and their associated components
- Hydraulic and pneumatic systems.

The tasks will be mainly routine and carried out under supervision. Learners will be required to locate faults and use the chosen method and diagnostic tool for the perceived fault. These methods could include:

- Visual
- Aural
- Odour
- Measuring instruments
- Gauges
- Indicators
- A range of diagnostic equipment and manufacturer's software
- Multi-meter
- Approved test equipment.

Unit 11: Rectify Electrical Faults in Bus/Coach Systems and Components

Unit reference number: H/502/6318

QCF level: 2

Credit value: 8

Guided learning hours: 49

Unit aim

The purpose of this unit if for learners to demonstrate occupational competency in rectifying a range of electrical faults in bus/coach systems and components in accordance with approved procedures.

Unit assessment requirements

This unit should be assessed predominately in the workplace. Observation, witness testimony, questioning and product evidence are all sources of evidence which can be used.

Realistic workplace simulation may be used to assess areas that cover non routine situations.

All simulations using specially constructed environments need to be approved by the awarding organisation prior to use. The setting up or devising of assessment situations do not need to be approved by the awarding organisation if they take place in the normal workplace environment.

This unit must be taken alongside the health and safety units, Unit 1 Contribute to the Safe Working Practices in Bus/Coach Engineering and Maintenance and Unit 2 Contribute to the Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance.

If this unit is used in an NVQ qualification linked to GoSkills (People 1st) National Occupational Standards, the overarching assessment strategy must be followed. This can be found in Annexe A.

Evidence requirements

Produce evidence of carrying out the rectification of **five** faults from at least **three different systems out of the seven listed below:**

- Lighting systems
- Wiper systems
- Security and alarm systems
- Comfort and convenience systems
- Infotainment/communication systems
- Engine starting systems
- Engine charging systems.

Be observed by an approved assessor on at least **one** occasion.

Simulation **is** allowed for this unit.

Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to rectify electrical faults in Bus/Coach systems and components.	1.1	Obtain all the required components in order to carry out a replacement ensuring that they are in a suitable condition and fit for purpose.			
		1.2	Assess all replacement components used ensuring that they meet the required specification to include operational soundness and warranty.			
		1.3	Take action to prevent damage to components, tools and equipment during replacement.			
		1.4	Using the appropriate tools and techniques replace the components in the correct sequence.			
		1.5	Identify any necessary settings to components and make the necessary adjustments to ensure that they will function correctly.			
		1.6	Within own area of control deal promptly with problems reporting those that cannot be solved to line supervisor.			
		1.7	Complete all relevant documentation in accordance with organisational requirements.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to rectify electrical faults in Bus/Coach systems and components.	2.1	Explain how to obtain the relevant information and specifications from suppliers and manufacturers.			
		2.2	Explain how to source components and how to ensure they are fit for purpose.			
		2.3	Describe the methods and techniques used to remove and replace components.			
		2.4	Explain how to safely remove and replace components and units from a range of bus/coach systems taking into consideration the location, mass, robustness, fragility and sequence of disassembly and assembly.			
		2.5	Explain the safe working practices used to remove and replace components and units including: • Preparing the area • Working safely • Avoiding contamination and damage to adjacent areas • Positioning • Stabilising • Aligning • Joining • Fixing • Testing • Evaluating • Repairing.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.6	Explain the importance of why a rectified component must meet the manufacturers' specifications for operational soundness and warranty.			
		2.7	Explain the safe working methods and techniques that should be used when using tools and equipment designed to aid the rectification process preventing damage to components.			
		2.8	Explain the importance of reporting the progress and completion of the rectification including information on the parts used, follow-up work and potential problems.			
		2.9	Describe the extent of own responsibility and to whom any unsolved problems should be reported.			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Additional guidance

Learners will be able to interpret the instructions, select the correct workshop tools and equipment and rectify the presented fault or faults by component replacement taking responsibility for the tasks performed and working to a specification.

The evidence could relate to any of the following systems:

- Body electrical systems and their associated components
- Battery and charging systems and their associated components
- Engine, starting systems and their associated components
- Lighting systems and their associated components
- Electrical controls and driver information systems and their associated components
- Transmission and braking electronic systems and their associated components
- Hydraulic and pneumatic systems.

Unit 12: Repair Mechanical Faults in Bus/Coach Systems and Components

Unit reference number: L/502/6359

QCF level: 3

Credit value: 7

Guided learning hours: 44

Unit aim

The purpose of this unit is for learners to demonstrate occupational competency in repairing mechanical faults on bus/coach systems and components in accordance with organisational procedures. Learners will be required to carry out a range of previously identified repair activities that on completion meet organisational and regulatory standards.

Unit assessment requirements

This unit should be assessed predominately in the workplace. Observation, witness testimony, questioning, written and product evidence are all sources of evidence which can be used.

Simulation is not permitted.

This unit must be taken alongside the health and safety units, Unit 1 Contribute to the Safe Working Practices in Bus/Coach Engineering and Maintenance and Unit 2 Contribute to the Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance.

If this unit is used in an NVQ qualification linked to GoSkills (People 1st) National Occupational Standards, the overarching assessment strategy must be followed. This can be found in Annexe A.

Evidence requirements

Produce evidence of carrying out the repair of **eight** mechanical units and components from at least **four** different vehicles covering **eight different systems out of the twelve listed below**:

- Engine mechanical systems
- Cooling systems
- Air supply and exhaust systems
- Fuel systems
- Lubrication systems
- Clutch or fluid coupling
- Gearbox (manual or automatic)
- Drive line (shafts, couplings, hubs and bearings)
- Final drive
- Steering
- Suspension
- Braking.

Be observed by an approved assessor on at least **one** occasion.

Simulation is **not** allowed for this unit.

Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to repair mechanical faults in systems and components.	1.1	Identify and agree with supervisor the relevant specifications for the component to be repaired.			
		1.2	Take the appropriate action to prepare the component for repair.			
		1.3	Within the agreed timescale carry out the repairs using the approved materials, components, methods and procedures.			
		1.4	Assess the work undertaken and ensure that the repaired component meets the specified operating conditions.			
		1.5	Accurately complete the relevant records of the repair work undertaken.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to repair mechanical faults in systems and components.	2.1	Explain the different types of constraints which can influence the repair method chosen.			
		2.2	Explain the layout and operation of bus/coach systems and their associated components.			
		2.3	Explain how to repair faults in bus/coach systems and components.			
		2.4	Describe the different methods undertaken for repairing the main bus/coach systems.			
		2.5	Explain what checks need to be carried out on a completed repair to ensure the repair meets organisational and regulatory standards.			
		2.6	Explain how to operate workshop equipment and tools used to repair mechanical faults.			
		2.7	Explain why it is important to leave workshop equipment in a clean and workable condition after use and what the control procedures are for reporting defects.			
		2.8	Describe how the different types of repair activities are reported and presented to ensure clarity and accuracy of detail.			
		2.9	Explain the importance of reporting the progress and completion of a repair which should include the provision of information on the parts used, follow up work and potential problems.			
		2.10	Explain the extent of own responsibility and to whom problems that cannot be solved should be reported to.			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Additional guidance

Learners must comply with organisational policy and procedures and statutory requirements for the repair activities undertaken and report any problems to the relevant authority. The learner will work to a specification agreed with their supervisor. If, in the course of the repair, this specification requires changing or modifying, the learner will need to initiate an alternative route without compromising the quality of the repair.

A repair is defined in this unit as one which may involve interaction between two or more vehicle systems and components. A range of repair tools are to be used to include as appropriate: hand tools, general workshop equipment, removers and replacers, joining equipment, electrical and electronic testers, brake testing equipment, emissions tester, measuring equipment.

Unit 13: Complete Thermal Joining of Bus/Coach Components

Unit reference number: D/502/6365

QCF level: 3

Credit value: 5

Guided learning hours: 29

Unit aim

The purpose of this unit is for learners to demonstrate occupational competency in completing thermal joining activities in accordance with organisational procedures. Applying safe working practices will be a key issue throughout.

At all times learners must comply with organisational policy and procedures and legal requirements for the activities undertaken.

Unit assessment requirements

This unit should be assessed predominately in the workplace. Observation, witness testimony, questioning and product evidence are all sources of evidence which can be used.

Realistic workplace simulation may be used to assess areas that cover non routine situations.

All simulations using specially constructed environments need to be approved by the awarding organisation prior to use. The setting up or devising of assessment situations do not need to be approved by the awarding organisation if they take place in the normal workplace environment.

This unit must be taken alongside the health and safety units, Unit 1 Contribute to the Safe Working Practices in Bus/Coach Engineering and Maintenance and Unit 2 Contribute to the Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance.

If this unit is used in an NVQ qualification linked to GoSkills (People 1st) National Occupational Standards, the overarching assessment strategy must be followed. This can be found in Annexe A.

Evidence requirements

Practical assessment of this unit should be completed by:

- Observation on at least one occasion, other evidence could come from product evidence or questioning.

Assessment should cover as a minimum:

Two welding methods from:

- MIG
- TIG
- MMA
- Gas.

Three different joints from:

- butt
- lap
- fillet
- plug.

Two different welding positions from:

- down hand
- horizontal vertical
- vertical up
- vertical down
- overhead.

Be observed by an approved assessor on at least **one** occasion.

Simulation **is** allowed for this unit.

Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to complete thermal joining.	1.1	Identify and interpret relevant joining procedures and job instructions including the correct selection and use of personal protective equipment (PPE).			
		1.2	Assess the joint preparation and check that it complies with the specifications.			
		1.3	Inspect the joining and related equipment and consumables and check that they are as specified and fit for purpose.			
		1.4	Apply the thermal joining techniques and produce the joints as specified to the required quality and dimensional accuracy.			
		1.5	Implement the shut-down of the equipment to a safe condition on completion of the joining activities.			
		1.6	Deal promptly with excess waste materials and temporary attachments in line with organisational procedures.			
		1.7	Complete all work records accurately and as required.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to complete thermal joining.	2.1	Describe what specific precautions should be taken when working with thermal joining equipment, materials and consumables to include: • The safe use of gas cylinders • The safe way of working with flammable substances • The correct selection and use of personal protective equipment (PPE) • The safe disposal of hazardous materials.			
		2.2	Explain the different techniques used to make typical welding joints which are required in bus/coach maintenance and repair activities.			
		2.3	Describe what the different welding processes are and the equipment used within own trade area in bus/coach maintenance and repair.			
		2.4	Explain the methods that are used to set up and hold materials and components during welding to include the preparation required, the sequences used to minimise or control distortion and any post welding treatments require.			
		2.5	Describe what the welding characteristics are of the different materials used within own trade area in motor vehicle maintenance and repair.			
		2.6	Explain how to set up, adjust and use the welding equipment for the type and gauge/thickness of materials used in own trade area.			
		2.7	Explain how to carry out basic maintenance and adjustments to the welding equipment used in own trade area.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.8	Explain how to identify and rectify typical visual faults and defects associated with welding processes to include: • Burn through • Incomplete fusion undercutting • Excessive spatter • Cracking • Distortion • Oxidation • Inconsistent weld pattern • Uneven leg length • Surface expulsion • Porosity.			
		2.9	Describe the hazards that can occur during joining occupations.			
		2.10	Describe the destructive and non-destructive personal approval tests.			
		2.11	Explain what cannot be welded unless by an approved welder.			
		2.12	Explain the reasons for setting up equipment and materials for sample runs prior to carrying out welds on the bus/coach or its components.			
		2.13	Explain the procedures for shutting down the joining equipment in a safe manner.			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Additional guidance

Learners should be able to demonstrate how to be able to visually inspect the work to ensure a minimum of 75% of the weld length:

- is linear, uniform and has ripples of a consistent form and width
- is free from blowholes, excessive arcing marks, spatter, porosity, oxidation and excessive distortion
- has a good toe blend and butt welds have good root penetration.

Unit 14: Conduct Inspections of Buses/Coaches

Unit reference number: Y/502/6364

QCF level: 3

Credit value: 6

Guided learning hours: 26

Unit aim

The purpose of this unit is for learners to demonstrate occupational competency in conducting a complete inspection of the full range of buses/coaches and their associated systems in accordance with organisational procedures. Learners will be required to compile reports and records of the inspection activities undertaken ensuring the conditions of the Operator's Licence ('O' licence) are complied with. Learners will carry out bus/coach inspections and checks which may include:

- pre-delivery requirements
- first use
- maintenance inspections
- pre MOT inspection
- safety inspections
- post repair checks.

Unit assessment requirements

This unit should be assessed predominately in the workplace. Observation, witness testimony, questioning and product evidence are all sources of evidence which can be used.

Simulation is not permitted.

This unit must be taken alongside the health and safety units, Unit 1 Contribute to the Safe Working Practices in Bus/Coach Engineering and Maintenance and Unit 2 Contribute to the Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance.

If this unit is used in an NVQ qualification linked to GoSkills (People 1st) National Occupational Standards, the overarching assessment strategy must be followed. This can be found in Annexe A.

Evidence requirements

Produce evidence of carrying out **five** inspections on at least four different vehicles covering all **three** types of inspection:

- Pre-MOT inspection
- Scheduled safety inspections (PMI)
- Daily vehicle checks.

Be observed by an approved assessor on at least **one** occasion.

Simulation is **not** allowed for this unit.

Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to carry out bus/coach inspections.	1.1	Identify and follow the correct specification for the product or equipment being inspected.			
		1.2	Identify and confirm which inspection checks are to be made and what acceptance criteria needs to be used.			
		1.3	Using the correct equipment carry out the inspection as specified.			
		1.4	Identify any variations from the specification and prioritise these.			
		1.5	Record accurately the inspection undertaken in the correct format.			
		1.6	Pass on information to the appropriate user.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to carry out bus/coach inspections.	2.1	Explain the range of inspection techniques which can be used.			
		2.2	Explain the critical tolerances, standards and specifications contained within relevant sources of information to include: • The VOSA tester's manual • Categorisation of VOSA defects manual • Group or company engineering manual • VOSA guide to maintaining roadworthiness • Manufacturers' workshop manuals • Detailed engineering drawings.			
		2.3	Explain how to carry out vehicle inspections for the full range of passenger carrying vehicles determined by the conditions of the 'O' licence using efficient and safe methods.			
		2.4	Explain how inspection standards are maintained including: • VOSA examiners • Technical assessments • Spot checks.			
		2.5	Explain what the prohibition notices used by the police and VOSA Inspectorate are used for.			
		2.6	Describe what is meant by prohibitions, exemptions, discretions and impounding when inspecting a vehicle and how they are used.			
		2.7	Explain what actions and responsibilities are required to maintain vehicle roadworthiness.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.8	Explain why specialised equipment is calibrated prior to a test to include: • Brake tester • Exhaust emissions tester • Headlamp aligner • Torque wrench.			
		2.9	Explain what the authorisation procedures are for specialised equipment.			
		2.10	Describe what measures are in place to ensure that inspection tools, equipment and facilities are maintained and serviced prior to inspections.			
		2.11	Explain what measuring equipment is available to verify the vehicle standard to include brake tester, emissions tester and headlamp aligner.			
		2.12	Explain how to conduct inspections on bus/coach systems.			
		2.13	Describe the visual and test operations to support the inspection activity.			
		2.14	Explain the importance of critical tolerances to pass/fail testable items.			
		2.15	Describe the method used to record inspection items.			
		2.16	Explain the importance of clear and accurately completed paperwork in relation to maintaining the 'O' licence.			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Unit 15: Prepare and Treat Surfaces and Apply Paint Coats to Bus/Coach Body Panels and Components

Unit reference number: F/502/6326

QCF level: 3

Credit value: 10

Guided learning hours: 65

Unit aim

The purpose of this unit is for learners to demonstrate occupational competency in preparing and treating surfaces in accordance with organisational procedures. Learners will be required to source and interpret relevant information for planning and progressing work.

Unit assessment requirements

This unit should be assessed predominately in the workplace. Observation, witness testimony, questioning and product evidence are all sources of evidence which can be used.

Realistic workplace simulation may be used to assess areas that cover non routine situations.

All simulations using specially constructed environments need to be approved by the awarding organisation prior to use. The setting up or devising of assessment situations do not need to be approved by the awarding organisation if they take place in the normal workplace environment.

This unit must be taken alongside the health and safety units, Unit 1 Contribute to the Safe Working Practices in Bus/Coach Engineering and Maintenance and Unit 2 Contribute to the Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance.

If this unit is used in an NVQ qualification linked to GoSkills (People 1st) National Occupational Standards, the overarching assessment strategy must be followed. This can be found in Annexe A.

Evidence requirements

Practical assessment of this unit should be completed by:

Observation on at least one occasion of preparation and application of paint coats (under and top), other evidence could come from product evidence, witness testimony, a report or questioning.

Assessment should cover as a minimum:

- one flat and one curved/shaped panel
- one metal and one plastic panel
- one repaired and one new panel.

Apply undercoats and top coats.

Be observed by an approved assessor on at least **one** occasion.

Simulation **is** allowed for this unit.

Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to prepare and treat surfaces and apply paint coats to panels and components.	1.1	Take action to prepare the material surfaces to be treated for the finishing operations in accordance with HASWA regulations and manufacturer guidelines.			
		1.2	Assess the paint application equipment and work area to ensure that it is set up and maintained at satisfactory operating conditions and levels.			
		1.3	Implement the painting process in accordance with operational procedures and the requirements of the component specifications.			
		1.4	Ensure that the treated panels or components achieve the required characteristics and meet the finishing specification.			
		1.5	Shut down and return the painting equipment and work area to a safe condition on completing the painting activities.			
		1.6	Clean the work area and safely dispose of waste materials in accordance with safe working practices and organisational procedures.			
		1.7	Accurately complete required work records.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to prepare and treat surfaces and apply paint coats to panels and components.	2.1	Describe the different techniques used to apply paint coats and to complete painting activities to include the following: • New panels/components • Repaired panels/components • Plastic panels/components • Metal panels/components • Glazing and rubber.			
		2.2	Explain how to prepare materials and surrounding bodywork prior to application of paint materials, including: • Cleaning and protecting the surrounding bodywork/vehicle to reduce the likelihood of contamination • Identifying substrates to ensure paint materials will not react • Applying masking materials to ensure adequate protection to the surrounding bodywork/vehicle.			
		2.3	Explain the methods used to prepare panels and components prior to accepting foundation materials.			
		2.4	Explain the methods used to prepare paint materials to meet the specifications required for colour match and viscosity.			
		2.5	Explain the methods used to prepare foundation materials prior to the application of subsequent coats.			
		2.6	Explain the methods used to prepare, test, adjust and use paint application and preparation equipment.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.7	Describe how to identify and rectify the faults associated with painting body panels and components.			
		2.8	Explain the procedures for shutting down the painting equipment in a safe manner.			
		2.9	Know the extent of own responsibility and identify who to report to if there are problems that cannot be resolved.			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Additional guidance

The evidence should relate to a range of techniques which could include:

- Preparing, testing and adjusting equipment prior to use
- Key/preparing body panels and components
- Etching body panels and components
- Priming body panels and components
- Top coating body panels and components
- Polishing body panels and components.

Learners will be required to identify the materials and substrates and will be able to prepare materials and equipment, and apply paint coats to body panels and components including the following:

- New panels/components
- Repaired panels/components
- Plastic panels/components
- Metal panels/components
- Glazing/rubber.

They will prepare materials and surrounding bodywork prior to the application of paint materials, including as appropriate:

- Cleaning and protecting the surrounding bodywork/vehicle to reduce the likelihood of contamination
- Identifying substrates to ensure paint materials will not react
- Applying masking materials to ensure adequate protection to the surrounding bodywork/vehicle.

Unit 16: Operate an IT System in a Bus/Coach Engineering and Maintenance Environment

Unit reference number: H/502/6335

QCF level: 2

Credit value: 6

Guided learning hours: 45

Unit aim

The purpose of this unit is for learners to demonstrate occupational competency in operating an IT system in a bus/coach engineering and maintenance environment safely and effectively.

Unit assessment requirements

This unit should be assessed predominately in the workplace. Observation, witness testimony, questioning, professional discussion, written and product evidence are all sources of evidence which can be used.

Realistic workplace simulation may be used to assess areas that cover non routine situations.

All simulations using specially constructed environments need to be approved by the awarding organisation prior to use. The setting up or devising of assessment situations do not need to be approved by the awarding organisation if they take place in the normal workplace environment.

This unit must be taken alongside the health and safety units, Unit 1 Contribute to the Safe Working Practices in Bus/Coach Engineering and Maintenance and Unit 2 Contribute to the Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance.

If this unit is used in an NVQ qualification linked to GoSkills (People 1st) National Occupational Standards, the overarching assessment strategy must be followed. This can be found in Annexe A.

Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to operate an IT system.	1.1	Identify the different types of IT systems and hardware used within the workplace.			
		1.2	Correctly start up and use the IT hardware in a way that conforms with good health and safety practice.			
		1.3	Identify and correct common errors on the IT systems and hardware used and seek immediate assistance when difficulties occur.			
		1.4	Take action to maintain work during systems failures and ensure files are updated when the system is restored.			
		1.5	Make use of the ICT as appropriate for work undertaken to interact with other stakeholders in bus/coach engineering and maintenance.			
		1.6	Correctly close down the IT system ensuring that the security of data is maintained.			
		1.7	Take action to safely and securely store computer hardware and programme disks.			
		1.8	Identify the relevant legal regulations in operating IT systems and communicate these effectively to the team.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to operate an IT system.	2.1	Explain what computer hardware is available within the organisation.			
		2.2	Explain the health and safety requirements for operating IT hardware.			
		2.3	Explain the limits of own IT technical competence and where to go to get advice on the use of IT systems and remedial action in the event of a system failure.			
		2.4	Explain what effect of a systems failure could have and the importance of updating data in the IT system when the failure has been rectified.			
		2.5	Explain what risks could occur when using the IT system including: • Turning off the firewall • Downloading from the internet.			
		2.6	Explain the IT systems' closing down procedures and the policy for storing and securing data.			
		2.7	Explain the relevant security and legal regulations including data protection legislation, copyright and Display Screen Equipment (DSE) legislation.			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Additional guidance

Learners will be able to carry out the initial steps in using an IT system, operate systems in an effective way and close the systems down securely. Learners will be able to recognise faults in the system and correct common faults though importantly they will know when to obtain specialist help and advice. Learners will maintain work activity as far as possible during system failure and importantly be able to update the system when it is restored.

Unit 17: Provide Roadside Assistance for Broken Down Buses/Coaches

Unit reference number: L/502/6328

QCF level: 2

Credit value: 7

Guided learning hours: 46

Unit aim

The purpose of this unit is for learners to demonstrate occupational competency in assisting drivers in a roadside breakdown. The roadside repairs could include temporary repairs, part and component replacements, investigations and rectifications and accident damage.

Unit assessment requirements

This unit should be assessed predominately in the workplace. Observation, witness testimony, questioning, professional discussion, written and product evidence are all sources of evidence which can be used.

Simulation is not permitted.

This unit must be taken alongside the health and safety units, Unit 1 Contribute to the Safe Working Practices in Bus/Coach Engineering and Maintenance and Unit 2 Contribute to the Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance.

If this unit is used in an NVQ qualification linked to GoSkills (People 1st) National Occupational Standards, the overarching assessment strategy must be followed. This can be found in Annexe A.

Evidence requirements

Produce evidence of providing roadside assistance for broken down buses/coaches on **four** occasions, **one** of which must include a repair at the roadside.

Be observed by an approved assessor on at least **one** occasion.

Simulation is **not** allowed for this unit.

Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to assist drivers whose bus/coach has broken down at the roadside.	1.1	Effectively communicate with the customer /colleague to establish the circumstances in relation to the breakdown including: • Oral questioning • Written report • Telephone • Radio control.			
		1.2	Take control and operate a roadside breakdown vehicle.			
		1.3	Assess the repair action and make preparatory arrangements.			
		1.4	Select the correct tooling and equipment for roadside working.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		1.5	Carry out a range of roadside repairs to systems and components including: • Electrical • Fuel • Transmission • Engine and cooling • Wheels and tyres • Brakes.			
		1.6	Take the appropriate action to work with others to maintain safety at the roadside to include the police and emergency services.			
		1.7	Take action to warn and protect all persons who may be affected by roadside work activities.			
		1.8	Undertake the roadside repair ensuring it is carried out in a planned and controlled environment in accordance with HASWA guidelines.			
		1.9	Effectively communicate the progress of work to the relevant people.			
		1.10	Accurately record and pass details of the work undertaken to the relevant authority.			
		1.11	Take the appropriate action to leave the site of the roadside repair in a safe and controlled manner.			
		1.12	Ensure that the site is cleared, debris is removed, tools, equipment and cones are secured and stored all vehicles exit the site safely.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to provide assistance to drivers whose bus/coach has broken down at the roadside.	2.1	Describe the equipment and facilities required for safe roadside working.			
		2.2	Describe the equipment, tools and consumables required for carrying out safe and successful temporary and permanent repairs at the roadside.			
		2.3	Explain the personal qualities required for roadside working.			
		2.4	Explain the different communication techniques used before, during and after the roadside activity.			
		2.5	Explain the importance of working with the traffic police and their agents to maintain road safety and to minimise traffic disruption.			
		2.6	Explain how to assess and clarify the details of the roadside situation to include: • Roadside position • Vehicle symptoms and status • Hazard and hazardous substances.			
		2.7	Describe how to secure the roadside situation in a safe and controlled manner.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.8	Describe the essential skills required to operate a roadside breakdown vehicle and rectify faults in a time and efficient manner.			
		2.9	Explain the documentation and reports required to record the assistance given.			
		2.10	Explain the relevant organisational procedures and policies and legal requirements.			
		2.11	Know the extent of own responsibility and identify who to report to if there are problems that cannot be resolved.			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Additional guidance

The situations that have resulted in the need for assistance could include the following:

- Breakdowns
- Accidents
- Damage
- Component failures
- Injury.

Unit 18: Drive the Bus/Coach for Testing and Vehicle Recovery

Unit reference number: J/502/6327

QCF level: 2

Credit value: 6

Guided learning hours: 36

Unit aim

The purpose of this unit is for learners to demonstrate occupational competency in driving all bus and coach vehicle types maintained in the workshop particularly for testing and vehicle recovery purposes but not for carrying fare-paying passengers.

Unit assessment requirements

This unit should be assessed predominately in the workplace. Observation, witness testimony, questioning and product evidence are all sources of evidence which can be used.

Simulation is not permitted.

This unit must be taken alongside the health and safety units, Unit 1 Contribute to the Safe Working Practices in Bus/Coach Engineering and Maintenance and Unit 2 Contribute to the Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance.

If this unit is used in an NVQ qualification linked to GoSkills (People 1st) National Occupational Standards, the overarching assessment strategy must be followed. This can be found in Annexe A.

Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to drive the bus/coach for testing and vehicle recovery in a safe manner.	1.1	Adhere to the statutory and medical requirements to drive a bus/coach.			
		1.2	Assess and confirm the bus/coach is in a safe condition for the journey and that all its documentation meets current legislation.			
		1.3	Implement the pre-drive checks to the bus/coach in line with approved procedures.			
		1.4	Identify any potential and actual bus/coach defects and promptly report these to the relevant person.			
		1.5	Drive the bus/coach in a way that is without risk to self or others in accordance with the requirements of the Highway Code taking into account the following conditions: road traffic, environmental conditions and other road users.			
		1.6	Park or hand over the bus/coach in accordance with agreed procedures ensuring the driver's area is left clean and free from hazards.			
		1.7	Drive the bus/coach within own limits of responsibility.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to drive the bus/coach for testing and vehicle recovery in a safe manner.	2.1	Describe the different types of buses and coaches maintained in the workshop.			
		2.2	Explain the relevant legislation and operating procedures for driving all types of buses or coaches maintained in the workshop.			
		2.3	Explain the medical fitness and licensing requirements to drive a bus/coach.			
		2.4	Explain what documentation is required for driving on the bus/coach.			
		2.5	Explain the importance for pre-use checks for the bus/coach and how to undertake these.			
		2.6	Explain the restrictions on reversing.			
		2.7	Describe the parking and hand-over procedures.			
		2.8	Explain the procedures for reporting accidents, defects or problems and why it is important to do this.			
		2.9	Explain the extent of own responsibility and to whom problems that cannot be solved should be reported to.			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Additional guidance

The range of driving situations could include:

- Motorways
- Single and dual carriageways
- Rural and urban locations
- Depots, in particular driving on and off pits
- Forward drive and reversing
- Night time driving
- Day time driving
- Rolling road.

Learners will also need to show that they can drive the bus/coach in a variety of weather conditions such as:

- Rain
- Snow
- Mist/fog
- Dry
- High winds
- Ice
- Bright light
- Low sun.

Unit 19: Rectify Mechanical Faults in Bus/Coach Systems and Components

Unit reference number: D/502/6317

QCF level: 2

Credit value: 7

Guided learning hours: 49

Unit aim

The purpose of this unit is for learners to demonstrate occupational competency in rectifying a range of mechanical faults in bus/coach systems and components in accordance with approved procedures.

Unit assessment requirements

This unit should be assessed predominately in the workplace. Observation, witness testimony, questioning and product evidence are all sources of evidence which can be used.

Realistic workplace simulation may be used to assess areas that cover non routine situations.

All simulations using specially constructed environments need to be approved by the awarding organisation prior to use. The setting up or devising of assessment situations do not need to be approved by the awarding organisation if they take place in the normal workplace environment.

This unit must be taken alongside the health and safety units, Unit 1 Contribute to the Safe Working Practices in Bus/Coach Engineering and Maintenance and Unit 2 Contribute to the Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance.

If this unit is used in an NVQ qualification linked to GoSkills (People 1st) National Occupational Standards, the overarching assessment strategy must be followed. This can be found in Annexe A.

Evidence requirements

Produce evidence of carrying out the rectification of faults from engine mechanical units and components from **four different systems out of the five listed below**:

- Engine mechanical systems
- Cooling systems
- Air supply and exhaust systems
- Fuel systems
- Lubrication systems.

Be observed by an approved assessor on at least **one** occasion.

Produce evidence of carrying out the rectification of faults on at least **four** occasions covering all **three different** systems. Your evidence must include demonstration of skill **in each** aspect of mechanical and hydraulic and/or pneumatic unit or component removal and replacement.

- Steering
- Suspension
- Braking.

Be observed by an approved assessor on at least **one** occasion.

Produce evidence of carrying out the rectification of **three** faults on three different vehicles **from at least two of the areas** as listed below:

- Clutch or fluid coupling
- Gearbox (manual or automatic)
- Drive line (shafts, couplings, hubs and bearings)
- Final drive.

Be observed by an approved assessor on at least **one** occasion.

Simulation **is** allowed for this unit.

Learning outcomes and assessment criteria

To pass this unit, the learner needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to rectify mechanical faults in Bus/Coach systems and components.	1.1	Obtain all the required components in order to carry out a replacement ensuring that they are in a suitable condition and fit for purpose.			
		1.2	Assess all replacement components used ensuring that they meet the required specification to include operational soundness and warranty.			
		1.3	Take action to prevent damage to components, tools and equipment during replacement.			
		1.4	Using the appropriate tools and techniques replace the components in the correct sequence.			
		1.5	Identify any necessary settings to components and make the necessary adjustments to ensure that they will function correctly.			
		1.6	Within own area of control deal promptly with problems reporting those that cannot be solved to line supervisor.			
		1.7	Complete all relevant documentation in accordance with organisational requirements.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to rectify mechanical faults in Bus/Coach systems and components.	2.1	Explain how to obtain the relevant information and specifications from suppliers and manufacturers.			
		2.2	Explain how to source components and how to ensure they are fit for purpose.			
		2.3	Describe the methods and techniques used to remove and replace components.			
		2.4	Explain how to safely remove and replace components and units from a range of bus/coach systems taking into consideration the location, mass, robustness, fragility and sequence of disassembly and assembly.			
		2.5	Explain the safe working practices used to remove and replace components and units including: • Preparing the area • Working safely • Avoiding contamination and damage to adjacent areas • Positioning • Stabilising • Aligning • Joining • Fixing • Testing • Evaluating • Repairing.			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.6	Explain the importance of why a rectified component must meet the manufacturers' specifications for operational soundness and warranty.			
		2.7	Explain the safe working methods and techniques that should be used when using tools and equipment designed to aid the rectification process preventing damage to components.			
		2.8	Explain the importance of reporting the progress and completion of the rectification including information on the parts used, follow-up work and potential problems.			
		2.9	Describe the extent of own responsibility and to whom any unsolved problems should be reported.			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Additional requirements

Learners will be able to interpret the instructions, select the correct workshop tools and equipment and rectify the presented fault or faults by component replacement taking responsibility for the tasks performed and working to a specification.

The evidence could relate to any of the following systems:

- Engine, lubrication and cooling systems and their associated components
- Fuel systems and their associated components
- Transmission, automatic/manual, final drive and their associated components
- Foundation brakes and their associated components
- Suspension and steering and its associated components.

12 Further information and useful publications

To get in touch with us visit our 'Contact us' pages:

- Pearson Edexcel: **www.edexcel.com/contactus**
- Pearson BTEC: **www.btec.co.uk/contactus**
- Pearson Work Based Learning: **www.pearsonwbl.com/contactus**
- Books, software and online resources for UK schools and colleges: **www.pearsonschools.co.uk/contactus**

Other sources of information and publications available on our website include:

- *Pearson Equality Policy*
- *Pearson Work Based Learning Centre Guide*
- *Edexcel UK Information Manual – Chapter 9* (updated annually)
- *Recognition of Prior Learning Policy.*

Further information and publications on the delivery and quality assurance of NVQ/Competence-based qualifications is available on our website, at www.pearsonwbl.edexcel.com/NVQ-competence-based.

Our publications catalogue lists all the material available to support our qualifications. To access the catalogue and order publications, please go to www.edexcel.com/resources/publications.

13 Professional development and training

Pearson supports UK and international customers with training related to our qualifications. This support is available through a choice of training options and sector events, or through customised training at your centre.

The support we offer focuses on a range of issues, including:

- planning for the delivery of a new programme
- planning for assessment
- building your team and teamwork skills
- developing learner-centred learning and teaching approaches
- building functional skills into your programme
- building in effective and efficient quality assurance systems.

For more information on training options and upcoming events, please visit our website, www.pearsonwbl.edexcel.com//training-events. You can request customised training by completing the enquiry form on our website and we will contact you to discuss your training needs.

Support services

Face-to-face support: our team of Regional Quality Managers, based around the country, are responsible for providing quality assurance support and guidance to anyone managing and delivering NVQs/Competence-based qualifications. The Regional Quality Managers can support you at all stages of the standard verification process as well as in finding resolutions of actions and recommendations as required. A UK map showing the Regional Quality Managers' contact details can be found at www.btec.co.uk/support.

Online support: find the answers to your questions by browsing over 100 FAQs on our website or by submitting a query using our Work Based Learning Ask the Expert Service. You can search the database of commonly asked questions relating to all aspects of our qualifications in the work-based learning market. If you are unable to find the information you need, send us your query and our qualification or administrative experts will get back to you. The Ask the Expert service is available at www.pearsonwbl.edexcel.com/Our-support.

Online forum

Pearson Work Based Learning Communities is an online forum where employers, further education colleges and workplace training providers are able to seek advice and clarification about any aspect of our qualifications and services, as well as share knowledge and information with others. The forums are sector specific and cover Business Administration, Customer Service, Health and Social Care, Hospitality and Catering and Retail. The online forum is available at www.pearsonwbl.edexcel.com/Our-support.

14 Contact us

We have a dedicated Account Support team, based throughout the UK, to give you more personalised support and advice. To contact your Account Specialist you can use any of the following methods:

Email: wblcustomerservices@pearson.com
Telephone: 0844 576 0045

If you are new to Pearson and would like to become an approved centre, please contact us at:

Email: wbl@pearson.com
Telephone: 0844 576 0045

Complaints and feedback

We are working hard to provide you with excellent service. However, if any element of our service falls below your expectations, we want to understand why, so that we can prevent it from happening again. We will do all that we can to put things right.

If you would like to register a complaint with us, please email wblcomplaints@pearson.com.

We will formally acknowledge your complaint within two working days of receipt and provide a full response within seven working days.

Assessment Strategy

NVQ/QCF Qualifications

in Bus and Coach Engineering and Maintenance

based on

GoSkills

National Occupational Standards

Final Version November 10

1. Introduction

GoSkills, as the Sector Skills Council for the Passenger Transport Sector, is responsible for developing an assessment strategy for the qualifications based on its national occupational standards. This assessment strategy includes the Additional Requirement for Qualifications that use the title NVQ within the QCF which appears as annex 2.

This responsibility means that GoSkills must:

a) Recommend how external quality control of assessment will be achieved;

b) Define which aspects of the national occupational standards must always be assessed through performance in the workplace;

c) Define the extent to which simulated working conditions may be used to assess competence and any characteristics that simulations should have, including definitions (where appropriate) of what would constitute a `realistic working environment' (RWE) for the qualifications concerned;

d) Define the occupational expertise requirements for assessors and verifiers in consultation with industry and in agreement with awarding organisations.

This Assessment Strategy for the following NVQ QCF qualifications in Bus and Coach Maintenance listed below:

Level 2 NVQ Diploma in Bus and Coach Engineering and Maintenance (Mechanical)

Level 2 NVQ Diploma in Bus and Coach Engineering and Maintenance (Electrical)

Level 2 NVQ Diploma in Bus and Coach Engineering and Maintenance (Body)

Level 3 NVQ Diploma in Bus and Coach Engineering and Maintenance (Mechanical)

Level 3 NVQ Diploma in Bus and Coach Engineering and Maintenance (Electrical)

Level 3 NVQ Diploma in Bus and Coach Engineering and Maintenance (Body)

Level 3 NVQ Diploma in Bus and Coach Engineering and Maintenance (Mech/Elec)

addresses the areas indicated above.

2. Review and Evaluation of this Strategy

GoSkills and awarding organisations will continually monitor the effectiveness of this strategy. It will be reviewed annually and revised where necessary every two years. GoSkills will therefore establish arrangements for awarding organisations to provide feedback which will assist in the evaluation and review of this strategy. This feedback will also be used to evaluate assessment and verification practices, identify and promulgate good practice and inform any improvements to be made to this strategy.

Awarding organisations and their approved centres will be encouraged to submit comments and suggestions for improvements. This will be through formal dialogue between GoSkills and the awarding organisations.

3. External Quality Control of Assessment

The quality of the assessment process is the responsibility of the awarding organisations.

GoSkills encourages flexibility and innovation of approach alongside robust systems to support quality control. However, awarding organisations must detail their approach to each of the following.

3.1 ExternalVerification

External Verifiers (EVs) should verify assessments at approved centres. The normal frequency of external verification visits is two per year (a total of two days per year). However, the exact frequency should be determined by the risk assessment.

The verification should include inspection of the records of evidence and assessment. Awarding organisations should consider rotating their external verifiers in order to encourage standardisation, independence of assessment and the sharing of good practice.

3.2 RiskAssessment

In order to promote appropriate levels of monitoring of centres, GoSkills requires awarding organisations to adopt a risk management system. This approach is consistent with the approach taken by the regulatory authorities. Where there is a risk to the quality and consistency of assessment (eg as a result of commercial interests or as a result of relationships between candidates and assessors), awarding organisations should ensure that appropriate mechanisms are in place to ensure the reliability of the assessment.

Awarding organisations should show that a risk assessment has been carried out for each approved centre and that a strategy to minimise any identified risk has been implemented.

3.3 AwardingBodyForum

GoSkills will arrange regular awarding body meetings. The aim of the meetings will be to promote consistency in the assessment process. All awarding organisations offering NVQ QCF Qualifications in Bus and Coach Engineering and Maintenance will be required to attend the awarding organisation forum at least once per year.

4. Evidence

4.1 EvidencefromWorkplacePerformance

Wherever possible, evidence of occupational competence should be generated and collected through performance under workplace conditions. These conditions would be those typical of the candidate's normal place of work. The evidence collected under these conditions should also be as naturally occurring as possible.

It is accepted that not all employees have identical work place conditions and therefore there cannot be assessment conditions that are identical for all candidates. However, assessors must ensure that, as far as possible, the conditions for assessment should be those under which the candidate usually works. Assessment of an individual against the qualification standard must not put that individual under more, or less, pressure than found normally in the workplace. It could be the case that the individual could feel more pressure simply because he or she is being assessed. However, it is the skill of the assessor to reduce this pressure to a minimum.

4.2 Use of Simulation in Assessments

As stated above, it is intended that learners should be assessed under normal workplace conditions. However, there are situations where the actual workplace may not be appropriate, or where waiting for naturally occurring evidence is impractical. Therefore, the setting up or devising of assessment situations will be allowed, when it can be demonstrated that the following circumstances require it in areas related to:

- safety
- legislation
- regulation
- contingency
- cost
- significant interruption to candidate's or employer's business

It is recognised that there may be other assessment situations where simulation would be appropriate. In such instances, awarding organisations should give consideration to the reliability and validity of the likely evidence. In all cases, the centre should agree its plans for simulation with the EV to ensure that it is satisfactory.

5. Competence of Assessment Personnel

GoSkills acknowledges the very important role and responsibility that assessors and verifiers have in maintaining the quality and integrity of NVQ QCF Qualifications. Awarding organisations and other stakeholders therefore have to have confidence in the actions and decisions of assessors and verifiers.

5.1 CompetenceofExternalVerifiers

A primary responsibility of the external verifier is to assure quality of internal verification and assessments across the centres for which they are responsible. External verifiers therefore need to have a thorough understanding of quality assurance and assessment practices as well as in-depth technical knowledge related to the qualifications that they are externally verifying.

It will be the responsibility of the awarding body to select and appoint external verifiers. Potential external verifiers should:

- hold (or be working towards) an appropriate qualification confirming their occupational competence to externally verify NVQ assessments.
- have an up to date and working understanding of the occupational area they are externally verifying together with a sound knowledge of the occupational standards.
- demonstrate their commitment to maintaining their industry knowledge by ongoing professional development eg through undertaking training courses and/or membership of industry organisations.

5.2 CompetenceofInternalVerifiers

A primary responsibility of the internal verifier is to assure the quality and consistency of assessments by the assessors for whom they are responsible. Internal verifiers therefore need to have a thorough understanding of quality assurance and assessment practices, as well as sufficient technical understanding related to the qualifications that they are internally verifying.

It will be the responsibility of the approved centre to select and appoint internal verifiers. Potential internal verifiers should:

- hold (or be working towards) an appropriate qualification confirming their occupational competence to internally verify NVQ assessments;
- hold (or be working towards) an appropriate qualification, as specified by the appropriate regulatory authority, confirming their competence to verify NVQ candidates;
- have the necessary and sufficient experience of the role for which they intend to verify assessments. This experience will have provided potential verifiers with detailed knowledge of the functions described by the occupational standards that comprise the qualification

5.3 Competence of Assessors

The primary responsibility of the assessor is to assess candidates to the required quality and consistency, against the national occupational standard. It is important that an assessor can recognise occupational competence as specified by the national standard. Assessors therefore need to have a thorough understanding of assessment and quality assurance practices, as well as have in depth technical understanding related to the qualifications for which they are assessing candidates.

It will be the responsibility of the approved centre to select and appoint assessors. Potential assessors should:

- hold (or be working towards) an appropriate qualification confirming their occupational competence to assess NVQ candidates.
- have the necessary and sufficient experience of the role for which they intend to undertake assessments and actual experience of the functions described by the occupational standards that comprise the qualification

5.4 Continued Personal and Professional Development

It is important that verifiers and assessors continue their own development to help them in their respective NVQ roles. It is expected that each approved centre will provide development programmes for its assessors and internal verifiers to maintain their technical or occupational expertise. Awarding organisations should provide development programmes, workshops, seminars, etc, to promote good practice, quality and consistent assessments.

Annex 1

Evidence requirements for the units of assessment in Bus and Coach Engineering and Maintenance are detailed at unit level. The list below indicates which units can be assessed through simulation:

Unit Name	Unit Number	Simulation allowed
Contribute to safe working practices in Bus/Coach Engineering and Maintenance	1	N
Contribute to safe housekeeping practices in Bus/Coach Engineering and Maintenance	2	N
Achieve effective working relationships with colleagues in Bus/Coach Engineering and Maintenance	3	N
Use hand tools and equipment in Bus/Coach Engineering and Maintenance	4	Y
Carry out basic vehicle checks and servicing in Bus/Coach Engineering and Maintenance	5	Y
Carry out Bus/Coach servicing	6	N
Carry out basic vehicle repairs in Bus/Coach Engineering and Maintenance	7	Y
Carry out scheduled mechanical maintenance on Buses/Coaches	8	N
Carry out scheduled electrical maintenance on Buses/Coaches	9	N
Identify and locate mechanical faults in Bus/Coach systems and components	10	Y
Identify and locate electrical faults in Bus/Coach systems and components	11	Y
Diagnose mechanical faults in Bus/Coach systems and components	12	N
Diagnose electrical faults in Bus/Coach systems and components	13	N
Rectify mechanical faults in Bus/Coach systems and components	14	Y
Rectify electrical faults in Bus/Coach systems and components	15	Y
Repair mechanical faults in Bus/Coach systems and components	16	N
Repair electrical faults in Bus/Coach systems and components	17	N
Recondition mechanical components in Buses/Coaches	18	N
Recondition electrical components in Buses/Coaches	19	N
Complete thermal joining of Bus/Coach components	20	Y
Conduct inspections of Buses/Coaches	21	N
Carry out scheduled body maintenance on Buses/Coaches	22	N

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Unit Name	Unit Number	Simulation allowed
Complete routine assembly of Bus/Coach body components	23	Y
Set out and assemble Bus/Coach body components	24	Y
Identify Bus/Coach damage and recommend suitable repair techniques	25	N
Rectify body damage on Bus/Coach vehicle body components	26	Y
Assess body damage to Buses/Coaches	27	N
Repair damage to Bus/Coach body components	28	N
Prepare and treat surfaces and apply paint coats to Bus/Coach body panels and components	29	Y
Drive the Bus/Coach for testing and vehicle recovery	30	N
Provide roadside assistance for broken down Buses/Coaches	31	N
Install ancillary systems and components in Buses/Coaches	32	Y
Diagnose Mechanical/Electrical faults in ancillary systems and components in Buses/Coaches	33	Y
Repair Mechanical/Electrical faults in ancillary systems and components in Buses/Coaches	34	Y
Establish Customer Technical Requirements for Buses/ Coaches	35	N
Improve the service provided to customers of Buses/Coaches	36	N
Carry out roadside recovery of Buses/Coaches	37	N
Plan and organise work of self and others	38	N
Support learners by coaching in the workplace	39	N
Support learners by mentoring in the workplace	40	N
Operate an IT system in a Bus/Coach Engineering and Maintenance Environment	41	Y
Evaluate and develop your own knowledge, understanding and skills in the Bus/Coach Engineering and Maintenance environment	42	N

Annex 2

Additional Guidance as specified by the Sector

BACEM Unit 1 Contribute to safe working practices in Bus/Coach Engineering and Maintenance	
Assessment guidance specified by a sector or regulatory body (if appropriate)	It is recommended that the following are covered when teaching and assessing this unit: The range of safety equipment available to protect individuals should include the following: • Exhaust and fume extraction • Dust extraction • Safety guards • Containment stores • Insulation • Welding screens • Walkways and guard rails • Machine isolators Lifting and handling techniques should include as appropriate: • Hoists • Cranes • Trolleys • Jacks • Manual lifting Learners should use a range of equipment, machinery and materials including gases in accordance with statutory regulations and manufacturers and organisational recommendations and instructions.
BACEM Unit 2 Contribute to safe housekeeping practices in Bus/Coach Engineering and Maintenance	
Assessment guidance specified by a sector or regulatory body (if appropriate)	It is recommended that the following are covered when teaching and assessing this unit: This unit is not a stand alone unit. This must be taken in conjunction with Unit 1 Contribute to Safe Working Practices in Bus/Coach Engineering and Maintenance and also along side any of the units related to Bus/Coach Engineering and Maintenance.
BACEM Unit 3 Achieve effective working relationships with colleagues in Bus/Coach Engineering and Maintenance	
Assessment guidance specified by a sector or regulatory body (if appropriate)	This unit must be taken alongside the Health and Safety Units 1 — Contribute to the Safe Working Practices in Bus/Coach Engineering and Maintenance and Unit 2 Contribute to the Safe Housekeeping Practices in Bus/Coach Engineering and Maintenance.

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BACEM Unit 4 Use hand tools and equipment in Bus/Coach Engineering and Maintenance	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners must be able to carry out a range of visual safety checks under supervision to ensure that the tools and equipment are fit for the purpose intended. Learners should use a range of tools and equipment which can include: • General workshop tools • Jacks • Stands • Cranes • Lifts • Hoists • Presses • Pullers • Punches • Drifts • Installers • Platforms • Grinders • Saws **Assessment criteria 2.2:** The range should include tools and equipment used for the following: • Measuring • Removal and replacement • Fixing and securing • Cutting • Forming • Fabrication • Shaping • Joining • Assembly/disassembly • Welding • Sealing • Bonding • Cleaning • Preparing • Finishing • Lifting and supporting **Assessment criteria 2.4:** The range of specifications to be covered should include: • Calibration • Accuracy • Tension • Torque • Grip • Balance • Adjustment • Cutting — sharpness

BACEM Unit 5 Carry out basic vehicle checks and servicing in Bus/Coach Engineering and Maintenance	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Realistic workplace simulation may be used to assess areas that cover non routine situations. All simulations using specially constructed environments need to be approved by the Awarding Organisation prior to use. The setting up or devising of assessment situations do not need to be approved by the Awarding Organisation if they take place in the normal workplace environment.
BACEM Unit 6 Carry out Bus/Coach servicing	
Assessment guidance specified by a sector or regulatory body (if appropriate)	The evidence could relate to any of the following: Cab area, engine compartment, vehicle interior, vehicle exterior, under floor, electrical. The range of examination tasks could include the following as appropriate: aural, visual, damage, function, wear, leaks, security, alignment/adjustment, tactile, position, movement, condition and serviceability, defect report.
BACEM Unit 7 Carry out basic vehicle repairs in Bus/Coach Engineering and Maintenance	
Assessment guidance specified by a sector or regulatory body (if appropriate)	**Assessment criteria 2.4:** An example of facilities available could be vehicle lift, pit, bay.
BACEM Unit 8 Carry out scheduled mechanical maintenance on Buses/Coaches	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners must understand the factors governing the planning and application of scheduled mechanical maintenance activities and know the statutory and company standards in adequate depth in order to take responsibility to carry out the tasks to the required specification. Applying safe working practices will be a key issue throughout.
BACEM Unit 9 Carry out scheduled electrical maintenance on Buses/Coaches	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners must understand the factors governing the planning and application of scheduled electrical maintenance activities and know the statutory and company standards in adequate depth in order to take responsibility to carry out the tasks to the required specification. Applying safe working practices will be a key issue throughout. Simulation is not permitted. Learners will be required to check maintained electrical systems to ensure compliance with specification in the following areas as appropriate: • Correct operation and performance • Critical tolerances • Capacity • Efficiencies • Component replacement • Visual

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	• Quality/volume • Pressures • Emissions
BACEM Unit 10 Identify and locate mechanical faults in Bus/Coach systems and components	
Assessment guidance specified by a sector or regulatory body (if appropriate)	The evidence should relate to a range of systems which could include: • Engine, lubrication and cooling systems and their associated components • Fuel systems and their associated components • Transmission, automatic/manual, final drive and their associated components • Foundation brakes and their associated components • Suspension and steering and its associated components The tasks will be mainly routine and carried out under supervision. Learners will be required to locate faults and use the chosen method and diagnostic tool for the perceived fault. These methods could include: • Visual • Aural • Odour • Measuring instruments • Gauges • Indicators • A range of diagnostic equipment and manufacturer's software • Multi-meter • Approved test equipment
BACEM Unit 11 Identify and locate electrical faults in Bus/Coach systems and components	
Assessment guidance specified by a sector or regulatory body (if appropriate)	The evidence should relate to a range of systems which could include: • Battery and charging systems and their associated components • Engine, starting systems and their associated components • Lighting systems and their associated components • Body electrical systems and their associated components • Electrical controls and driver controls and their associated components • Information systems and their associated components • Transmission and braking electronic systems and their associated components • Hydraulic and pneumatic systems The tasks will be mainly routine and carried out under supervision. Learners will be required to locate faults and use the chosen method and diagnostic tool for the perceived fault. These methods could include: • Visual

	• Aural • Odour • Measuring instruments • Gauges • Indicators • A range of diagnostic equipment and manufacturer's software • Multi-meter • Approved test equipment
BACEM Unit 12 Diagnose mechanical faults in Bus/Coach systems and components	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners must understand the factors governing the planning and application of scheduled mechanical maintenance activities and know the statutory and company standards in adequate depth to carry out the activities to the required specification. Applying safe working practices will be a key issue throughout. A diagnosis can be defined in this unit as one that may involve interaction between two or more vehicle systems and components. **Assessment criteria 1.3:** The range of evidence should include: • Visual • Aural • Odour • Tactile • Measuring • Instruments • Analysers • Computer laptops • Logic probe • Brake tester • Multi-meters
BACEM Unit 13 Diagnose electrical faults in Bus/Coach systems and components	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners must understand the factors governing the planning and application of scheduled electrical maintenance activities and know the statutory and organisational standards in adequate depth to carry out the activities to the required specification. Applying safe working practices will be a key issue throughout. A diagnosis can be defined in this element as one that may involve interaction between two or more vehicle systems and components. **Assessment criteria 1.3:** The range of evidence should include: • Visual • Aural • Odour

	• Tactile • Measuring • Instruments • Analysers • Computer laptops • Logic probe • Brake tester • Multi-meters
BACEM Unit 14 Rectify mechanical faults in Bus/Coach systems and components	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners will be able to interpret the instructions, select the correct workshop tools and equipment and rectify the presented fault or faults by component replacement taking responsibility for the tasks performed and working to a specification. The evidence could relate to any of the following systems: • Engine, lubrication and cooling systems and their associated components • Fuel systems and their associated components • Transmission, automatic/manual, final drive and their associated components • Foundation brakes and their associated components • Suspension and steering and its associated components
BACEM Unit 15 Rectify electrical faults in Bus/Coach systems and components	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners will be able to interpret the instructions, select the correct workshop tools and equipment and rectify the presented fault or faults by component replacement taking responsibility for the tasks performed and working to a specification. The evidence could relate to any of the following systems: • Body electrical systems and their associated components • Battery and charging systems and their associated components • Engine, starting systems and their associated components • Lighting systems and their associated components • Electrical controls and driver information systems and their associated components • Transmission and Braking electronic systems and their associated components • Hydraulic and pneumatic systems
BACEM Unit 16 Repair mechanical faults in Bus/Coach Systems and Components	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners must comply with organisational policy and procedures and statutory requirements for the repair activities undertaken and report any problems to the relevant authority. The learner will work to a specification agreed with their supervisor. If, in the course of the repair, this specification requires changing or modifying the learner will need to initiate an alternative route without compromising the quality of the repair.

	A repair is defined in this unit as one which may involve interaction between two or more vehicle systems and components. A range of repair tools are to be used to include as appropriate: hand tools, general workshop equipment, removers and replacers, joining equipment, electrical and electronic testers, brake testing equipment, emissions tester, measuring equipment.
BACEM Unit 17 Repair electrical faults in Bus/Coach Systems and Components	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners must comply with organisational policy and procedures and statutory requirements for the repair activities undertaken and report any problems to the relevant authority. The learner will work to a specification agreed with their supervisor. If, in the course of the repair, this specification requires changing or modifying the learner will need to initiate an alternative route without compromising the quality of the repair. A repair is defined in this unit as one which may involve interaction between two or more vehicle systems and components. A range of repair tools are to be used to include as appropriate: hand tools, general workshop equipment, removers and replacers, joining equipment, electrical and electronic testers, brake testing equipment, emissions tester, measuring equipment.
BACEM Unit 18 Recondition mechanical components in Buses/Coaches	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners must comply with organisational policy and procedures and statutory requirements for the reconditioning activities undertaken and report any problems to the relevant authority. The learner will work to a specification agreed with their supervisor. If, in the course of the work activity this specification requires changing or modifying it is expected that the learner will use their knowledge, skills and experience to initiate an alternative route without compromising the quality of the reconditioning procedure. The range of reconditioning tools and equipment to be used could include: • General workshop equipment • Specialised manufacturers' equipment • Removers and installers • Joining equipment • Hand tools • General workshop equipment • Specialised manufacturers equipment • Removers and installers • Joining equipment and lathe

	The range of measuring tools and equipment could include: • Micrometers • Voltmeter • Ammeter • Ohmeter • Multi-meter • Continuity tester • Dial test indicators • Depth gauges • Callipers • Torque gauges and growler • Pressure gauge • Thickness gauges Components and associated components can include: • Engine and cooling systems • Fuel systems • Transmission systems • Braking systems • Steering and suspension systems • Pre-engaged starter motor • Sliding armature starter motor
BACEM Unit 19 Recondition electrical components in Buses/Coaches	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners must comply with organisational policy and procedures and statutory requirements for the reconditioning activities undertaken and report any problems to the relevant authority. The learner will work to a specification agreed with their supervisor. If, in the course of the work activity this specification requires changing or modifying it is expected that the learner will use their knowledge, skills and experience to initiate an alternative route without compromising the quality of the reconditioning procedure. The range of reconditioning tools and equipment to be used could include: • General workshop equipment • Specialised manufacturers' equipment • Removers and installers • Joining equipment • Hand tools • Cutters • Lapping tools • Honing tools • Lathe

	The range of measuring tools and equipment could include: • Micrometers • Voltmeter • Ammeter • Ohmeter • Multi-meter • Continuity tester • Dial test indicators • Depth gauges • Callipers • Torque gauges and growler • Pressure gauge • Thickness gauges Components and associated components can include: • Engine and cooling systems • Charging systems • Air conditioning • Electric retarders • Electric motors • Sensors and actuators • Passenger comfort and convenience systems Ticketing and interfaces
BACEM Unit 20 Complete thermal joining of Bus/Coach components	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners should be able to demonstrate how to be able to visually inspect the work to ensure a minimum of 75% of the weld length: • Is linear, uniform and has ripples of a consistent form and width • Is free from blowholes, excessive arcing marks, spatter, porosity, oxidation and excessive distortion • Has a good toe blend and butt welds have good root penetration
BACEM Unit 21 Conduct inspections of Buses/Coaches	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Vehicle inspection activities must be accurate and completed to a high standard as required by organisations', manufacturers' and regulatory expectations. They must be reported and presented for clarity, accuracy and safe storage of safety inspection data. The reporting procedure must include: • Record identification section • Non-applicable items • Pass items • Defect items • Description of the repair • Record results, signature and dates File and secure records

BACEM Unit 22 Carry out scheduled body maintenance on Buses/Coaches	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners must understand the factors governing the planning and application of scheduled body maintenance activities and know the statutory and company standards in adequate depth to carry out the activities to the required specification. Applying safe working practices will be a key issue throughout.
BACEM Unit 23 Complete routine assembly of Bus/Coach body components	
Assessment guidance specified by a sector or regulatory body (if appropriate)	The evidence should relate to a range of techniques which could include: • Fasteners and retainers • Welding/Cutting • Adhesives/bonding • Gaskets (e.g. indirect glazing) • Lifting and supporting equipment • Manual lifting and carrying • Positioning and securing • Temporary fastening Learners will be required to carry out routine assembly activities relating to buses/coaches covering the following areas as appropriate: • Exterior claddings • Interior claddings • Frame and structural components • Interior trim • Exterior trim • Body furniture and hardware • Glazing • Door units
BACEM Unit 24 Set out and assemble Bus/Coach body components	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners must comply with organisational policy and procedures and statutory requirements for the assembly activities undertaken and report any problems to the relevant authority. The learner will work to a specification agreed with their supervisor. If, in the course of the repair, this specification requires changing or modifying the learner will need to initiate an alternative route without compromising the quality of the assembly. The assembly process may involve using more than two different joining techniques and the materials/components to be assembled may be non-standard, difficult to obtain or expensive. The type of work carried out would typically be assembly as part of a prototype build, repair, modification or conversion.

BACEM Unit 25 Identify Bus/Coach damage and recommend suitable repair techniques	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners will be required to identify and assess the condition of the body damage and determine the feasibility of a repair to the following areas as appropriate: • Exterior claddings • Interior claddings • Frame and structural components • Interior trim • Exterior trim • Body furniture and hardware • Glazing • Door units
BACEM Unit 26 Rectify body damage on Bus/Coach vehicle body components	
Assessment guidance specified by a sector or regulatory body (if appropriate)	The evidence should relate to a range of repairs which should include where appropriate: • Exterior claddings • Exterior trim • Interior claddings • Body furniture and hardware • Frame and structural components • Glazing • Interior trim • Door units • Flooring
BACEM Unit 27 Assess body damage to Buses/Coaches	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners must comply with organisational policy and procedures and the statutory requirements for the damage assessment activities undertaken and report any problems to the relevant authority. Learners will work to a specification agreed with their supervisor. If, in the course of the assessment, this specification requires changing or modifying it is expected that an alternative route will be taken without compromising the quality of the assessment. Applying safe working practices will be a key issue throughout. A repair can be defined in this element as one which would involve using more than two repair techniques including as appropriate: fabrications, forming, welding, adhesive bonding, removal and replacement, painting. Assessment conclusions should meet organisational, manufacturers' and regulatory expectations.
BACEM Unit 28 Repair damage to Bus/Coach body components	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners must comply with organisational policy and procedures and statutory requirements for the repair activities undertaken and report any problems to the relevant authority. The learner will work to a specification agreed with their supervisor. If, in the course of the

	repair, this specification requires changing or modifying the learner will need to initiate an alternative route without compromising the quality of the repair. A repair is defined in this unit as one which may involve using more than two repair techniques and may involve the use of non-standard, fragile, difficult to obtain or expensive materials. The methods and procedures used may include: • Fabrication • Forming • Welding • Adhesive bonding • Removal and replacement
BACEM Unit 29 Prepare and treat surfaces and apply paint coats to Bus/Coach body panels and components	
Assessment guidance specified by a sector or regulatory body (if appropriate)	The evidence should relate to a range of techniques which could include: • Preparing, testing and adjusting equipment prior to use • Key/preparing body panels and components • Etching body panels and components • Priming body panels and components • Top coating body panels and components • Polishing body panels and components Learners will be required to identify the materials and substrates and will be able to prepare materials and equipment, and apply paint coats to body panels and components including the following: • New panels/components • Repaired panels/components • Plastic panels/components • Metal panels/components • Glazing/rubber They will prepare materials and surrounding bodywork prior to the application of paint materials, including as appropriate: • Cleaning and protecting the surrounding bodywork/vehicle to reduce the likelihood of contamination • Identifying substrates to ensure paint materials will not react • Applying masking materials to ensure adequate protection to the surrounding bodywork/vehicle

BACEM Unit 30 Drive the Bus/Coach for testing and vehicle recovery	
Assessment guidance specified by a sector or regulatory body (if appropriate)	The range of driving situations could include: • Motorways • Single and dual carriageways • Rural and urban locations • Depots, in particular driving on and off pits • Forward drive and reversing • Night time driving • Day time driving • Rolling road Learners will also need to show that they can drive the bus/coach in a variety of weather conditions such as: • Rain • Snow • Mist/fog • Dry • High winds • Ice • Bright light • Low sun
BACEM Unit 31 Provide roadside assistance for broken down Buses/Coaches	
Assessment guidance specified by a sector or regulatory body (if appropriate)	The situations that have resulted in the need for assistance could include the following: • Breakdowns • Accidents • Damage • Component failures • Injury
BACEM Unit 32 Install ancillary systems and components in Buses/Coaches	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners must comply with organisational policy and procedures and statutory requirements for the installation activities undertaken and report any problems to the relevant authority. The learner will work to a specification agreed with their supervisor. If, in the course of the work activity this specification requires changing or modifying it is expected that the learner will use their knowledge, skills and experience to initiate an alternative route without compromising the quality of the procedure. The range of ancillary units and components to be installed could include: • Security cameras • Passenger facilities for safety, comfort and convenience • Radio control • Intelligent bus systems

	• GPS (Global Position System) • Digital recording systems • Audio/visual equipment • Ticketing machines • Route information systems
BACEM Unit 33 Diagnose Mechanical/Electrical faults in ancillary systems and components in Buses/Coaches	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners must comply with organisational policy and procedures and statutory requirements for the complex diagnostic activities undertaken and report any problems to the relevant authority. The learner will work to a specification agreed with their supervisor. If, in the course of the diagnosis this specification requires changing or modifying it is expected that the learner will use their knowledge, skills and experience to initiate an alternative route without compromising the quality of the diagnosis A diagnosis can be defined as one which may involve interaction between two or more vehicle systems and components. The range of systems could include: • Security cameras, cctv • Digital recording systems • Passenger facilities (safety, comfort and convenience • Audio/visual equipment • Two way radio • Air conditioning units • Intelligent bus systems • Ticketing machines and cash vaults • Route information systems as appropriate • Global Position System (GPS)
BACEM Unit 34 Repair Mechanical/Electrical faults in ancillary systems and components in Buses/Coaches	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners must comply with organisational policy and procedures and statutory requirements for the complex diagnostic activities undertaken and report any problems to the relevant authority. The learner will work to a specification agreed with their supervisor. If, in the course of the diagnosis this specification requires changing or modifying it is expected that the learner will use their knowledge, skills and experience to initiate an alternative route without compromising the quality of the diagnosis. Learners will use a range of tools and equipment, including as appropriate: • Manufacturers' specialised equipment • Hand tools • General workshop equipment • Removers and replacers • Joining equipment • Electrical and electronic testers • Measuring equipment

	A repair can be defined as one which may involve interaction between two or more vehicle systems and components. The range of systems could include: • Security cameras, cctv • Digital recording systems • Passenger facilities (safety, comfort and convenience • Audio/visual equipment • Two way radio • Intelligent bus systems • Ticketing machines and cash vaults • Route information systems as appropriate • Global Position System (GPS)
BACEM Unit 35 Establish Customer Technical Requirements for Buses/Coaches	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners must comply with organisational policy and procedures and statutory requirements when in contact with internal and external customers. The learner should maintain a high level of technical knowledge including relevant legal requirements and be able to talk with authority on a range of complex vehicle issues. The learner will be expected to work with minimum supervision. The learner will be expected to accurately interpret and clarify customer technical requirements and communicate this information clearly to enable repair and/or maintenance activities to proceed. The types of customers are those that directly influence the nature of the work, for example drivers and inspectors. The learner will must be able to elicit information from a variety of customers to gauge or diagnose particular problems and queries.
BACEM Unit 36 Improve the Service Provided to Customers of Buses/Coaches	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners must comply with organisational policy and procedures and statutory requirements when in contact with internal and external customers. Learners must be able to work within the agreed boundaries. If, in the course of the work activity, these require changing or modifying it is expected that the learner would use their knowledge, skills and experience to initiate an alternative route without compromising the quality of service provided. The learner's knowledge and understanding of engineering activities and organisational procedures will enable them to analyse the products and services provided to customers in addition to providing an informed approach to investigating the nature of improvements and remedies. Learners must understand how to cost feasible, realistic and effective solutions to improve services ensuring that any proposed solutions comply with current legislation and company standards and specifications. Applying relevant working practices will be a key issue throughout. Customers are identified as colleagues, lines of report, drivers and passengers who use passenger transport services.

BACEM Unit 37 Carry Out Roadside Recovery of Buses/Coaches	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners must comply with organisational policy and procedures. Learners will be required to work to a specification agreed with their supervisor. If, in the course of the roadside recovery this specification requires changing or modifying it is expected that the learner would use knowledge, skills and experience to initiate an alternative plan. Learners will be required to conduct the roadside recovery operations to organisational, approved codes of practice and legal requirements. Learners may have to work with police and emergency services to ensure that other road users are informed and protected from work activities. The work involved at the recovery site is potentially dangerous and the responsibility for health and safety will extend beyond the perimeter of the normal place of work. The learner will need to prepare in advance the necessary recovery vehicle, equipment, tooling and safety items that will be needed to carry out a successful recovery operation and report any deficiencies to the relevant authority.
BACEM Unit 38 Plan and Organise Work of Self and Others	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners will be required to take responsibility for specific pieces of work and provide technical leadership where appropriate within the plan. Learners will understand planning methods and techniques, and their application, and will know about the organisational structure, systems and procedures in sufficient depth to carry out the activities to the required specification. Applying safe working practices will be a key issue throughout. Learners will work to an overall plan agreed with their supervisor. If, in the course of executing the plan, it requires changing or modifying it is expected that the learner would use their knowledge skills and experience to initiate an alternative plan without compromising the quality of the outcome. The learner must be able to plan the organisation of work in the following areas as appropriate: • Shift handover of current work • Modification • Repair • Maintenance • Installation • Calibration Learners must be able to plan work activities for a defined task that requires completion through two or more related actions.

BACEM Unit 39 Support Learners by Coaching in the Workplace	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners should be able to provide coaching activity to a range of individuals to include, as appropriate: • New starters • Individuals unfamiliar with a particular technical matter • Individuals undertaking training to increase workplace skills • Individuals experiencing difficulty in specific technical aspects of their work Learners should be able to communicate in the following ways: • Face-to-face verbal communication • Small group discussion • Presentation on technical issues to small groups • Written communication • IT based coaching programmes Examples of problems may include, where relevant, those from overseas needing for example language skills, as well as experienced staff requiring further development in workplace skills
BACEM Unit 40 Support Learners by Mentoring in the Workplace	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners should be able to provide coaching activity to a range of individuals to include, as appropriate: • New starters • Individuals unfamiliar with a particular technical matter • Individuals undertaking training to increase workplace skills • Individuals experiencing difficulty in specific technical aspects of their work • Trainees and other on development programmes Learners should be able to communicate in the following ways: • Face-to-face verbal communication • Written communication Mentoring is to support and encourage people to reflect on their performance and manage their own learning in order that they may maximise their potential, develop their skills and improve their performance. Examples of problems may include those from overseas needing language skills, as well as experienced staff requiring further development in workplace skills.

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BACEM Unit 41 Operate an IT System in a Bus/Coach Engineering and Maintenance Environment	
Assessment guidance specified by a sector or regulatory body (if appropriate)	Learners will be able to carry out the initial steps in using an IT system, operate systems in an effective way and close the systems down securely. Learners will be able to recognise faults in the system and correct common faults though importantly they will know when to obtain specialist help and advice. Learners will maintain work activity as far as possible during system failure and importantly be able to update the system when it is restored.
BACEM Unit 42 Evaluate and Develop Own Knowledge, Understanding and Skills in the Bus/Coach Engineering and Maintenance Environment	
Assessment guidance specified by a sector or regulatory body (if appropriate)	In identifying their development needs, learners will have to balance their needs with those of the organisation and comply with any organisational, legal and licensing requirements.

Annex 3

Additional Requirements

for Qualifications that use the title

NVQ within the QCF

September 2009

This document has been produced by the Joint Awarding Body/SSC Working Practices Group which has been formed by the respective representative bodies to support and encourage effective working relationships between SSCs, submitting organisations and awarding organisations. The Group will update the document as necessary to make sure it is kept and to date and relevant and will consider developing additional guidance.

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Purpose of document

1. The purpose of this document is to make clear what additional requirements are needed to assess and quality assure qualifications that use the title NVQ within the QCF.

2. When an SSC/SSB and awarding organisation wants to use the title NVQ in the naming of a qualification within the QCF, the awarding organisation is required to make sure this qualification is assessed and quality assured in accordance with these additional requirements and other requirements described in the SSC/SSB assessment strategy.

3. The aims of these additional requirements are to

   - ensure that all competence based qualifications that use the title NVQ within the QCF are
     - assessed consistently
     - quality assured consistently
   - maintain the integrity of qualifications that use the title NVQ within the QCF
   - establish the NVQ brand within the QCF
   - keep bureaucracy associated with assessment and quality assurance of qualifications that use the title NVQ within the QCF to a minimum.

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Background

4. [1]'At the heart of an NVQ is the concept of occupational competence; the ability to perform to the standards required in employment across a range of circumstances and to meet changing demands. NVQs are first and foremost about what people can do. They go beyond technical skills to include planning, problem solving, dealing with unexpected occurrences, working with other people and applying the knowledge and understanding that underpins overall competence'.

5. NVQs are based entirely on National Occupational Standards (NOS) developed by an SSC/SSB, which describe the competence needed in an occupational role.

6. Qualifications that use the title NVQ within the QCF must comply with the rules of combination determined by the SSC/SSB. Awarding organisations are not allowed to develop another qualification that does not use the title NVQ within the QCF, if it uses the same rules of combination as a qualification that does use the title NVQ within the QCF.

7. The QCF offers increased flexibility in the way occupational competence can be assessed and demonstrated.

   Qualifications that use the title NVQ in the title within the QCF are just one way of assessing and demonstrating occupational competence. SSCs/SSBs are free to work with their awarding organisations to agree what qualifications will be used to assess occupational competence. Qualifications that use the title NVQ within the QCF, are not a preferred method for assessing occupational competence and all qualifications accredited through the QCF have equal status.

8. When developing a qualification for the QCF, including qualifications that use the title NVQ within the QCF, an awarding organisation must be a recognised awarding organisation and must meet the Qualification Requirements in the Regulatory Arrangements for the Qualifications and Credit Framework, published by

   The Office of the Qualifications and Examinations Regulator (Ofqual) in August 2008.

9. The qualification regulators confirmed that a group of SSCs and SSBs would be free to develop specific, additional requirements about the way in which qualifications that use the title NVQ within the QCF will be assessed and quality assured. For those recognised awarding organisations that want to assess occupational competence through the use of qualifications that use the title NVQ within the QCF, it has been agreed by SSCs and SSBs that the following additional requirements must be met.

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[1] NCVQ's NVQ Criteria and Guidance 1995.

Additional requirements for qualifications that use the title NVQ within the QCF

Introduction

10. Qualifications that use the title NVQ within the QCF must be assessed and quality assured in accordance with the following additional requirements.

Assessment requirements

11. When a qualification uses the title NVQ within the QCF, awarding organisations are required to make sure their recognised assessment centres understand how learners are to be assessed.

12. Assessment methodologies must meet the assessment strategy developed in partnership between the relevant SSC or SSB and awarding organisations for the qualification. The assessment strategy must be published and made available separately and will include the requirements for assessment of qualifications that use the title NVQ within the QCF. The assessment criteria for each unit will be part of the units that make up the qualification.

13. Learners must complete real work activities in order to produce evidence to demonstrate they have met the NOS and are occupationally competent.

14. When a learner cannot complete a real work activity, simulation is allowed.

15. Simulation is allowed when

- a learner is required to complete a work activity that does not occur on a regular basis and therefore opportunities to complete a particular work activity do not easily arise
- a learner is required to respond to a situation that rarely occurs, such as responding to an emergency situation
- the safety of a learner, other individuals and/or resources will be put at risk.

16. When simulation is used, assessors must be confident that the simulation replicates the workplace to such an extent that learners will be able to fully transfer their occupational competence to the workplace and real situations.

17. Units that must not be assessed by simulation must be identified by the SSC/SSB in the assessment strategy for the qualification or family of qualifications.

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18. Learners must be assessed by assessors

- who are occupationally competent in the occupational areas they are assessing where they have sufficient and relevant technical/occupational competence in the unit, at or above the level of the unit being assessed and as defined by the assessment strategy for that qualification
- [2] who must hold or be working towards a suitable assessor qualification to confirm they understand assessment and how to assess learners
- must be fully conversant with the unit(s) against which the assessments and verification are to be undertaken.

19. All assessors must carry out assessment to the standards specified in the A units.

20. All assessment decisions made by a trainee assessor must be checked by a qualified assessor or an assessor recognised by an awarding organisation.

21 Trainee assessors must have a plan, which is overseen by the recognised assessment centre, to achieve the relevant assessor qualification(s) within an agreed timescale.

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[2] Currently an assessor could hold unit A1 and/or unit A2. Or from the past unit D32 and/or unit D33. SSCs also identify other suitable equivalent qualifications.

Quality assurance requirements

22. When a qualification uses the title NVQ within the QCF, awarding organisations are required to make sure their recognised assessment centres understand how the qualification will be quality assured.

23. Qualifications that use the title NVQ within the QCF, must be verified

- internally by an internal verifier, who is accountable to the assessment centre
- externally by an external verifier, who is accountable to the awarding organisation or an agent of the awarding organisation.

24. With reference to internal verification, internal verifiers must

- [3] hold or be working towards a suitable internal verifier qualification to confirm they understand how to internally verify assessments
- have sufficient and relevant technical/occupational familiarity in the unit(s) being verified
- be fully conversant with the standards and assessment criteria in the units to be assessed
- understand the awarding organisation's quality assurance systems and requirements for this qualification.

25. Trainee internal verifiers must have a plan, which is overseen by the recognised assessment centre, to achieve the internal verifier qualification within an agreed timescale.

26. With reference to external verification, external verifiers must

- [4] hold or be working towards a suitable external verification qualification to confirm they understand and are able to carry out external verification
- have no connections with the assessment centre, in order to maintain objectivity
- have sufficient and relevant technical/occupational understanding in the unit(s) being verified
- be fully conversant with the standards and performance criteria in the units to be assessed
- understand the awarding organisation's quality assurance systems for this qualification.

27. Trainee external verifiers must have a plan, which is overseen by the awarding organisation, to achieve the external verifier qualification within an agreed timescale.

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[3] Currently an internal verifier needs to hold unit V1. Or from the past unit D34. SSCs also identify other suitable equivalent qualifications.

[4] Currently an external verifier needs to hold unit V2. Or from the past unit D35.

28. Awarding organisations must decide the frequency of external monitoring activities. Any decision must be based on

- the risks associated with a qualification that is designed to help a learner demonstrate occupational competence
- an evaluation of the centre's performance and past record.

29. Awarding organisations will have in place suitably constituted audit processes, which are supported by naturally occurring quality assurance and monitoring systems that already exist in workplace assessment environments.

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Annexe B: Personal, Learning and Thinking Skills (PLTS) Mapping

PLTS \ Units		1 L2	2 L2	3 L2	4 L2	5 L2	6 L2	8 L2	9 L2	10 L2	11 L2	19 L2
Independent Enquirers												
1	identify questions to answer and problems to resolve	•		•	•	•		•	•	•		
2	plan and carry out research, appreciating the consequences of decisions			•	•	•		•	•	•	•	•
3	explore issues, events or problems from different perspectives		•	•		•		•	•	•		
4	analyse and evaluate information, judging its relevance and value	•	•	•		•		•	•	•	•	•
5	consider the influence of circumstances, beliefs and feelings on decisions and events		•									
6	support conclusions, using reasoned arguments and evidence	•		•		•		•	•	•		
Creative Thinkers												
1	generate ideas and explore possibilities					•			•	•		
2	ask questions to extend their thinking						•	•			•	
3	connect their own and others' ideas and experiences in inventive ways			•								
4	question their own and others' assumptions					•			•	•		
5	try out alternatives or new solutions and follow ideas through			•		•			•	•		
6	adapt ideas as circumstances change			•		•		•	•	•		
Reflective Learners												
1	assess themselves and others, identifying opportunities and achievements			•								
2	set goals with success criteria for their development and work					•		•			•	
3	review progress, acting on the outcomes					•	•	•			•	
4	invite feedback and deal positively with praise, setbacks and criticism			•								
5	evaluate experiences and learning to inform future progress					•			•	•		
6	communicate their learning in relevant ways for different audiences			•					•	•		

PLTS	Units	1 L2	2 L2	3 L2	4 L2	5 L2	6 L2	8 L2	9 L2	10 L2	11 L2	19 L2
Team Workers												
1	collaborate with others to work towards common goals	•	•	•	•	•	•	•	•	•	•	•
2	reach agreements, managing discussions to achieve results			•							•	•
3	adapt behaviour to suit different roles and situations, including leadership roles	•		•	•	•	•	•	•	•	•	•
4	show fairness and consideration to others	•		•								
5	take responsibility, showing confidence in themselves and their contribution	•	•	•	•	•	•	•	•	•		
6	provide constructive support and feedback to others			•		•	•	•	•	•	•	•
Self-Managers												
1	seek out challenges or new responsibilities and show flexibility when priorities change					•		•	•	•	•	•
2	work towards goals, showing initiative, commitment and perseverance			•	•	•	•	•	•	•		
3	organise time and resources, prioritising actions	•	•	•	•	•	•	•	•	•	•	•
4	anticipate, take and manage risks	•	•		•	•	•		•	•		
5	deal with competing pressures, including personal and work-related demands	•					•		•	•		
6	respond positively to change, seeking advice and support when needed						•	•			•	•
7	manage their emotions, and build and maintain relationships						•				•	•
Effective Participators												
1	discuss issues of concern, seeking resolution where needed	•	•	•			•				•	•
2	present a persuasive case for action	•				•	•	•	•	•	•	•
3	propose practical ways forward, breaking these down into manageable steps		•			•	•	•	•	•		
4	identify improvements that would benefit others as well as themselves				•	•	•	•	•	•	•	•
5	try to influence others, negotiating and balancing diverse views to reach workable solutions						•	•	•	•		
6	act as an advocate for views and beliefs that may differ from their own			•								

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