

Automotive Qualifications (4101)

Practical assessment guide

Certificate in Vehicle Maintenance and Repair
(VRQ, NVO, SVQ) Level 2

Light vehicles

Heavy vehicles

Motorcycles



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1 About this document

This assignment guide has been designed to cover the most popular automotive maintenance and repair units for the City & Guilds Level 2 Certificate in Vehicle Maintenance and Repair (4101). It can be used for **light vehicle** (LV), **heavy vehicle** (HV) and **motorcycle** (MC) practical assessments and applies to the following qualification routes:

Vocationally Related Qualification (VRQ) routes

VRQ complexes	VRQ unit title
4101-46	Level 2 Certificate in Vehicle Maintenance and Repair (Light Vehicles)
4101-47	Level 2 Certificate in Vehicle Maintenance and Repair (Heavy Vehicles)
4101-48	Level 2 Certificate in Vehicle Maintenance and Repair (Motorcycles)

National Vocational Qualification (NVQ) routes

NVQ complexes	NVQ unit title
4101-01	Level 2 Certificate in Vehicle Maintenance and Repair (Light Vehicles)
4101-02	Level 2 Certificate in Vehicle Maintenance and Repair (Heavy Vehicles)
4101-03	Level 2 Certificate in Vehicle Maintenance and Repair (Motorcycles)

Scottish Vocational Qualification (SVQ) routes

SVQ complexes	SVQ unit title
4101-23	Level 2 Certificate in Vehicle Maintenance and Repair (Light Vehicles)
4101-24	Level 2 Certificate in Vehicle Maintenance and Repair (Heavy Vehicles)
4101-25	Level 2 Certificate in Vehicle Maintenance and Repair (Motorcycles)

2 Guidance for assessors

Introduction

The assessments have been designed to cover all the scope, observation and knowledge requirements for the practical content of this qualification.

Underpinning knowledge for each practical assessment should be covered during the assessment and documented on the worksheets provided within this guide. Candidates are required to complete a number of practical tasks to show their attainment of practical skills and underpinning knowledge.

One practical task may cover elements from more than one unit. The practical tasks have been designed to avoid repetition, but allow complete coverage of the required knowledge for the qualification.

The practical assessments cover the most popular optional units. If a candidate wishes to cover units not contained within the tasks provided, the centre delivering the qualification will need to devise the appropriate practical task. For further information on centre devised assignments please refer to the 4101/4121 qualification handbook – section 5.12 *Producing centre devised assignments*, available from the City & Guilds Automotive website (www.cityandguilds.com/uk/automotive).

Online testing (GOLA) is used to assess the theory component of the maintenance and repair units. In addition to obtaining centre approval, centres are required to set up a GOLA profile in order to offer online examinations to candidates. Setting up a GOLA profile is a simple process that need only be completed once for the centre.

Details of how to set up the profile are available on the City and Guilds website (www.cityandguilds.com/gola). The website also has details of the GOLA helpline for technical queries and downloads for centres and candidates about GOLA examinations.

Note: It is important that candidates who are new to the industry complete a practical training programme which covers a wider range of equipment and resource material before attempting these final assessment tasks. This is to ensure that they gain the sufficient confidence and knowledge to successfully complete the qualification. For complimentary practical practice tasks please refer to the *Practical practice task guide* available for download from the City and Guilds Automotive website (www.cityandguilds.com/uk/automotive). For further information about the available documentation and resources, please refer to section 1.2 *Other documents and sources of further information* in the qualification handbook.

Relation to Key Skills, Wider Key Skills and Core Skills

The City & Guilds Level 2 Certificate in Vehicle Maintenance and Repair may provide opportunities to gather evidence if working towards any of the following Key Skills, Wider Key Skills or Core Skills: Communication; Number; ICT; Problem Solving; Improving Own Learning and Working with Others.

Examples of Key Skill, Core Skill and Wider Key Skill work are provided in the following table.

Key Skill/Wider Key Skill	Example of Key Skill work
Communication	Data collection, assessment, reports (oral and written), feedback.
Number	Measurements, percentages, test readings, pressures.
ICT	Computer diagnostics, data collection.
Problem Solving	Most assessments involve diagnosing vehicle problems and faults, although these are not in-depth at Level 2.
Working with Others	Working with another or as teams to lift and support vehicle components is part of a vehicle technician's normal role, as well as in the final assessments.
Improving Own Learning	Unit by unit achievements evidence the learning progress made by candidates during the assessment period.

A detailed guide to signposting the Key Skills, Wider Skills and Core Skills covered within this Level 2 qualification is outlined in the individual Vehicle Maintenance and Repair unit specifications available from the City & Guilds Automotive website (www.cityandguilds.com/uk/automotive).

Candidates seeking to achieve any of the Key Skills, Wider Key Skills and/or Core Skills would need to be separately registered for them. Any evidence presented for a Key/Core Skills and/or Wider Key Skills portfolio **must** be separately assessed using the relevant Key/Core and Wider Key Skills specifications and guidance. For further guidance and information about these qualifications, please refer to the City & Guilds website (www.cityandguilds.com).

Introducing practical tasks to candidates

It will be beneficial to take the candidate through what is required for each practical task and the way each task will be assessed.

Timings for practical tasks

A submission schedule should be worked out by the centre, governed by the overall assessment plan for the course, to be negotiated between tutor/assessor and candidate.

The relationship between course delivery, the handing out and completion of practical tasks are matters for agreement between the tutors and candidates locally.

Feedback

Assessors must provide feedback on every occasion that a skills observation takes place. Recording forms are provided and can be downloaded from the City & Guilds Automotive website (www.cityandguilds.com/uk/automotive).

Candidate's records of coursework

Candidates should be encouraged to keep their work carefully in a portfolio. This may be an unfamiliar form of recording keeping for many of them, but it is a good discipline which will benefit them when they progress in learning and training.

Overall grading of practical tasks

Practical tasks are graded Pass (P) or Fail (F).

Codes of practice

The importance of safe working practices, the demands of any regional and/or national legislation relating to health and safety and any regional and/or national codes of practice associated with the industry must always be adhered to.

Health and safety

The requirement to follow safe working practices is an integral part of City & Guilds qualifications and assessments, and it is the responsibility of centres to ensure that all relevant health and safety requirements are in place before the candidates start practical assessments.

Should a candidate fail to follow health and safety practice and procedures during an assessment, the assessment must be stopped and the candidate advised of the reasons why. The candidate should be informed that they have not reached the standard of assessment required. Candidates may retake the assessment at a later date, at the discretion of the centre.

If the centre is in any doubt about a violation of health and safety, guidance should be sought from the external verifier.

Guidance on risk management of pre-16 candidates

Centres offering the City & Guilds Automotive qualifications at Level 2 to candidates under the age of 16 must assume responsibility for the safe delivery of the qualification. This will include those units that require using and working with power tools and machinery and using and working under lifts and hoists.

Verification of practical tasks

By using checklists, verifiers can check that evidence for an assignment is complete and can ensure that the assessment decision has been fair and beyond dispute.

Assessors must ensure that candidates understand why a particular grade has been given for the task. It is for this reason that City & Guilds requires the signature of both the assessor and the candidate on the assignment record.

If a candidate's work is selected for verification, samples of work must be made available to the appointed external verifier. The external verifier will ensure that:

- the internal verifier is undertaking his/her responsibilities
- the internal verifier is given prompt, accurate and constructive feedback on centre operations
- a report is written on centre activities for City & Guilds.

Internal quality assurance

Approved centres must have effective quality assurance systems to ensure optimum delivery and assessment of qualifications.

Quality assurance includes initial centre approval, qualification approval and the centre's own internal procedures for monitoring quality. Centres are responsible for internal quality assurance, and City & Guilds is responsible for external quality assurance.

Full details and guidance on the internal and external quality assurance requirements and procedures, are provided in *Providing City & Guilds qualifications – A guide to centre and qualification approval* (available from www.cityandguilds.com, by selecting 'becoming a centre'). This document also explains the tasks, activities and responsibilities of quality assurance staff.

In order to fully support candidates, centres are required to retain copies of candidates' assessment records for three years after certification.

Centres are also free to design their own practical tasks, if they feel their suggestions better reflect candidate and/or regional/national needs, or if the chosen route is not covered by the tasks provided by City & Guilds. Nationally/regionally-devised tasks must fulfill the assessment requirements of each unit.

Entry for assessment and certification

Candidates should be registered via the Walled Garden or using Form S at least 28 days before any assessment. Entries for the online multiple choice test should be made via the Walled Garden or by using Form S as per the instructions outlined in *Providing City & Guilds qualifications – A guide to centre and qualification approval*.

Results of assignments should be submitted in the form of grades via the Walled Garden or by using Form S. Only those units which have been achieved should be included. Each unit number is entered, followed by P (Pass) to indicate the grade the candidate has achieved.

3 Resource requirements

The resource list below identifies the typical workshop tools and equipment required by candidates to complete the practical assessments for the City & Guilds Level 2 Certificate in Vehicle Maintenance and Repair (4101).

- Steel ruler.
- Micrometer (25 millimetre, 50 millimetre, 75 millimetre and 100 millimetre).
- Oil drain.
- Vernier calliper.
- Trolley jack, wheel chocks and stands.
- Car lifting ramp.
- Tyre changer and wheel balance machine.
- Dial test indicator.
- Cooling pressure tester.
- Antifreeze tester.
- Hand and pillar drill.
- Solder iron.
- Oil pressure test gauge.
- Torque wrench.
- Air wrench.
- Taps and dies.
- Multimeter (volts, amps and ohm).
- Wheel alignment gauge.
- Engine diagnostic machine with gas analyser.
- Straight edge.
- Vee blocks and surface plate.
- Brake pipe flaring tools and formers.
- Brake fluid test machine.
- Selection of hand tools suitable for a garage workshop.
- Selection of garage consumables (rags, nuts, bolts, washers, electrical terminals).

4 Guidance for candidates

The practical tasks given to you by your tutor have been designed to help you to complete the Level 2 Certificate in Vehicle Maintenance and Repair (4101).

The following will help you to understand the requirements of the practical assessment and ensure that you complete all of the necessary recording forms.

- 1 Before starting the assessment it is important that you have had sufficient training.
- 2 Read the task criteria carefully and complete **all** parts of the assessment task.
- 3 Complete **all** the documentation as neatly and as legibly as possible.
- 4 Try to keep to the estimated times allowed.
- 5 Ensure that you and your assessor sign and date the relevant worksheets accurately, and that you get feedback from your assessor.

5 Candidate information sheet

Candidate name:

Date of Birth:

Date enrolled with centre:

Date enrolled with City & Guilds:

City & Guilds enrolment
number:

Course tutor:

6 Assessment pro formas

6.1 Note for assessors

Before the G1-V1, G2-V2 and G3-V3 units are awarded, sufficient evidence needs to be achieved. For the purpose of this assessment booklet, these units are embedded within the following main units: MR01-V14; MR02-V15; MR03-V16; MR04-V17/MR04HV-V18 and MR12-V27 or MR09-V19. All the criteria for the **performance, knowledge** and **scope** have also been embedded within the unit tasks. It is important that the task documentation is completed fully and correctly.

Unit Number	Unit Title	Scope (please tick)	Observation (please tick)	Knowledge (please tick)	Unit description And portfolio/page number (PRN)	Assessor signature	Date
G1-V1	Contribute to good house keeping				Units G1-V1, G2-V2 and G3-V3 are generic units and can be completed as stand alone units. However, for the purpose of this assessment package, they are integrated within the main core units listed below. Once the main core units are completed they can be automatically signed off.		
G2-V2	Ensure your own actions reduce risks to health & safety						
G3-V3	Maintain positive working relationships						
MR01-V14	Carry out routine vehicle maintenance				PRN 1 major service		
MR02-V15	Remove and replace engine units and components				PRN 2 mechanical / fluid		
					PRN 3 electrical		
MR03-V16	Remove and replace auxiliary electrical units and components				PRN 4 lighting		
					PRN 5 brake switch & solder		
					PRN 6 coolant sender/instruments		
MR04-V17/ MR04HV- V18	Remove and replace chassis units and components/ Remove and replace heavy vehicle chassis units and components				PRN 7 suspension		
					PRN 8 steering		
					PRN 9 brakes		
MR12-V27*	Remove and replace vehicle transmission and driveline units and components				PRN 10 wheel bearing		
					PRN 11 clutch		
					PRN 12 drive/prop shaft		
MR05-V19*	Conduct pre and post work vehicle inspections				PRN 13 pre work		
					PRN 14 post work		
Units marked with * Either unit can be chosen. It is recommended to choose MR12-V27 for Vehicle Technicians					Verifier sampling Name: Signature:		

6 Assessment pro formas

6.2 Portfolio reference number (PRN) tracking table

The table below identifies the PRN assessment pro formas that need to be completed to meet the required performance evidence for the relevant vehicle maintenance and repair units within the City & Guilds Level 2 Certificate in Vehicle Maintenance and Repair (4101). The assessment pro formas follow this page. For a detailed qualification structure please refer to the *Qualification handbook* – section 4.3 *Route tables*.

G1-V1	Contribute to workplace good housekeeping												
Criteria	Hand tools	Electrical tools	Mechanical tools	Pneumatic tools	Hydraulic tools								
PRN	1,2,3,4,5	1,2,3,4,5,6	1,2,3,4,5,6,7	7,8,9	1,2,3,4,5,6,7,8,9,10								
G2-V2	Ensure your own risks reduce risks to health and safety												
	Identify risks and produce evidence of workplace policies for the following:												
Criteria	Machinery Equipment	Materials substances	spillages	Safe working method	Safe use substances	Personal protection							
PRN	1,2,3,4,5,6	1,2,5,9,11	1,2,9	1,2,3,4,5,6,7,8,9,10	1,2,9,	1,2,3,4,5,6,7,8,9,10							
G3-V3	Maintain positive working relationships												
Criteria	Work as a team	Respond assist	Give information	Show respect	Inform colleagues	Make requests	Inform problems						
PRN	1,2	1,2	1,2,3,4,5,6	1,2	1,2	1,2,9	1,2,9						
MR01-V14	Carry out routine vehicle maintenance												
Criteria	PPE	Data books	Specification tolerances	Record details	adjustments	Test methods evaluations	Risks of damage to vehicles	Report problems delays	Records and timescales				
PRN	1	1	1	1	1	1	1	1	1				
MR02-V15	Remove and replace engine units and components												
Criteria	Engine Mechanical	Cooling	Air supply	Fuel ignition	Electrical	Lubrication	PPE	Data Instructions procedures	Remove replace activities	Conform to specs	Test method	Records	Time scale
PRN	2	2	1	1	3	1	2,3	2,3	2,3	2,3	2,3	2,3	2,3

6 Assessment pro formas

6.2 Portfolio reference number (PRN) tracking table (continued)

MR03-V16	Remove and replace auxiliary electrical units and components											
Criteria	Lighting systems	Wiper system	Security	Monitoring instruments	PPE	Data Instructions procedures	Remove replace activities	Conform to specs	Test methods	Records	Time scale	
PRN	4				4,5,6	4,5,6	4,5,6	4,5,6	4,5,6	4,5,6	4,5,6	
MR04-V17/ MR04HV-V18	Remove and replace chassis units and components/ Remove and replace commercial vehicle chassis units and components											
Criteria	Steering	Suspension	Brakes	PPE	Data Instructions procedures	Remove replace activities	Conform to specs	Test methods	Records	Time scale		
PRN	8	7	9	7,8,9	7,8,9	7,8,9	7,8,9	7,8,9	7,8,9	7,8,9		
MR05-V19	Conduct pre and post work vehicle inspections											
Criteria	Pre-work Inspection	Post-work inspection	PPE	Technical data	H&S procedures	Checks against vehicle specs	Vehicle protection	Make recommendations	Accurate records	Delays and times	Reports Actions needed	
PRN	13	14	13,14	13,14	13,14	13,14	13,14	13,14	13,14	13,14	13,14	

6 Assessment pro formas

6.3 Portfolio reference number (PRN) unit table

The table below identifies the units covered and the corresponding portfolio reference number (PRN) for each assessment pro forma contained within this guide.

PRN	Name	Units covered
1	Carry out a major service	G1-V1, G2-V2, G3-V3, MR01-V14
2	Remove and replace cylinder head	G1-V1, G2-V2, G3-V3, MR02-V15
3	Remove, replace and test alternator	G1-V1, G2-V2, G3-V3, MR01-V14
4	Remove, replace and test headlamp	G1-V1, G2-V2, G3-V3, MR03-V16
5	Remove, test and refit brake light switch	G1-V1, G2-V2, G3-V3, MR03-V16
6	Remove, replace and test coolant sensor for driver instrumentation	G1-V1, G2-V2, G3-V3, MR01-V14
7	Remove, test and refit suspension unit	G1-V1, G2-V2, G3-V3, MR04-V17, MR04HV-V18
8	Remove and refit steering track rod	G1-V1, G2-V2, G3-V3, MR04-V17
9	Remove break pads, brake calliper and check condition of brake disc	G1-V1, G2-V2, G3-V3, MR04-V17, MR04HV-V18
10	Wheel bearing/hub assembly	G1-V1, G2-V2, G3-V3, MR04-V17, MR04HV-V18
11	Remove gearbox and clutch assembly	G1-V1, G2-V2, G3-V3, MR04-V17, MR04HV-V18
12	Remove drive line assembly	G1-V1, G2-V2, G3-V3, MR04-V17, MR04HV-V18
13	Pre-work	G1-V1, G2-V2, G3-V3, MR05-V19
14	Post-work	G1-V1, G2-V2, G3-V3, MR05-V19

6 Assessment pro formas

6.4 PRN 1 Carry out a major service

Date work carried out/...../.....		Indicate unit(s) covered on this evidence record:		G1-V1	G2-V2	G3- V3	MR01-V14		
Vehicle details Vehicle type (please circle) LV HGV MC PSV Make/Model Registration number Chassis/VIN number				Carry out a major service (estimated time 2.5 hours)					
Details of work activity: <i>Adjust to suit vehicle types</i>	Fuel filter	Air filter	Ignition checks battery voltage	Suspension and steering checks	Under bonnet levels under bonnet belt check				
	Brakes check front/rear	Tyre check	Interior systems check	Lighting systems	Vehicle fault codes				
Change oil and filter	Under body damage	Exhaust gas test	Ancillary electrical checks	Transmission oils	Exterior body damage				
Special tools/equipment used: Hydraulic lifting equipment Hand tools Tyre pressure tester Antifreeze tester Diagnostic reader/volt meter Torque & air wrench Gas analyser		Technical information: Tyre pressures Engine oil capacity Wheel nut torque CO/HC if applicable..... Minimum brake pad limit Spark plug gap if applicable		Examination and testing methods used (include readings as appropriate): Diagnostic code read Brake pad wear CO / HC reading if applicable..... Antifreeze frost protection Battery voltage					
Specific evidence of health and safety, good housekeeping and working with others:									
1	Work with others to check lighting	4	Sweep up	7	Wear and use correct PPE.				
2	Dispose of all waste correctly and safely	5	Clear up spillages from oil changes						
3	Tools tidy, cleaned, checked and put away		6	Identify workshop policies					
Work found that requires further attention and any action taken:									
Assessor knowledge check:									
Assessor feedback on evidence provided:									
I confirm that the work carried out on this evidence record meets City & Guilds requirements for validity, authenticity, currency and sufficiency. All the necessary scope , performance and knowledge for this task have been met.									
Assessor name:.....		Signature:		Date:/...../.....		Candidate signature:.....		Date:...../...../.....	

6 Assessment pro formas

6.5 PRN 2 Remove and replace cylinder head

Date work carried out/...../.....		Indicate unit(s) covered on this evidence record:		G1-V1	G2-V2	G3-V3	MR02-V15		
Vehicle details Vehicle type (please circle) LV HGV MC PSV Make/Model Registration number Chassis/VIN number				Remove and replace cylinder head (estimated time 6 hours, flexible to suit vehicle type)					
				Location:					
Details of work activity: <i>Adjust to suit vehicle types</i>		<ul style="list-style-type: none"> • Disconnect all cooling system, fuel pipes and ignition system connections as necessary. Disconnect exhaust connections. • Set and lock engine if necessary to ignition pos, remove timing belt if applicable. Undo all cylinder head bolts and remove cylinder head. • Clean all surfaces and inspect for damage/wear. Refit with gaskets and correct sealant devices. Tighten in correct sequence and reassemble. • Repair any electrical terminals, coolant hoses. • Make suitable adjustments and correct all levels to manufacturer's limits. 							
Special tools/equipment used: Hand tools Coolant pressure tester Torque/angle wrench Straight edge/feeler gauge Special tools, as necessary.....		Technical information: Engine oil capacity Coolant capacity Torque for cylinder head.....		Examination and testing methods used (include readings as appropriate): Coolant pressure test..... Oil leaks Engine runs on all cylinders Idle speed within tolerance.....					
Specific evidence of health and safety, good housekeeping and working with others:									
1	Work with others when lifting cylinder head	4	Sweep up	7	Wear and use correct PPE.				
2	Dispose of all waste correctly and safely	5	Clear up spillages						
3	Tools tidy, cleaned, checked and put away	6	Identify workshop policies						
Work found that requires further attention and any action taken:									
Assessor knowledge check – outline of question(s) used and response:									
Assessor feedback on evidence provided:									
I confirm that the work carried out on this evidence record meets City & Guilds requirements for validity, authenticity, currency and sufficiency. All the necessary scope , performance and knowledge for this task have been met.									
Assessor name:.....		Signature:		Date:/...../.....		Candidate signature:.....		Date:...../...../.....	

6 Assessment pro formas

6.6 PRN 3 Remove, replace and test alternator

Date work carried out/...../.....		Indicate unit(s) covered on this evidence record:		G1-V1	G2-V2	G3-V3	MR01-V14			
Vehicle details: Vehicle type (please circle) LV HGV MC PSV Make/Model Registration number Chassis/VIN number				Remove, replace and test alternator (estimated time 1.5 hours)						
Details of work activity: <i>Adjust to suit vehicle types</i>		<ul style="list-style-type: none"> • Disconnect battery. • Remove alternator and check condition of drive belt, replace if necessary. • Check condition of alternator pulley and mountings. • Fit alternator, belt and run engine. • Check regulated voltage at recommended alternator speed. 								
Special tools/equipment used: Hand tools Voltmeter Torque wrench Special tools, as necessary		Technical information: Battery voltage Recommended maximum regulated voltage		Examination and testing methods used (include readings as appropriate): Battery voltage engine not running Maximum regulated voltage Type of drive belt fitted Condition of drive belt and pulleys						
Specific evidence of health and safety, good housekeeping and working with others:										
1	Work with others when taking voltage readings	4	Sweep up	7	Wear and use correct PPE.					
2	Dispose of all waste correctly and safely	5	Care with battery							
3	Tools tidy, cleaned, checked and put away	6	Identify workshop policies							
Work found that requires further attention and any action taken:										
Assessor knowledge check – outline of question(s) used and response:										
Assessor feedback on evidence provided:										
I confirm that the work carried out on this evidence record meets City & Guilds requirements for validity, authenticity, currency and sufficiency. All the necessary scope , performance and knowledge for this task have been met.										
Assessor name:.....			Signature:			Date:/...../.....		Candidate signature:..... Date:...../...../.....		

6 Assessment pro formas

6.7 PRN 4 Remove, replace and test headlamp

Date work carried out/...../.....		Indicate unit(s) covered on this evidence record:		G1-V1	G2- V2	G3- V3	MR03- V16		
Vehicle details Vehicle type (please circle) LV HGV MC PSV Make/Model Registration number Chassis/VIN number				Remove, replace and test headlamp (estimated time 1.5 hours)					
Details of work activity: <i>Adjust to suit vehicle types</i>		<ul style="list-style-type: none"> Remove headlamp. Check condition of wiring and bulbs. Fit headlamp and align as necessary to suit vehicle type. Check voltage to headlamp bulbs. 							
Special tools/equipment used: Hand tools Voltmeter Torque wrench Headlamp alignment equipment		Technical information: Battery voltage Alignment data		Examination and testing methods used (include readings as appropriate): Headlamp bulb terminal voltage Condition of headlamp glass Headlamp beam pattern (draw on reverse side).....					
Specific evidence of health and safety, good housekeeping and working with others:									
1	Work with others when taking voltage readings	4	Sweep up	7	Wear and use correct PPE.				
2	Dispose of all waste correctly and safely	5	Care with battery						
3	Tools tidy, cleaned, checked and put away	6	Identify workshop policies						
Work found that requires further attention and any action taken:									
Assessor knowledge check – outline of question(s) used and response:									
Assessor feedback on evidence provided:									
I confirm that the work carried out on this evidence record meets City & Guilds requirements for validity, authenticity, currency and sufficiency. All the necessary scope , performance and knowledge for this task have been met.									
Assessor name:.....		Signature:		Date:/...../.....		Candidate signature:.....		Date:...../...../.....	

6 Assessment pro formas

6.8 PRN 5 Remove, test and refit brake light switch

Date work carried out/...../.....		Indicate unit(s) covered on this evidence record:		G1-V1	G2-V2	G3-V3	MR03-V16		
Vehicle details Vehicle type (please circle) LV HGV MC PSV Make/Model Registration number Chassis/VIN number				1 Remove and refit brake light switch 2 Adjust and test 3 Solder terminal to wire (estimated time 2 hours)					
Details of work activity: <i>Adjust to suit vehicle types</i>		<ul style="list-style-type: none"> Remove brake light switch. Check with ohmmeter/multimeter for continuity and operation. Fit to vehicle. Adjust and check brake light operation. Show you have the ability and knowledge to solder terminals to wire, this can be on a separate piece of wire. 							
Special tools/equipment used: Hand tools..... Multimeter/ohm Torque wrench Soldering iron.....		Technical information: Battery voltage Brake light bulb wattage		Examination and testing methods used (include readings as appropriate): Resistance readings of switch when operated Condition of brake light lens Solder connection resistance.....					
Specific evidence of health and safety, good housekeeping and working with others:									
1	Work with others when taking electrical test readings	4	Sweep up	7	Wear and use correct PPE.				
2	Dispose of all waste correctly and safely	5	Care with battery						
3	Tools tidy, cleaned, checked and put away	6	Identify workshop policies						
Work found that requires further attention and any action taken:									
Assessor knowledge check – outline of question(s) used and response:									
Assessor feedback on evidence provided:									
I confirm that the work carried out on this evidence record meets City & Guilds requirements for validity, authenticity, currency and sufficiency. All the necessary scope , performance and knowledge for this task have been met.									
Assessor name:.....		Signature:		Date:/...../.....		Candidate signature:.....		Date:...../...../.....	

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6.9 PRN 6 Remove, replace and test coolant sensor for driver instrumentation

Date work carried out / /		Indicate unit(s) covered on this evidence record:		G1-V1	G2-V2	G3-V3	MR01-V14			
Vehicle details Vehicle type (please circle) LV HGV MC PSV Make/Model Registration number Chassis/VIN number 				Remove, replace and test coolant sensor for driver Instrumentation (estimated time 1.5 hours)						
Details of work activity: Adjust to suit vehicle types		<ul style="list-style-type: none"> • Take care as coolant and engine may be hot. • Remove coolant sensor connections. • Remove sensor and connect ohm meter. • Check the resistance at the specified temperatures. • Refit sensor, check coolant and adjust as necessary. • Check driver instrumentation for coolant gauge operation. 								
Special tools/equipment used: Hand tools Multi-meter Special tools as necessary		Technical information: Battery voltage Resistance cold 10 °C Resistance hot 90 °C (Use vehicle data spec as near as possible)			Examination and testing methods used (include readings as appropriate): Resistance cold 10 °C Resistance hot 90 °C Does the engine temperature coolant gauge work correctly?					
Specific evidence of health and safety, good housekeeping and working with others:										
1	Work with others when taking voltage readings	4	Sweep up	7	Wear and use correct PPE.					
2	Dispose of all waste correctly and safely	5	Care with antifreeze							
3	Tools tidy, cleaned, checked and put away	6	Identify workshop policies							
Work found that requires further attention and any action taken:										
Assessor knowledge check – outline of question(s) used and response:										
Assessor feedback on evidence provided:										
I confirm that the work carried out on this evidence record meets City & Guilds requirements for validity, authenticity, currency and sufficiency. All the necessary scope, performance knowledge for this task have been met.										
Assessor name:		Signature:		Date: / /		Candidate signature:		Date: / /		

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6.10 PRN 7 Remove, test and refit suspension unit

Date work carried out/...../.....		Indicate unit(s) covered on this evidence record:			G1- V1	G2- V2	G3- V3	MR04- V17/MR0 4HV-V18	Choose either MR04-V17 or MR04HV-V18	
Vehicle details Vehicle type (please circle) LV HGV MC PSV Make/Model Registration number Chassis/VIN number				1 Remove and refit suspension unit (strut, coil, leaf, torsion, gas/air) 2 Test operation of damper (estimated time 2 hours)						
Details of work activity: <i>Adjust to suit vehicle types</i>		<ul style="list-style-type: none"> Remove the spring and check the condition and suitability for use. Check the condition and operation of the damper unit. Measure the trim height of the vehicle. 								
Special tools/equipment used: Hand tools Spring compressor Torque wrench Rule		Technical information: Trim height Type of spring Wheel nut torque			Examination and testing methods used - include readings as appropriate: Condition of spring Condition of damper Trim height					
Specific evidence of health and safety, good housekeeping and working with others:										
1	Work with others when lifting vehicle components	4	Sweep up	7	Wear and use correct PPE.					
2	Dispose of all waste correctly and safely	5	Care when lifting							
3	Tools tidy, cleaned, checked and put away	6	Identify workshop policies							
Work found that requires further attention and any action taken:										
Assessor knowledge check – outline of question(s) used and response:										
Assessor feedback on evidence provided:										
I confirm that the work carried out on this evidence record meets City & Guilds requirements for validity, authenticity, currency and sufficiency. All the necessary scope , performance and knowledge for this task have been met.										
Assessor name:.....		Signature:		Date:/...../.....		Candidate signature:.....		Date:...../...../.....		

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6.11 PRN 8 Remove and refit steering track rod

Date work carried out/...../.....		Indicate unit(s) covered on this evidence record:		G1-V1	G2-V2	G3-V3	MR04-V17			
Vehicle details: Vehicle type (please circle) LV HGV MC PSV Make/Model Registration number Chassis/VIN number			Remove and refit steering track rod or similar component (estimated time 1.5 hours)							
Details of work activity: <i>Adjust to suit vehicle types</i>		<ul style="list-style-type: none"> Remove a track rod end, steering arm or similar component to suit the vehicle worked upon. Remove the component check condition and suitability for use. Refit and make adjustments to steering alignment to meet manufactures specification. 								
Special tools/equipment used: Hand tools Alignment gauge Torque wrench		Technical information: Steering alignment Wheel nut torque			Examination and testing methods used (include readings as appropriate): Condition of track rod/steering component Alignment reading					
Specific evidence of health and safety, good housekeeping and working with others:										
1	Work with others when lifting vehicle components	4	Sweep up	7	Wear and use correct PPE.					
2	Dispose of all waste correctly and safely	5	Care when lifting							
3	Tools tidy, cleaned, checked and put away	6	Identify workshop policies							
Work found that requires further attention and any action taken:										
Assessor knowledge check – outline of question(s) used and response:										
Assessor feedback on evidence provided:										
I confirm that the work carried out on this evidence record meets City & Guilds requirements for validity, authenticity, currency and sufficiency. All the necessary scope , performance and knowledge for this task have been met.										
Assessor name:.....			Signature:			Date:/...../.....		Candidate signature:.....		Date:...../...../.....

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6.12 PRN 9 Remove brake pads, brake calliper and check condition of brake disc

Date work carried out/...../.....		Indicate unit(s) covered on this evidence record:		G1-V1	G2-V2	G3-V3	MR04-V17	MR04HV-V18		
Vehicle details Vehicle type (please circle) LV HGV MC PSV Make/Model Registration number Chassis/VIN number				Remove brake pads, brake calliper and check condition of brake disc (estimated time 1.5 hours)						
Details of work activity: <i>Adjust to suit vehicle types</i>		<ul style="list-style-type: none"> Remove brake calliper and brake pads, measure pad thickness and check suitability for use. Check run out of brake disc. Fit brake pads and calliper, bleed air from system. 								
Special tools/equipment used: Hand tools DTI Bleed kit Torque wrench		Technical information: Minimum pad thickness Type of brake fluid Maximum allowed disc run out Wheel nut torque		Examination and testing methods used (include readings as appropriate): Condition of brake pads Condition of brake disc..... Feel of brake pedal/hand lever.....						
Specific evidence of health and safety, good housekeeping and working with others:										
1	Work with others when bleeding air from brakes	4	Sweep up	7	Wear and use correct PPE.					
2	Dispose of all waste correctly and safely	5	Care with brake dust							
3	Tools tidy, cleaned, checked and put away	6	Identify workshop policies							
Work found that requires further attention and any action taken:										
Assessor knowledge check – outline of question(s) used and response:										
Assessor feedback on evidence provided:										
I confirm that the work carried out on this evidence record meets City & Guilds requirements for validity, authenticity, currency and sufficiency. All the necessary scope , performance and knowledge for this task have been met.										
Assessor name:			Signature:		Date:/...../.....		Candidate signature:			
							Date:/...../.....			

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6.13 PRN 10 Wheel bearing/hub assembly

Date work carried out/...../.....		Indicate unit(s) covered on this evidence record:		G1-V1	G2-V2	G3-V3	MR04-V17	MR04HV-V18		
Vehicle details Vehicle type (please circle) LV HGV MC PSV Make/Model Registration number Chassis/VIN number				Wheel bearing/hub assembly (estimated time 2 hours)						
Details of work activity: <i>Adjust to suit vehicle types</i>		<ul style="list-style-type: none"> Remove a hub assembly, remove a bearing, and check for wear and suitability. Refit the components in accordance with manufacturer settings and tolerances. Check lubrication and sealing devices. 								
Special tools/equipment used: Hand tools Torque wrench		Technical information: Data system used Oil/grease type Adjustment data			Examination and testing methods used (include readings as appropriate): Condition bearing Turn wheel bearing after fitting and report					
Specific evidence of health and safety, good housekeeping and working with others:										
1	Work with others when lifting vehicle components	4	Sweep up	7	Wear and use correct PPE.					
2	Dispose of all waste correctly and safely	5	Care when lifting							
3	Tools tidy, cleaned, checked and put away	6	Identify workshop policies							
Work found that requires further attention and any action taken:										
Assessor knowledge check – outline of question(s) used and response:										
Assessor feedback on evidence provided:										
I confirm that the work carried out on this evidence record meets City & Guilds requirements for validity, authenticity, currency and sufficiency. All the necessary scope , performance and knowledge for this task have been met.										
Assessor name:		Signature:		Date:/...../.....		Candidate signature: Date:/...../.....				

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6.14 PRN 11 Remove gearbox and clutch assembly

Date work carried out/...../.....		Indicate unit(s) covered on this evidence record:		G1-V1	G2-V2	G3-V3	MR04-V17	MR04HV-V18		
Vehicle details Vehicle type (please circle) LV HGV MC PSV Make/Model Registration number Chassis/VIN number				Remove gearbox and clutch assembly (estimated time 4 hours)						
Details of work activity: <i>Adjust to suit vehicle types</i>									<ul style="list-style-type: none"> Remove the gearbox, or transmission covers depending on vehicle type. Remove the clutch assembly. Check components for wear and damage. Refit all components and test gear selection. Depending on vehicle type, the hydraulic, mechanical or pneumatic system needs to be checked and reported 	
Special tools/equipment used: Hand tools Clutch tools Torque wrench DTI/Micrometer		Technical information: Clutch plate minimum thickness Run out information Number of clutch plates		Examination and testing methods used (include readings as appropriate): Condition of diaphragm/coil springs Condition of clutch driven plates Clutch operation device: Hydraulic/Mechanical/pneumatic						
Specific evidence of health and safety, good housekeeping and working with others:										
1	Work with others when lifting vehicle components	4	Sweep up	7	Wear and use correct PPE.					
2	Dispose of all waste correctly and safely	5	Care with clutch dust							
3	Tools tidy, cleaned, checked and put away	6	Identify workshop policies							
Work found that requires further attention and any action taken:										
Assessor knowledge check – outline of question(s) used and response:										
Assessor feedback on evidence provided:										
I confirm that the work carried out on this evidence record meets City & Guilds requirements for validity, authenticity, currency and sufficiency. All the necessary scope , performance and knowledge for this task have been met.										
Assessor name:		Signature:		Date:/...../.....		Candidate signature:		Date:/...../.....		

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6.15 PRN 12 Remove drive line assembly

Date work carried out/...../.....		Indicate unit(s) covered on this evidence record:		G1-V1	G2-V2	G3-V3	MR04-V17	MR04HV-V18		
Vehicle details Vehicle type (please circle) LV HGV MC PSV Make/Model Registration number Chassis/VIN number				Remove drive line assembly (estimated time 4 hours)						
Details of work activity: <i>Adjust to suit vehicle types</i>		<ul style="list-style-type: none"> Remove a drive shaft, prop shaft or in the case of a motorcycle, a drive chain and sprocket assembly. Check the components for wear, run out and refit in accordance with manufacturer settings and tolerances. Check lubrication and sealing devices. 								
Special tools/equipment used: Hand tools Torque wrench DTI/Micrometer		Technical information: Oil/grease type Run out information Adjustment data Chain play data (motorcycle).....			Examination and testing methods used (include readings as appropriate): Run out of drive/prop shaft..... Condition of CVand UJ couplings..... Chain/sprocket (Motorcycle).....					
Specific evidence of health and safety, good housekeeping and working with others:										
1	Work with others when lifting vehicle components	4	Sweep up	7	Wear and use correct PPE.					
2	Dispose of all waste correctly and safely	5	Care when lifting							
3	Tools tidy, cleaned, checked and put away	6	Identify workshop policies							
Work found that requires further attention and any action taken:										
Assessor knowledge check – outline of question(s) used and response:										
Assessor feedback on evidence provided:										
I confirm that the work carried out on this evidence record meets City & Guilds requirements for validity, authenticity, currency and sufficiency. All the necessary scope , performance and knowledge for this task have been met.										
Assessor name:		Signature:		Date:/...../.....		Candidate signature:		Date:/...../.....		

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6.16 PRN 13 Pre-work

Date work carried out/...../.....		Indicate unit(s) covered on this evidence record:		G1-V1	G2-V2	G3-V3	MR05-V19			
Vehicle details Vehicle type (please circle) LV HGV MC PSV Make/Model Registration number Chassis/VIN number				Pre-work (estimated time 1.5 hours)						
Details of work activity: Adjust to suit vehicle types		<ul style="list-style-type: none"> • Check the vehicle and vehicle systems prior to work commencing. • Ensure that the vehicle systems operate and that interior and external damage has been recorded. 								
Exterior report			Interior report			Lights	Wipers	Horn		
						Keys correct	Instruments	Seat belts		
						Customer belongings	Driver controls	Under bonnet		
Specific evidence of health and safety, good housekeeping and working with others:										
1	Work with others to check lighting	4	Conforms to specification	7	Wear and use correct PPE.					
2	Dispose of all waste correctly and safely	5	Vehicle protection							
3	Tools tidy, cleaned, checked and put away	6	Identify workshop policies							
Work found that requires further attention and any action taken:										
Assessor knowledge check – outline of question(s) used and response:										
Assessor feedback on evidence provided:										
I confirm that the work carried out on this evidence record meets City & Guilds requirements for validity, authenticity, currency and sufficiency. All the necessary scope , performance and knowledge for this task have been met.										
Assessor name:			Signature:			Date:/...../...		Candidate signature:		Date:/...../.....

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6.17 PRN 14 Post-work

Date work carried out/...../.....		Indicate unit(s) covered on this evidence record:		G1-V1	G2-V2	G3-V3	MR05-V19			
Vehicle details Vehicle type (please circle) LV HGV MC PSV Make/Model Registration number Chassis/VIN number				Post-work (estimated time 1.5 hours)						
Details of work activity: Adjust to suit vehicle types		<ul style="list-style-type: none"> • Check the vehicle and vehicle systems post work. • Ensure that the vehicle systems operate and that interior and external damage has been recorded. 								
Exterior report			Interior report			Lights	Wipers	Horn		
.....					Keys correct	Instruments	Seat belts		
.....					Customer belongings	Driver controls	Under bonnet		
Specific evidence of health and safety, good housekeeping and working with others:										
1	Work with others to check lighting			4	Conforms to specification			7	Wear and use correct PPE.	
2	Dispose of all waste correctly and safely			5	Vehicle protection					
3	Tools tidy, cleaned, checked and put away			6	Identify workshop policies					
Work found that requires further attention and any action taken:										
Assessor knowledge check – outline of question(s) used and response:										
Assessor feedback on evidence provided:										
I confirm that the work carried out on this evidence record meets City & Guilds requirements for validity, authenticity, currency and sufficiency. All the necessary scope , performance and knowledge for this task have been met.										
Assessor name:.....			Signature:			Date:/...../.....		Candidate signature:..... Date:...../...../.....		

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