



PRACTICAL WORKBOOK

LIGHT VEHICLE LEVEL 2 MAINTENANCE AND REPAIR SKILLS

VRQ- Technical Certificate
Scheme 4290-12

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

Light Vehicle Skills Unit Practical Assessment Task Sheets

Purpose:

These assessment task work sheets are designed to support the heavy 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 being undertaken. 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 in turn improves their own learning.

Unit G4:

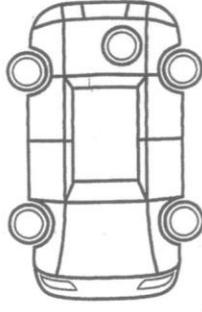
Unit G4 can either be completed by either of the two work sheets, Centres who have in place activities to support this unit can use the blank work sheet them providing they meet all the criteria. The second G4 worksheet gives the opportunity to manufacture a workshop tool which encompasses the necessary skills and criteria to meet the unit in full.

PRN Number	Practical activity	Units worked upon	Comments	Assessor	Date
1.	Maintenance	LV01S, G1/2, G3, G4			
2.	Cylinder head	LV02S, G1/2, G3, G4			
3.	Coolant thermistor	LV02S, G1/2, G3, G4			
4.	Ignition coil/spark plug	LV02S, G1/2, G3, G4			
5.	Battery/alternator	LV03S, G1/2, G3, G4			
6.	Lamp cluster/bulbs	LV03S, G1/2, G3, G4			
7.	Steering track rods	LV04S, G1/2, G3, G4			
8.	Suspension strut	LV04S, G1/2, G3, G4			
9.	Brakes replacement	LV04S, G1/2, G3, G4			
10.	Drive/prop shaft	LV12S, G1/2, G3, G4			
11.	Gearbox/ clutch	LV12S, G1/2, G3, G4			
12.	Hand skills/tool making	G1/2S, G3, G4S			
13.	Pad saw drawing	Internal verifier _____ / signature _____ Date ____/____/____			
14.	Brake clamp drawing	External verifier _____ / signature _____ Date ____/____/____			



Additional 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?



Customer: Engine Size:
 Make/Model: # Mileage:
 Reg No: # Chassis No:

Pre Engine Checks

- 1. Check vehicle history.
- 2. Check timing belt replacement interval*miles.....yrs
- 3. Check for damage to bodywork, lamps and trims.
- 4. Fit protective covers.
- 5. Check condition and operation of all seat belts.
- 6. Check operation of interior and exterior lights.
- 7. Check operation of ABS and air bag warning lights.*
- 8. Check air conditioning operation including bad odour.*
- 9. Check windscreen washers and wipers.
- 10. Check horn.
- 11. Check operation of suspension dampers.
- 12. Lubricate all door hinges, locks, and bonnet catches.
- 13. Apply treatments to remove internal contamination.
- 14. Check fuel cap.

Under the Bonnet

- 15. Check cooling system including fan operation.
- 16. Check and record Anti-Freeze protection.°C
- 17. Check and record brake fluid condition.
- 18. Check all auxiliary drive belts (not timing belt).
- 19. Check engine breather system.
- 20. Check vacuum pipes.
- 21. Check power steering operation and fluid condition.
- 22. Check throttle body. Clean if required.
- 23. Check battery level and lubricate terminals.
- 24. Check and top up all under bonnet fluid levels.
- 25. Replace air filter.*
- 26. Replace spark plugs.*
- 27. Replace fuel filter.*
- 28. Replace pollen filter.*

Vehicle Raised

- 29. Change oil, filter and fit new sump plug washer.
- 30. Check fuel lines and brake pipes.
- 31. Check the condition and security of the exhaust.
- 32. Check and top up axle and transfer box oil levels.*
- 33. Check and top up gear box oil level.
- 34. Check all steering and suspension joints, mountings and gaiters.
- 35. Carry out tyre report.
- 36. Check all wheel bearings for excessive 'play' and noise (adjust if required).
- 37. Check CV gaiters and joints for wear or splits.
- 38. Check clutch cable/cylinder.*
- 39. Grease all greasing points.*
- 40. Check operation and condition of front brakes.
- 41. Check operation and condition of rear brakes. (including handbrake)
- 42. Carry out brake report.

Vehicle Lowered

- 43. Refill engine with specified grade oil.
- 44. Torque wheel nuts/studs.

To Finish

- 45. Road test vehicle and report any findings.
- 46. Re-check engine oil level.
- 47. Carry out emission report.*
- 48. Reset service interval indicator.*
- 49. Ensure all upholstery, gear lever, steering wheel, etc. are clean.
- 50. Stamp service book(s).

Tyre Report	O/SF	N/SF	O/SR	N/SR	O/SR	N/SR	Spare
Condition							
Tread mm							
Pressure (Set to)							
Tyre Size:				Torque		Nm	

Brake Report	O/SF	N/SF	O/SR	N/SR	Limit
Pads / Shoes					F mm R mm
Discs / Drums					F mm R mm

Brake Fluid Condition: OK Needs Replacing

Emissions	CO	HC	CO ₂	O ₂	λ	Km ⁻¹
Petrol / Diesel	%	ppm	%	%	%	

Comments:

.....

Technician: Signature: Date:/...../.....

Light Vehicle Maintenance Skills

unit/s covered on this evidence record

G1/2	G3	G4	LV01S
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Date ___/___/___

Vehicle

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

Carry Out Light Vehicle Maintenance



Candidate name _____

Details of work activity

To complete this activity you will need to complete the service checklist provided.
 You need to complete the technical information required first, make sure your work area is safe and conduct a vehicle service.
 Check all your work and report any other work to your supervisor

Special tools/equipment used.

Hand tools _____
 Multi-meter _____
 Antifreeze test equipment _____
 Oil drain _____
 Diagnostic code reader _____
 Air tools _____

Technical information

Battery voltage _____
 Oil quantity _____
 Sump nut torque _____
 Wheel nut torque _____
 Cam belt mileage change _____
 Fuel filter mileage change _____

Examination and testing methods used - include readings as appropriate.

CO at exhaust _____
 HCC at exhaust _____
 Type of oil used _____
 Brake pad thickness _____
 Fault codes identified _____

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. Risk assessment |
| 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	G4	LV02S
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Date / /

Vehicle

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

Remove and replace cylinder head

Estimated time 6 hours depending on vehicle



Candidate name

Details of work activity

Disconnect all cooling system, fuel pipes and ignition system connections as necessary. Disconnect exhaust connections.
 Set and lock engine if necessary to ignition points, 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, studs and threads
 Make suitable adjustments and correct all levels to manufactures limits

Special tools/equipment

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

Coolant pressure test: _____
 Oil leaks: _____
 Engine runs on all cylinders : _____
 Idle speed ok : _____

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. Risk assessment |
| 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	G4	LV02S
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Date ___/___/___

Vehicle

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

Remove, replace engine coolant thermistor

Candidate name

Details of work activity

Take care: collect data from auto data source, remove thermistor connections and take out thermistor from engine. Check resistance/temperature against data source. Fit the thermistor to the engine and make sure the temperature gauge functions.
 Check coolant antifreeze

Special tools/equipment used.

Hand tools _____
 Multi-meter _____
 Antifreeze test equipment _____
 Special tools as necessary _____

Technical information

Battery voltage _____
 Resistance cold 40°C _____
 Resistance cold 80 °C _____
 Resistance hot 100°C _____
 Frost protection _____

Examination and testing methods used - include readings as appropriate.

Resistance cold 40°C _____
 Resistance cold 80 °C _____
 Resistance hot 100°C _____
 Antifreeze frost protection _____
 Does the engine temperature coolant gauge work 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. Risk assessment |
| 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	LV02S
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Date __/__/__

Vehicle

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

Remove, replace Ignition coil (coil per plug)
Remove spark plug



Candidate name

Details of work activity

Take care: ignition coil connections, securing bolts and spark plugs. Aluminium alloy cylinder heads can be easily damaged by over tightening and cross threads
 Check spark plug gap and condition, compare against chart and running colours
 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 _____
 Engine runs on all cylinders _____
 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. Risk assessment |
| 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 Electrical Skills

unit/s covered on this evidence record

G1/2	G3	LV03S
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Date / /

Vehicle

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

Remove, replace engine alternator Battery checks



Candidate name _____

Details of work activity

Take care: collect data from auto data source, remove alternator connections and take of alternator from engine.
 Check the pulley and belt drive, refit alternator. Check regulated voltage and output current
 Check the battery voltage off load and check the battery voltage when cranking

Special tools/equipment used.

Hand tools _____
 Volt-meter _____
 Amps clamp _____
 Special tools as necessary _____

Technical information

Battery voltage _____
 Regulated voltage _____
 Maximum amps output _____
 Battery CCA _____

Examination and testing methods used - include readings as appropriate.

Battery voltage _____ / Battery Voltage cranking _____
 Regulated voltage _____
 Maximum amps output _____
 Condition of battery terminals _____

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

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|--|--|--|------------------------|
| 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. Risk assessment |
| 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 Electrical Skills

unit/s covered on this evidence record

G1/2	G3	LV03S
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Date ___/___/___

Vehicle

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

Remove, replace electrical auxiliary bulbs



Candidate name

Details of work activity

Take care: collect data from auto data source, remove lamp cluster connections and take of cluster from vehicle.
 Check operation of the bulbs working and record your findings
 Change a bulb from a vehicle

Special tools/equipment used.

Hand tools _____
 Volt-meter _____
 Special tools as necessary _____

Technical information

Battery voltage _____
 Side lamp wattage _____
 Indicator wattage _____
 Reverse light wattage _____
 Recommended indicator flash rate _____

Examination and testing methods used - include readings as appropriate.

Voltage at bulb connector _____
 All bulbs work in cluster _____
 Indicator flash rate _____

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. Risk assessment |
| 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.

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

Light Vehicle Chassis Skills

unit/s covered on this evidence record

G1/2	G3	LV04S
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Date / /

Vehicle

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

Remove, replace steering track rod end



Candidate name _____

Details of work activity

Take care: collect data from auto data source, remove track rod end/s from vehicle. Fit track rod end/s, making sure that equal turns on each side. Check alignment and toe-out-on-turns. Adjust to manufactures specification. Tyre pressures and vehicle loading will need to be observed

Special tools/equipment used.

Hand tools _____
 Tyre pressure gauge _____
 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 _____

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. Risk assessment |
| 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 Chassis Skills

unit/s covered on this evidence record

G1/2	G3	LV04S
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Date / /

Vehicle

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

Remove, replace suspension strut



Candidate name _____

Details of work activity

Take care: collect data from auto data source, remove suspension strut from vehicle. Fit suspension strut to vehicle, making sure that all fixtures are torque. Check front wheel camber and compare to manufactures specification. Strip down a suspension strut and check the condition and operation of the spring and damper unit; report its condition

Special tools/equipment used.

Hand tools _____
 Tyre pressure gauge _____
 Alignment equipment _____
 Spring compressors _____

Technical information

Wheel nut torque _____
 Strut fixing torque _____
 Camber setting _____
 Damper expected movement _____

Examination and testing methods used - include readings as appropriate.

Camber readings _____/_____
 Damper condition _____/_____
 Coil spring condition _____

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. Risk assessment |
| 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	LV04S
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Date ___/___/___

Vehicle

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

Remove, replace brake pads and disc



Candidate name _____

Details of work activity

Take care: collect data from auto data source, remove brake pads and disc from vehicle. Fit brake pads and disc to vehicle
 Check operation of brake pedal and servo operation and compare to manufactures specification.
 Demonstrate the operation of removing air from the hydraulic brake system

Special tools/equipment used.

Hand tools _____
 Dial test indicator _____
 Bleed equipment _____
 Torque wrench _____

Technical information

Wheel nut torque _____
 Minimum pad wear limit _____
 Maximum disc run-out _____
 Type of brake fluid _____

Examination and testing methods used - include readings as appropriate.

Brake disc run-out reading _____
 Brake pad wear _____
 Condition of brake pedal rubber _____
 Brake pedal movement and servo check _____

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. Risk assessment |
| 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 Transmission Skills

unit/s covered on this evidence record

G1/2	G3	LV12S
------	----	-------

Date / /

Vehicle

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

Remove, replace vehicle transmission drive/prop shaft



Candidate name _____

Details of work activity

Take care: collect data from auto data source, remove transmission drive shaft or prop shaft from vehicle.
 Check condition of the universal/constant velocity/ rota-flex joints and compare to manufactures specification. Check centre bearing if fitted
 Check run-out with dial test indicator on the shaft removed; fit to vehicle and use torque wrench and locking devices

Special tools/equipment used.

Hand tools _____
 Dial test indicator _____
 Torque wrench _____

Technical information

Wheel nut torque _____
 Maximum shaft run-out _____
 Type of joints fitted to the drive/prop shaft _____

Examination and testing methods used - include readings as appropriate.

Shaft run-out reading _____
 Condition of shaft joints _____
 Type of locking devices fitted _____

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. Risk assessment |
| 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	LV12S
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Date / /

Vehicle

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

Remove, replace vehicle transmission clutch



Candidate name

Details of work activity

Take care: collect data from auto data source, remove transmission gearbox; remove clutch unit and compare to specification
 Check condition of the centre drive plate, pressure plate cover and spring and release bearing. This can be either a conventional unit or dual mass.
 Check run-out of flywheel and condition of flywheel face, including dual mass springs on flywheel if applicable

Special tools/equipment used.

Hand tools _____
 Dial test indicator _____
 Torque wrench _____
 Clutch alignment tool _____

Technical information

Wheel nut torque _____
 Fly wheel run-out _____
 Clutch cover torque _____
 Flywheel bolt torque _____

Examination and testing methods used - include readings as appropriate.

Flywheel run-out reading _____
 Condition of clutch plate _____
 Condition of release bearing _____

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. Risk assessment |
| 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 Skills

Use of Hand Tools and Equipment in Motor Vehicle Engineering

Candidate name: _____

covered on this evidence record

Date ___/___/___

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

G1/2

G3

G4

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 of which two have been provided if required.

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. Risk assessment |
8. Evidence of recycling and correct disposal of waste (ESDGC) Assessor Initial _____

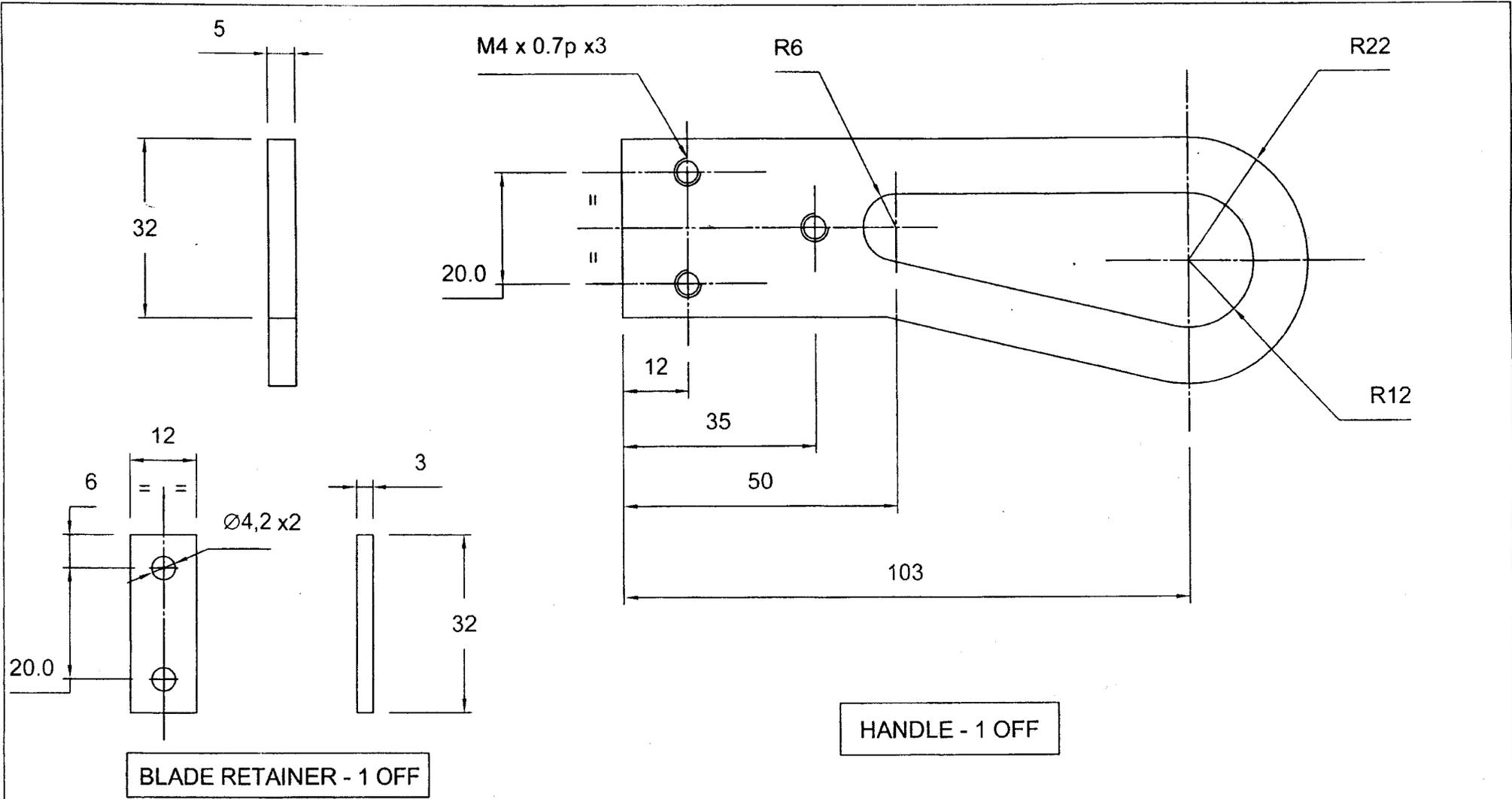
State how you checked your work against specification, disposed of waste, recycled materials:

Give a brief description of how you completed the task:

Assessor feedback on evidence provided.

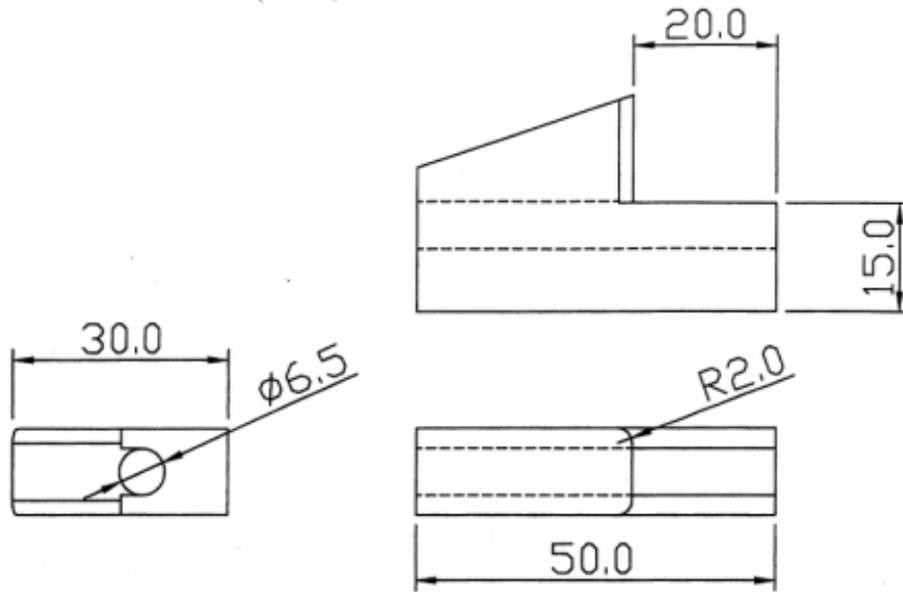
I confirm that the work carried out on this evidence record meets City & Guilds requirements for validity, authenticity, currency and sufficiency.

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

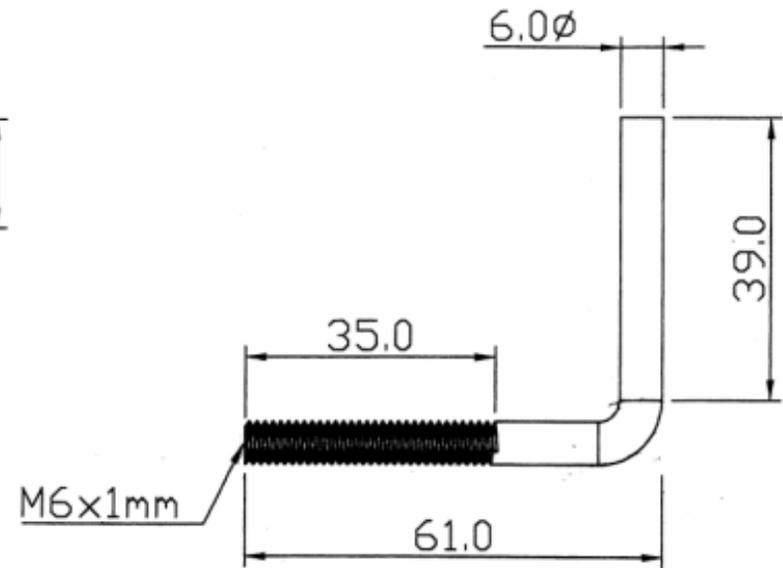


ISSUE	DETAIL	SIGN.	TITLE	DRAWN	GEN. TOLERANCES +/- 0.5 DECIMAL DIMS 0.0 +/- 0.1 DECIMAL DIMS 0.00 +/- 0.025 UNLESS OTHERWISE STATED	SCALE 1:1	DATE 22/10/2007
2	REDRAWN 22/10/2007	A.C.C.				DIMENSIONS IN M/METRES	
			PAD SAW			DRAWING NUMBER	
						SHEET	OF

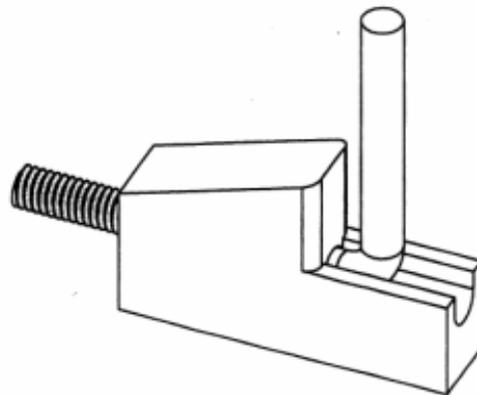
Do not Scale 



Detail 1 : Body



Detail 2 : Bar



DIMENSIONS IN MM
UNLESS OTHERWISE STATED
Untoleranced Dimensions
Fabrication ± 0.5 mm
Machining ± 0.5 mm
Angular ± 1.0 degree

MATERIAL

FINISH 1.6 μ m

SCALE

DWG. SIZE

NTS

DRAWN BY

DATE

CHECKED BY

TITLE

Brake Clamp

DRAWING NUMBER

REV

A

REV	DATE	BY	DESCRIPTION
A		LR	