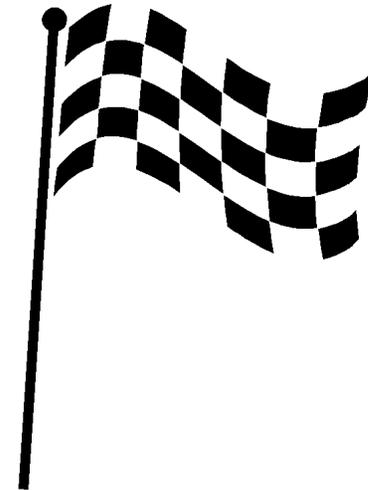


Level 3 Diploma in Vehicle Maintenance and Repair (4290 series) VRQ

Candidate Name



Practical Skills Assessments: Light Vehicle level 3

Page Number	Practical activity	Units worked upon	Feedback comments	Assessor	Date
1	Engine mechanical	LV07S, G1/2, G3			
2	Engine management (a)	LV02S, G1/2, G3			
3	Engine management (b)	LV07S, G1/2, G3			
4	Engine ignition (c)	LV07S, G1/2, G3			
5	Chassis : brake	LV08S, G1/2, G3			
6	Chassis: suspension	LV08S, G1/2, G3			
7	Chassis: steering	LV08S, G1/2, G3			
8	Transmission: gearbox	LV013, LV11.2S, G1/2, G3			
9	Transmission: final drive	LV013, LV11.2S, G1/2, G3			
10	Electrical: wiper motor (a)	AE06S, G1/2, G3			
11	Electrical: Start/charge (b)	AE06S, G1/2, G3			
12	Electrical: Lighting (c)	AE06S, G1/2, G3			
13	Inspect vehicles	LV06S, G1/2S, G3			
14	Unit G4 Examples given below	G1/2S, G3, G4S			
15	G4 Supporting information if applicable				
16	G4 Supporting information if applicable				
17	G4 Supporting information if applicable				

Internal verifier name: _____ Signature: _____ Date ____/____/____

External verifier name: _____ Signature: _____ Date ____/____/____

Verifier comments

Light Vehicle Skills Unit Practical Assessment Task Sheets

Purpose:

These assessment task work sheets are designed to support the light vehicle skills units. Candidates who are working towards individual skills units or following a complete qualification with rules of combination should find these units the most obvious choice.

Using them is not mandatory, some centres and candidates may prefer to use similar task activities and work sheets which also meet the same performance criteria needed to meet the skills units.

Using the work book:

By using these skills assessment task sheets, the necessary 'G' unit competence elements are integrated into the main units. An example of this is: all units incorporate health and safety, working with others, safe and proper use of tools and equipment, correct disposal of waste and environmental awareness.

The documents concentrate on the key task criteria of: gathering data and information, identifying and using the correct tools and equipment, carrying out the work and recording essential test readings. Paper documentation is kept to a minimum which allows the candidates to concentrate more on quality practical learning and assessment time. (simplicity with quality)

Training for Assessments:

There is a practical training work book which supports this practical assessment skills workbook. It is not mandatory however it contains a comprehensive skills training leading to the assessment tasks.

Completing the work sheets:

1. Candidates need to agree the assessments with their assessors before starting.
2. Write in the vehicle details, tools and equipment needed, gather and write in the vehicle data and make sure the work area is safe and risks identified
3. Carry out the assessment and complete the examination and test readings as necessary.
4. Evidence of health and safety, good housekeeping and working with others box will need to be initialled by the assessor to make sure the candidate has adhered to all good working practices.
5. Both the assessor and candidate will need to sign and date successfully completed work.

Skills:

within each unit evidence can be seen for number skills, communication, ICT, problem solving, working with others and improving own learning, including personal learning and thinking skills (PLTS).

Candidates will always be gathering data, taking numerical test readings, using computers to fault find and access vehicle data, solving vehicle faults which improves their own learning.

Unit G4:

It is expected that this unit has been completed at level 2; however for candidates who have come straight on to level 3, they will need to demonstrate the practical hand skills needed to complete this unit.. Supportive drawings are provided, however they are not mandatory. Centres may use their own provided they met the G4 criteria.



Training Provider

Candidate name

Start date with training provider

Enrolment date with City and Guilds

Expected completion date

City and Guilds Enrolment Number

Work place or placement



Additional knowledge and skills questions asked during assessment

- 1 What safety aspect was involved with this task/job - Did you identify any risks – Have you been trained / briefed on this aspect?
- 2 Did you have to dispose of any used/spent materials – if so, how, and what legislation if any, did it involve?
- 3 What equipment did you/are you going to check prior to use, if so what did you look for and what, if anything, did you find?
- 4 Did you require any data or information for this task, if so; where/how did you source it?
- 5 Did you carry out your own diagnosis, if so how did you do it and what (if any) equipment did you use and did you calibrate it prior to using it?
- 6 What ancillary components did you need to remove/replace to undertake the diagnosis/repair/replacement?
- 7 What measurements were required for diagnostic checking and for setting or adjustments on completion and what measuring equipment did you use?
- 8 Can you explain the relevant background technology of the task?
- 9 Did you involve or work with any colleagues on this task, other than assistance with lifting etc If so, what did they do to assist you. What part(s) of the task did you undertake alone or unaided?
- 10 Did you use any special, or manufacturers tools or equipment to complete the task, if so what?
- 11 Did you complete the task in a negotiated time, if so; who did you negotiate the time with?
- 12 How was the completed task/job checked to ensure that it could be returned to the customer / owner?

These numbers are to be included on the work sheets as extra supporting knowledge as asked by the assessor

Light Vehicle Maintenance Skills

unit/s covered on this evidence record

G1/2	G3	LV07 skills
------	----	-------------

Date / /

Vehicle

Make/Model _____
 Registration number _____
 Chassis/VIN number _____

Diagnose Mechanical Engine Faults

Engine cylinder leakage testing

Candidate name _____

Details of work activity

To complete this activity you will need cylinder leakage test equipment list for the type of vehicle being worked upon. You need to complete the technical information required first, make sure your work area is safe and conduct a cylinder leakage test. Check valves and piston for wear, check cylinder head for distortion, demonstrate correct assembly and valve timing of a cylinder head.



Special tools/equipment used.

Hand tools _____
 Leakage tester _____
 Torque wrench _____
 Straight edge _____
 Hand tools _____

Technical information

Engine type (SI/CI) _____
 Oil quantity _____
 Cylinder head nut torque _____
 Additional tightening angles _____
 Cam belt mileage change _____
 Head distortion allowance _____
 Piston ring clearance _____

Examination and testing methods used – include readings as appropriate.

Leakage% test results 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____
 Cylinder head distortion: _____ mm
 Cylinder head assembled and valves timed _____
 Piston ring gap clearance in cylinder bore _____ mm

Evidence of health and safety, good housekeeping and working with others. (Assessor to initial this area if the learner meets the requirements)

- | | | | |
|--|--|--|------------------------|
| 1. Work with others when reporting finding | 2. Dispose of all waste correctly and safely | 3. Tools tidy, cleaned, checked and put away | 4. Sweep up |
| 5. Clear up spillages | 6. Identify workshop policies | 7. Wear and use correct PPE | |
| 8. Evidence of recycling and correct disposal of waste (ESDGC) | | | Assessor Initial _____ |

Work found that requires further attention and any action taken.

Assessor knowledge questions

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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.

Assessor signature Name _____ Signature _____ Date : / / Candidate signature: _____ .Date / /



Light Vehicle Engine Skills (SI or CI)

unit/s covered on this evidence record

G1/2	G3	LV07 skills
------	----	-------------

Date ___/___/___

Vehicle

Make/Model: _____
 Registration number: _____
 Chassis/VIN number: _____

Diagnose faults with engine management
 Fault code identification and sensor/actuation control

Candidate name

Details of work activity

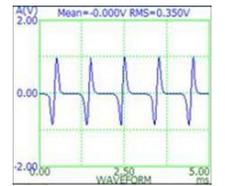
To complete this you will need diagnostic test equipment and oscilloscope/graph recording equipment to monitor:

Sensor/Actuator Voltage/Current and Time.

You need to complete the technical information required first, make sure your work area is safe before working on running engines.

Record fault codes: sensor and actuator operation and show graphs or print-outs of your tests. Compare against recommended data

Attach any sensor/actuator oscilloscope/graph recording print outs or drawings to this work sheet



Special tools/equipment

Hand tools : _____
 Fault code reader: _____
 Diagnostic oscilloscope _____
 Diagnostic graph equipment _____
 State make of type used _____

Technical information

Engine thermistor fault code : _____
 Air flow meter fault code: _____
 Crank angle sensor fault coder: _____
 Battery Voltage: _____

Examination and testing methods used - include readings

Fault codes identified _____
 Voltages for crank angle sensor _____
 Voltage range of throttle potentiometer _____
 Vehicle ignition timing recorded from ECU at 2000RPM _____
 Vehicle (Petrol/Diesel) fuel line pump pressure _____

Evidence of health and safety, good housekeeping and working with others. (Assessor to initial this area if the learner meets the requirements)

- | | | | |
|--|--|--|-------------|
| 1. Work with others when lifting cylinder head | 2. Dispose of all waste correctly and safely | 3. Tools tidy, cleaned, checked and put away | 4. sweep up |
| 5. Clear up spillages | 6. Identify workshop policies | 7. Wear and use correct PPE | |
8. evidence of recycling and correct disposal of waste (ESDGC) Assessor Initial _____

Work found that requires further attention and any action taken.

Assessor knowledge questions

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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.

Assessor signature Name _____ Signature _____ Date : ___/___/___ Candidate signature: _____ .Date ___/___/___

Light Vehicle Engine Skills

unit/s covered on this evidence record

G1/2	G3	LV07 skills
------	----	-------------

Date / /

Vehicle

Make/Model _____
 Registration number _____
 Chassis/VIN number _____

Exhaust emissions and control (SI engine)

Check emission control and Lambda sensor(02)

Candidate name

Details of work activity: remove and fit a Lambda sensor (02)

To complete this you will need diagnostic test equipment and oscilloscope/graph recording equipment to monitor:

Sensor/Actuator Voltage/Current and Time.

You need to complete the technical information required first, make sure your work area is safe before working on running engines.

Record fault codes: sensor and actuator operation and show graphs or print-outs of your tests. Compare against recommended data

Record exhaust emissions at engine normal running temperature



Special tools/equipment used.

Hand tools : _____
 Fault code reader: _____
 Diagnostic oscilloscope _____
 Diagnostic graph equipment _____
 State make of type used _____

Technical information

Expected CO _____
 Lambda sensor operating voltage range _____
 Normal operating temperature of sensor _____
 Number of wires on sensor _____

Examination and testing methods used - include readings as appropriate.

Recorded CO _____
 Lambda voltages _____
 Is the sensor operating correctly: _____
 Fuel injector duration at idle: _____

Evidence of health and safety, good housekeeping and working with others. (Assessor to initial this area if the learner meets the requirements)

- | | | | |
|--|--|--|-------------|
| 1. Work with others when reporting finding | 2. Dispose of all waste correctly and safely | 3. Tools tidy, cleaned, checked and put away | 4. sweep up |
| 5. Clear up spillages | 6. Identify workshop policies | 7. Wear and use correct PPE | |
| 8. Evidence of recycling and correct disposal of waste (ESDGC) | | Assessor Initial _____ | |

Work found that requires further attention and any action taken.

Assessor knowledge questions

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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.

Assessor signature Name _____ Signature _____ Date : / / Candidate signature: _____ .Date / /

Light Vehicle Engine Skills

unit/s covered on this evidence record

G1/2	G3	LV08Skills
------	----	------------

Date ___/___/___

Vehicle

Make/Model _____
 Registration number _____
 Chassis/VIN number _____

Ignition coil (coil per plug or DIS)

Candidate name

Details of work activity

Take care with: ignition coil connections, securing bolts and spark plugs.
 Aluminium alloy cylinder heads can be easily damaged by over tightening and cross threads
 Use engine diagnostic equipment to identify engine coil, spark plug, HT lead operation faults
 Refit spark plug and coil and check that the engine runs smoothly without misfire and fault codes



Special tools/equipment used.

Hand tools _____
 Feeler blade. _____
 Special tools as necessary _____

Technical information

Battery voltage _____
 Spark plug gap _____
 Number of cylinders _____
 Fault code for faulty coil _____

Examination and testing methods used - include readings as appropriate.

Plug gap set to _____
 Firing voltages and ignition timing at idle and 3000RPM _____/_____
 Fault codes cleared if necessary _____

Evidence of health and safety, good housekeeping and working with others. (Assessor to initial this area if the learner meets the requirements)

- | | | | |
|--|--|--|------------------------|
| 1. Work with others when reporting finding | 2. Dispose of all waste correctly and safely | 3. Tools tidy, cleaned, checked and put away | 4. sweep up |
| 5. Clear up spillages | 6. Identify workshop policies | 7. Wear and use correct PPE | |
| 8. Evidence of recycling and correct disposal of waste (ESDGC) | | | Assessor Initial _____ |

Work found that requires further attention and any action taken.

Assessor knowledge questions

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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.

Assessor signature Name _____ Signature _____ Date : ___/___/___ Candidate signature: _____ .Date ___/___/___

Light Vehicle Chassis Skills

unit/s covered on this evidence record

G1/2	G3	LV08Skills
------	----	------------

Date ___/___/___

Vehicle

Make/Model _____
 Registration number _____
 Chassis/VIN number _____

Identify faults in braking systems

ABS braking diagnostics

Candidate name

Details of work activity

Take care: safe lifting/risk assess work and collect accurate data for antilock braking system
 Check condition of brake pads, discs, ABS sensors and operation, use diagnostic equipment
 Demonstrate you can use suitable equipment to identify voltages and resistance from sensors using multi-meters and or oscilloscope



Special tools/equipment used.

Hand tools _____
 Volt-meter _____
 Amps clamp if applicable _____
 Oscilloscope _____
 Fault code/computer _____

Technical information

Battery voltage _____
 ABS sensor resistance _____
 Sensor output voltage _____
 Position of ABS reluctor ring _____

Examination and testing methods used - include readings as appropriate.

Sensor output voltage _____
 ABS sensor recorded resistance _____
 Recorded fault codes _____
 Condition of brake pads/discs _____

Evidence of health and safety, good housekeeping and working with others. (Assessor to initial this area if the learner meets the requirements)

- | | | | |
|--|--|--|------------------------|
| 1. Work with others when reporting finding | 2. Dispose of all waste correctly and safely | 3. Tools tidy, cleaned, checked and put away | 4. sweep up |
| 5. Clear up spillages | 6. Identify workshop policies | 7. Wear and use correct PPE | |
| 8. Evidence of recycling and correct disposal of waste (ESDGC) | | | Assessor Initial _____ |

Work found that requires further attention and any action taken.

Assessor knowledge questions

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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.

Assessor signature Name _____ Signature _____ Date : ___/___/___ Candidate signature: _____ .Date ___/___/___



Light Vehicle Chassis Skills

unit/s covered on this evidence record

G1/2	G3	LV08Skills
------	----	------------

Date / /

Vehicle

Make/Model _____
 Registration number _____
 Chassis/VIN number _____

Identify faults in suspensions systems

Carry out four wheel diagnostic alignment

Candidate name _____

Details of work activity

Take care: lift vehicle safely, risk assess work and collect correct vehicle data for suspension and steering alignment.
 Record all your readings and correct in line with manufactures settings
 Print off and attach with this worksheet if possible



Special tools/equipment used.

Hand tools _____
 Alignment equipment _____
 Vehicle weights as appropriate.

Technical information

Vehicle front toe _____
 Front camber _____
 Front castor _____
 SPI/KPI _____
 Rear toe/camber _____ / _____

Examination and testing including settings as appropriate.

Front toe set to. _____
 Camber Front N/S . _____ Camber Front O/S. _____
 Caster Front N/S . _____ Caster Front O/S. _____
 Thrust angle _____
 Camber rear N/S . _____ Camber rear O/S. _____
 Rear toe. _____

Evidence of health and safety, good housekeeping and working with others. (Assessor to initial this area if the learner meets the requirements)

- | | | | |
|--|--|--|------------------------|
| 1. Work with others when reporting finding | 2. Dispose of all waste correctly and safely | 3. Tools tidy, cleaned, checked and put away | 4. sweep up |
| 5. Clear up spillages | 6. Identify workshop policies | 7. Wear and use correct PPE | |
| 8. Evidence of recycling and correct disposal of waste (ESDGC) | | | Assessor Initial _____ |

Work found that requires further attention and any action taken.

Assessor knowledge questions

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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.

Assessor signature Name _____ Signature _____ Date : / / Candidate signature: _____ .Date / / 6

Date / /

Vehicle

Make/Model _____
 Registration number _____
 Chassis/VIN number _____

G1/2	G3	LV08Skills
------	----	------------

Identify faults in Steering systems.
 Remove steering rack

Candidate name

Details of work activity

Take care: lift vehicle safely, risk assess work and collect correct vehicle data for steering rack and alignment and centralising.
 Remove and fit a steering rack. Align and record all your readings and correct in line with manufactures settings
 Print off and attach with this worksheet if possible



Special tools/equipment used.

Hand tools _____
 Alignment equipment _____
 Turn tables _____

Technical information

Wheel nut torque _____
 Track rod end torque _____
 Front toe setting _____
 Toe –out-on-turns _____/_____

Examination and testing methods used - include readings as appropriate.

Alignment set to _____
 Number of turns per track rod _____/_____
 Tyre wear observation _____
 Steering wheel aligned correctly. _____

Evidence of health and safety, good housekeeping and working with others. (Assessor to initial this area if the learner meets the requirements)

- | | | | |
|--|--|--|------------------------|
| 1. Work with others when reporting finding | 2. Dispose of all waste correctly and safely | 3. Tools tidy, cleaned, checked and put away | 4. sweep up |
| 5. Clear up spillages | 6. Identify workshop policies | 7. Wear and use correct PPE | |
| 8. Evidence of recycling and correct disposal of waste (ESDGC) | | | Assessor Initial _____ |

Work found that requires further attention and any action taken.

Assessor knowledge questions

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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.

Assessor signature Name _____ Signature _____ Date : / / Candidate signature: _____ .Date / / 7

Light Vehicle Transmission Skills

unit/s covered on this evidence record

G1/2	G3	LV13 Skills LV 11.2 Skills
------	----	-------------------------------

Date / /

Vehicle

Make/Model _____
 Registration number _____
 Chassis/VIN number _____

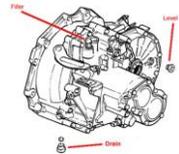
Identify faults in transmission and drive-line

Gearbox dismantle and assembly

Candidate name

Details of work activity

Take care: collect : lift vehicle safely, risk assess work and collect correct vehicle data for clutch and gearbox
 Dismantle a gearbox; identify gears, selectors and bearings. State faults found and assemble correctly
 All fittings must be assembled and tightened correctly, gearbox must be able to select gears



Special tools/equipment used.

Hand tools _____
 Bearing puller _____
 Gear puller _____

Technical information

Gearbox casing bolt torque _____
 Number of forward gears. _____
 FWD or RWD _____
 Does it include a final drive. _____

Examination and testing methods used - include readings as appropriate.

Condition of gears _____
 Condition of bearings _____
 Condition of selectors _____
 Faults found _____

Evidence of health and safety, good housekeeping and working with others. (Assessor to initial this area if the learner meets the requirements)

- | | | | |
|--|--|--|------------------------|
| 1. Work with others when reporting finding | 2. Dispose of all waste correctly and safely | 3. Tools tidy, cleaned, checked and put away | 4. sweep up |
| 5. Clear up spillages | 6. Identify workshop policies | 7. Wear and use correct PPE | |
| 8. Evidence of recycling and correct disposal of waste (ESDGC) | | | Assessor Initial _____ |

Work found that requires further attention and any action taken.

Assessor knowledge questions

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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.

Assessor signature Name _____ Signature _____ Date : / / Candidate signature: _____ Date / / 8

Light Vehicle Transmission Skills

unit/s covered on this evidence record

G1/2	G3	LV13 Skills LV 11.2 Skills
------	----	-------------------------------

Date ___/___/___

Vehicle

Make/Model _____
 Registration number _____
 Chassis/VIN number _____

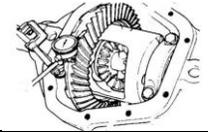
Identify faults in transmission and drive-line

Final Drive dismantle and assembly

Candidate name

Details of work activity

Take care: work safely, risk assess work and collect correct vehicle data for final drive
 Dismantle a final drive; identify gears, and bearings. State faults found and assemble correctly
 All fittings must be assembled and tightened correctly and settings correct (use engineers blue for mesh testing)



Special tools/equipment used.

Hand tools _____
 Dial test indicator _____
 Torque wrench _____

Technical information

Pinion bearing torque _____
 Backlash pinion to crown wheel _____
 Crown wheel bearing loading _____
 (cap-spread)

Examination and testing methods used - include readings as appropriate.

Pinion bearing torque set to _____
 Backlash pinion to crown wheel setting _____
 Crown wheel bearing loading _____
 (cap-spread)
 Draw a sketch of the pinion/crown-wheel mesh (engineers blue)

Evidence of health and safety, good housekeeping and working with others. (Assessor to initial this area if the learner meets the requirements)

- | | | | |
|--|--|--|------------------------|
| 1. Work with others when reporting finding | 2. Dispose of all waste correctly and safely | 3. Tools tidy, cleaned, checked and put away | 4. sweep up |
| 5. Clear up spillages | 6. Identify workshop policies | 7. Wear and use correct PPE | |
| 8. Evidence of recycling and correct disposal of waste (ESDGC) | | | Assessor Initial _____ |

Work found that requires further attention and any action taken.

Assessor knowledge questions

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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.

Assessor signature Name _____ Signature _____ Date : ___/___/___ Candidate signature: _____ Date ___/___/___ 9

Light Vehicle Electrical Skills

unit/s covered on this evidence record

G1/2	G3	AE06 Skills
------	----	-------------

Date ___/___/___

Vehicle

Make/Model _____
 Registration number _____
 Chassis/VIN number _____

Identify faults in rear wash wipe system

Candidate name:

Details of work activity

Take care: work safely, risk assess work and collect correct vehicle data for wash wipe system
 Remove rear hatch panel/door card and remove wiper motor, check voltages for wipe intermittent and park operation
 Refit motor and fit rear panel door card. Check final operation.



Special tools/equipment used.

Hand tools _____
 voltmeter _____

Technical information

Battery voltage: _____
 Voltage at motor park terminal: _____
 Voltage at motor in operation: _____
 Position of motor earth terminal: _____

Examination and testing methods used - include readings as appropriate.

Battery voltage: _____
 Voltage at motor park terminal: _____
 Voltage at motor in operation: _____
 Earth terminal checked for good continuity: _____

Evidence of health and safety, good housekeeping and working with others. (Assessor to initial this area if the learner meets the requirements)

- | | | | |
|--|--|--|------------------------|
| 1. Work with others when reporting finding | 2. Dispose of all waste correctly and safely | 3. Tools tidy, cleaned, checked and put away | 4. sweep up |
| 5. Clear up spillages | 6. Identify workshop policies | 7. Wear and use correct PPE | |
| 8. Evidence of recycling and correct disposal of waste (ESDGC) | | | Assessor Initial _____ |

Work found that requires further attention and any action taken.

Assessor knowledge questions

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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.

Assessor signature Name _____ Signature _____ Date : ___/___/___ Candidate signature: _____ Date ___/___/___ 10

Light Vehicle Engine Skills

unit/s covered on this evidence record

G1/2	G3	AE06 Skills
------	----	-------------

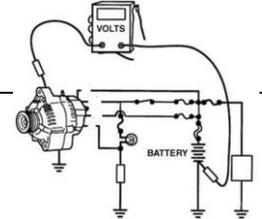
Date ___/___/___

Vehicle

Make/Model _____
 Registration number _____
 Chassis/VIN number _____

Identify faults in starter and charging systems

Starter motor and alternator circuit testing



Candidate name

Details of work activity

Take care: work safely, risk assess work and collect correct vehicle data for starter and alternator circuit testing
 This exercise is about using ammeters and voltmeters correctly to check for current consumed, volt-drop, battery and circuit condition.
 It is recommended that a **clamp inductive type ammeter** is used for this exercise and a digital voltmeter.

Special tools/equipment used.

Voltmeter/digital _____
 Ammeter (inductive) _____

Technical information

Battery voltage fully charged: _____
 Alternator regulated voltage: _____
 Alternator maximum output current: _____
Volt drop on insulated and earth return
 Alternator: _____ / _____
 Starter motor: _____ / _____

Examination and testing methods used - include readings

Battery voltage off load _____
 Alternator maximum regulated voltage: _____
 Alternator output current, on load: _____
 Battery voltage starter motor cranking (on load) _____
 Starter motor current cranking: _____
 Volt drop alternator circuit: _____ / _____
 Volt drop starter circuit: _____ / _____

Evidence of health and safety, good housekeeping and working with others. (Assessor to initial this area if the learner meets the requirements)

- | | | | |
|--|--|--|------------------------|
| 1. Work with others when reporting finding | 2. Dispose of all waste correctly and safely | 3. Tools tidy, cleaned, checked and put away | 4. Sweep up |
| 5. Clear up spillages | 6. Identify workshop policies | 7. Wear and use correct PPE | |
| 8. Evidence of recycling and correct disposal of waste (ESDGC) | | | Assessor Initial _____ |

Work found that requires further attention and any action taken.

Assessor knowledge questions

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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.

Assessor signature Name _____ Signature _____ Date : ___/___/___ Candidate signature: _____ Date ___/___/___ 11



Light Vehicle Electrical Skills

unit/s covered on this evidence record

G1/2	G3	AE06 Skills
------	----	-------------

Date / /

Vehicle

Make/Model _____
 Registration number _____
 Chassis/VIN number _____

Identify faults in lighting systems

Headlight and alignment

Candidate name



Details of work activity

Take care: work safely, risk assess work and collect correct vehicle data for headlights and circuit testing
 This exercise is about using voltmeters to check headlight supply voltage and earth connections
 Headlamp alignment equipment to set to recommended settings

Special tools/equipment used.

Voltmeter/digital _____
 Hand tools _____
 Headlight aligner: _____

Technical information

Battery voltage : _____
 Headlamp wattage (main/dip beam) _____/_____
 %of dip: _____
 Type of bulb/unit fitted: _____

Examination and testing methods used - include readings

Voltage at main beam/dip: _____/_____
 Alignment set to: _____
 Volt drop on earth connection: _____

Evidence of health and safety, good housekeeping and working with others. (Assessor to initial this area if the learner meets the requirements)

- | | | | |
|--|--|--|-------------|
| 1. Work with others when reporting finding | 2. Dispose of all waste correctly and safely | 3. Tools tidy, cleaned, checked and put away | 4. sweep up |
| 5. Clear up spillages | 6. Identify workshop policies | 7. Wear and use correct PPE | |
| 8. Evidence of recycling and correct disposal of waste (ESDGC) | | Assessor Initial _____ | |

Work found that requires further attention and any action taken.

Assessor knowledge questions

--	--	--	--	--	--	--	--	--	--

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.

Assessor signature Name _____ Signature _____ Date : / / Candidate signature: _____ .Date / / 12

Light Vehicle Inspection Skills

Click on the captions or read a full description of the MOT Test below:



unit/s covered on this evidence record

G1/2	G3	LV06S
------	----	-------

Date ___/___/___

Vehicle

Make/Model _____
 Registration number _____
 Chassis/VIN number _____

Carry Out Pre (VOSA) MOT test

Candidate name: _____

Details of work activity

Take care: work safely, risk assess work and collect correct vehicle data
 To complete this activity you will need a MOT/ VOSA check list for the type of vehicle being worked upon.
 Check all your work and report any other work to your supervisor

Special tools/equipment used.

Hand tools _____
 Vehicle lift: _____
 Brake test equipment (any type) _____
 Roller or Decelerometer: _____
 Headlamp alignment: _____
 Exhaust gas test equipment; _____

Technical information

Recommended CO%: _____
 Recommended HC: _____
 headlamp alignment: _____
 Tyre legal requirements: _____
 Corrosion legal requirements: _____

Examination and testing methods used - include readings as appropriate.

CO at exhaust _____
 HCC at exhaust _____
 Tyre depths: _____
 Foot brake performance: _____
 Hand brake performance: _____

Evidence of health and safety, good housekeeping and working with others. (Assessor to initial this area if the learner meets the requirements)

- | | | | |
|--|--|--|------------------------|
| 1. Work with others when reporting finding | 2. Dispose of all waste correctly and safely | 3. Tools tidy, cleaned, checked and put away | 4. sweep up |
| 5. Clear up spillages | 6. Identify workshop policies | 7. Wear and use correct PPE | |
| 8. Evidence of recycling and correct disposal of waste (ESDGC) | | | Assessor Initial _____ |

Work found that requires further attention and any action taken.

Assessor knowledge questions

--	--	--	--	--	--	--	--	--	--

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.

Assessor signature Name _____ Signature _____ Date : ___/___/___ Candidate signature: _____ Date ___/___/___ 13

Light Vehicle Skills

Use of Hand Tools and Equipment in Motor Vehicle Engineering

Candidate name: _____

units covered on this evidence record

Date __/__/__

Demonstrate the ability to File, cut, thread and drill materials

G1/2

G3

G4 skills

State the activities you demonstrated to complete this unit: This can be products made, photographic or integrated within other units

Details of work activity

To complete this exercise you must show that you can use engineering equipment correctly and safely.
 You will need to make an engineering tool which will demonstrate the skills of cutting, filing, drilling, threading, measuring and understanding drawings.
 You can make a tool and or demonstrate these skills when repairing vehicle components

Hack saw	Drills/bits	Taps/die	Files	Stock/wrench	Material types
----------	-------------	----------	-------	--------------	----------------

Evidence of health and safety, good housekeeping and working with others. (Assessor to initial this area if the learner meets the requirements)

- | | | | |
|--|--|--|------------------------|
| 1. Work with others when reporting finding | 2. Dispose of all waste correctly and safely | 3. Tools tidy, cleaned, checked and put away | 4. sweep up |
| 5. Clear up spillages | 6. Identify workshop policies | 7. Wear and use correct PPE | |
| 8. Evidence of recycling and correct disposal of waste (ESDGC) | | | Assessor Initial _____ |

State how you checked your work against specification, disposed of waste, recycled materials

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.

Assessor signature Name _____ Signature _____ Date : __/__/____ Candidate signature: _____ .Date __/__/____

Light Vehicle Skills

Use of Hand Tools and Equipment in Motor Vehicle Engineering

Candidate name: _____

unit/s covered on this evidence record

Date ___/___/___

Demonstrate the ability to File, cut, thread and drill materials

G1/2	G3	G4

Details of work activity

To complete this exercise you must show that you can use engineering equipment correctly and safely. You will need to make an engineering tool which will demonstrate the skills of cutting, filing, drilling, threading, measuring and understanding drawings. You can make a tool and or demonstrate these skills when repairing vehicle components. You must demonstrate that you have used all the tools listed below

- Hack saw Drills/bits Taps/dies Files / hammer / punch Stock/wrench Steel

Evidence of health and safety, good housekeeping and working with others. (Assessor to initial this area if the learner meets the requirements)

- | | | | |
|--|--|--|------------------------|
| 1. Work with others when reporting finding | 2. Dispose of all waste correctly and safely | 3. Tools tidy, cleaned, checked and put away | 4. sweep up |
| 5. Clear up spillages | 6. Identify workshop policies | 7. Wear and use correct PPE | |
| 8. Evidence of recycling and correct disposal of waste (ESDGC) | | | Assessor Initial _____ |

Examples



Examples shown include:

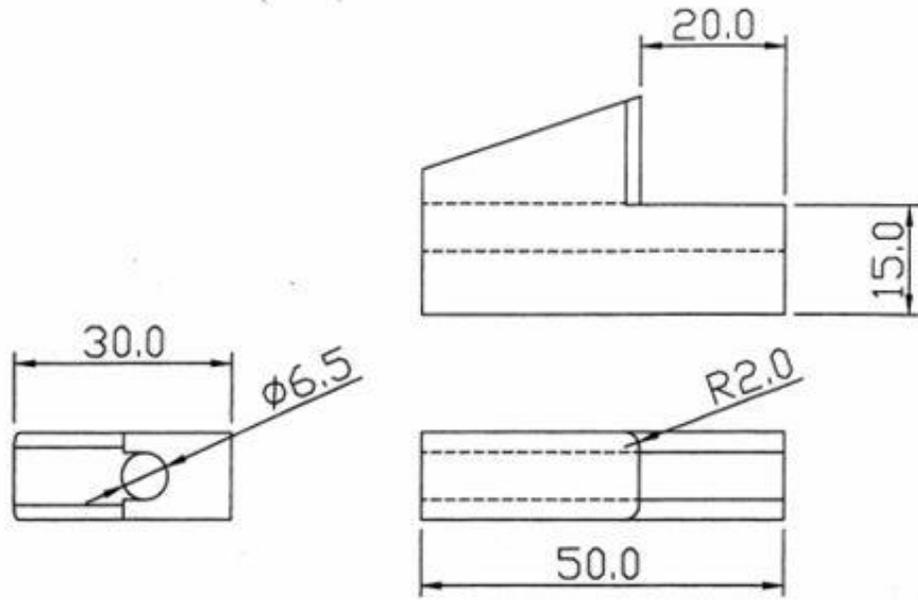
- 1 pad saw
- 2 brake pie clamp
- 3. block and stud
 - block and stud with easy-out hole to simulate snapped stud

Assessor feedback on evidence provided.

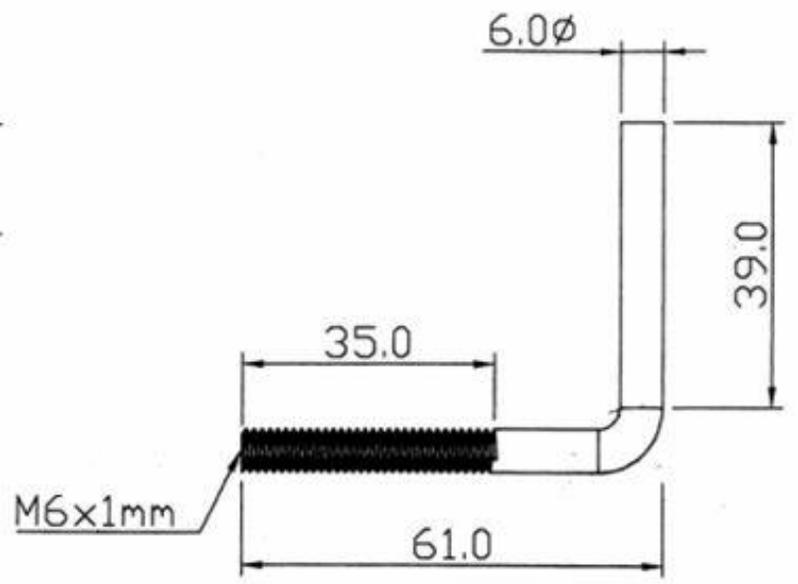
I confirm that the work carried out on this evidence record meets City & Guilds requirements for validity, authenticity, currency and sufficiency.

Assessor signature Name _____ Signature _____ Date : ___/___/___ Candidate signature: _____ .Date ___/___/___

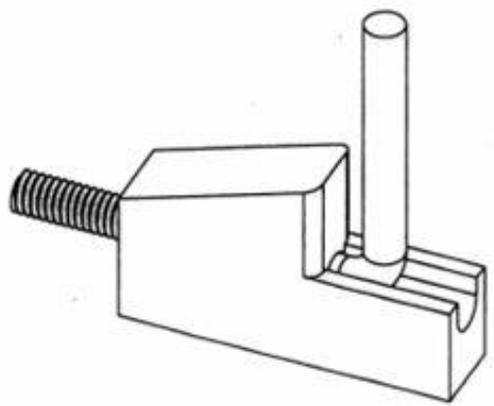
Do not Scale 



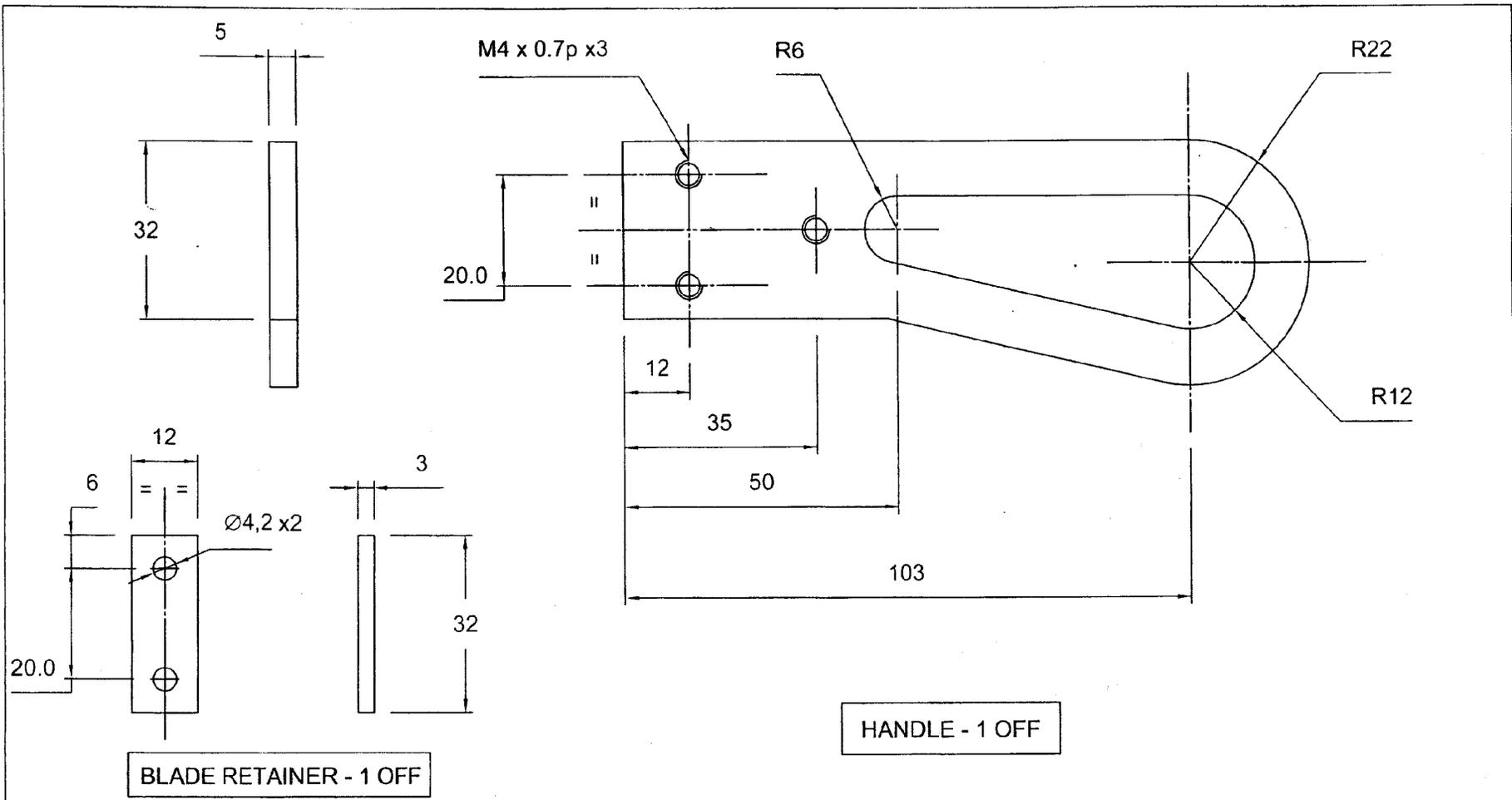
Detail 1 : Body



Detail 2 : Bar



			DIMENSIONS IN MM UNLESS OTHERWISE STATED Intoleranced Dimensions Fabrication ± 0.5 mm Machining ± 0.5 mm Angular ± 18 degree		MATERIAL FINISH 1.6 µm SCALE		DWG. SIZE NTS DRAWN BY DATE CHECKED BY	TITLE Brake Clamp DRAWING NUMBER REV A	
REV	DATE	BY	DESCRIPTION						



ISSUE	DETAIL	SIGN.	GEN. TOLERANCES +/- 0.5 DECIMAL DIMS 0.0 +/- 0.1 DECIMAL DIMS 0.00 +/- 0.025 UNLESS OTHERWISE STATED	SCALE 1:1	DATE 22/10/2007
2	REDRAWN 22/10/2007	A.C.C.		DIMENSIONS IN M/METRES	MATL. & FINISH B.D.M.S. POLISHED
			TITLE PAD SAW	DRAWN	DRAWING NUMBER
				SHEET	OF