



**T Level Technical Qualification in
Engineering and Manufacturing –
Maintenance, Installation and Repair**

**8712-315 Light and Electric Vehicles
Occupational Specialism**

**Grade Standard Exemplification Material
Pass - Summer 2025**

Version and date	Change detail	Section	Question
v1-0 31 st October 2025	First published	N/A	
v1-1 24 th November 2025	Amendments in relation to City & Guilds Limited	Back Cover	

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Introduction

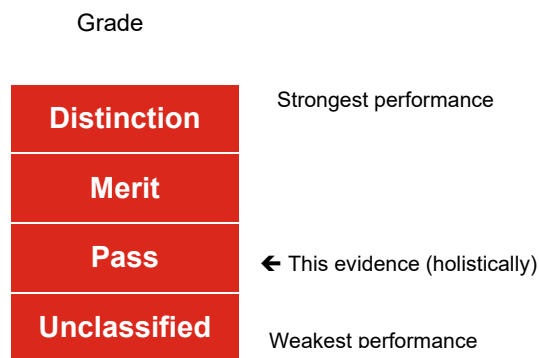
Summer 2025 Results

This document is aimed at providers and learners to help understand the standard that was required in the summer 2025 assessment series to achieve a pass grade for the 8712-315 Light and Electric Vehicles Occupational Specialism (OS).

The Grade Standard Exemplification Material (Grade SEM) evidence provided for the pass grade displays the holistic standard required across the tasks to achieve the pass grade boundary in the Summer 2025 series.

The aim of these materials is to provide examples of knowledge, skills and understanding that attested to **five marks above** pass standard (threshold competence) in Summer 2025. It is important to note that in live assessments a candidate's performance is very likely to exhibit a spikey profile and standard of performance will vary across tasks.

The Occupational Specialism is graded Distinction, Merit, Pass or Unclassified.



The pass grade boundary is based on a synoptic mark across all tasks. The materials in this Grade SEM are separated into two sections as described below. Materials are presented against a number of tasks from the assignment.

Task

This section details the tasks that the candidate has been asked to carry out. What needs to be submitted for marking and any additional evidence required including any photograph/video evidence. Candidate evidence that was or was not included in this Grade SEM has also been identified within this section.

In this Grade SEM there is candidate evidence from:

- Task 1 Plan and prepare the service, maintenance and repair activities
- Task 2A Perform a full service and maintenance on vehicle 1
- Task 2B Perform the welding/joining activity
- Task 2C Perform maintenance and repair activities on vehicle 2
- Task 3A Review and report the service, maintenance and repair activities
- Task 3B Peer review
- Task 4 Complete handover

Candidate evidence

This section includes exemplars of candidate work, photographs of the work in production (or completed) and practical observation records of the assessment completed by provider assessors. This was evidence that was captured as part of the assessment and then internally marked by the provider assessor.

The Occupational Specialism brief and tasks can be downloaded from [here](#).

Important things to note:

- We discussed the approach to standard setting/maintaining with Ofqual and the other awarding organisations before awarding this year. We have agreed to take account of the newness of qualifications in how we award this year to recognise that students and teachers are less familiar with the assessments (<https://www.gov.uk/government/publications/ofqual-guide-for-schools-and-colleges-2025/ofqual-guide-for-schools-and-colleges-2025#grading>), whilst also recognising the standards required for these qualifications.
- The evidence presented, as a whole, was **five marks above** the pass grade. However, performance across the tasks may vary (i.e. some tasks completed to a higher/lower standard than pass grade).

Grade descriptors

To achieve a pass (threshold competence), a candidate will be able to:

Interpret technical information, plan, assess risk and follow safe working methods appropriately when applying practical skills to an acceptable standard to satisfy the requirements of the brief.

Adequately prepare working areas to allow safe working, acknowledging potential risks and applying acceptable housekeeping techniques during tasks.

Demonstrate basic technical skills for diagnosing components, assemblies and sub-assemblies to complete maintenance, service, and repair activities, in line with the requirements of the brief.

Demonstrate adequate skills using tools and equipment for light and electric vehicle maintenance, service, and repair, ensuring safe isolation, removal, and replacement of components.

Demonstrate basic knowledge and understanding of the principles and processes required for disassembly, repair, configuration, and re-assembly of light and electric vehicle systems, ensuring that most tolerances, calibrations and tightening torques are in-line with specification.

Work safely showing an understanding and suitable level of awareness in the preparation and application of processes, selection and use of tools, equipment, materials and components for maintenance, service, and repair activities.

Mostly use industry and technical terminology accurately across different communication methods with some consideration of technical and non-technical audiences.

Task 1 Plan and prepare the service, maintenance and repair activities

Assessment number (eg 1234-033)	8712-315
Assessment title	Light and Electric Vehicles Occupational Specialism

Candidate name	<first name> <surname>
City & Guilds candidate No.	ABC1234

Provider name	<provider name>
City & Guilds provider No.	999999a

Task(s)	1
Evidence title / description	A list of requirements and resources Completed risk assessment Job card for each vehicle and welding/joining activity
Date submitted by candidate	DD/MM/YY

Task 1

Assessment themes:

- Health and safety
- Planning and preparation
- Systems and components

You must analyse the brief and technical information about both vehicles provided and then:

- create a list of the requirements and resources needed to complete the activities on both vehicles, including the full service, maintenance and welding/joining activities, justifying your selections. This should include:
 - all necessary technical information to confirm the type, scope and requirements of the activities
 - tools and equipment
 - materials, components and consumables
 - wastage and disposal requirements
 - time needed to carry out the activity
 - fault diagnosis methods to be used
 - any access requirements
- produce and complete a risk assessment to cover both vehicles, including the full service, maintenance working with high voltage systems and welding/joining activity
- produce a job card for each vehicle and welding/joining activity.

Additional evidence of your performance that must be captured for marking:

none

Candidate evidence

Physical Tools & Equipment

General Vehicle Servicing Tools

<i>Item</i>	<i>Quantity</i>	<i>Purpose & Justification</i>
Spanner set	1	For nuts, bolts, fixings, and fastenings
Driver set	1	Includes various drivers for different fixings
Screwdrivers	Various	For removing and refitting screws/bolts
Pliers	3	Holds items or assists with removal
Torque wrench	1	Ensures correct torque for fastenings
Socket set	1	Used with a torque wrench for fixings
Multimeter	1	Conducts electrical tests on 12V systems
Diagnostic code reader	1	Reads vehicle system fault codes

Laptop	1	Accesses diagnostic software and technical data
DTI gauge, tire tread depth gauge, brake pad gauge, micrometer, vernier gauge	1 of each	Measures brakes, tire tread, and component wear
Air tools	As required	Includes tire inflator and air gun for removing tight bolts/nuts
Exhaust extraction system	Per vehicle	Maintains air quality while servicing
Welding kit	1	Repairs exhaust pipes or other minor welding tasks

Hybrid/Electric Vehicle-Specific Tools

Item	Quantity	Purpose & Justification
Insulated tools for HV systems	Full set	Prevents accidental shocks when handling HV components
Class 0 insulated rubber gloves (HV rated)	1 pair	Protects against high-voltage shock
HV insulating mat	1	Provides a safe working surface when handling HV parts
Cat III or IV Multimeter (HV rated)	1	Measures voltage safely in high-voltage circuits

Battery management system tester	1	Checks HV battery state of charge and performance
Insulated torque wrench	1	Prevents electrical arcs when tightening HV connections
Live voltage detector (non-contact HV tester)	1	Identifies live high-voltage parts without direct contact

Materials & Consumables

General Vehicle Servicing Materials

Item	Quantity	Purpose & Justification
Spare parts	As required	Includes nuts, bolts, screws, and cables for repairs
Fuel	As required	Ensures vehicles can be started and tested
Cleaning fluids	As required	Used for brakes or small spillages
Rags	As required	Wipes down spillages and prevents overspill
Lubricants	As required	Lubricates moving parts as per schedule

Hybrid/Electric Vehicle-Specific Materials

Item	Quantity	Purpose & Justification
Insulating tapes & covers for HV connectors	As required	Prevents accidental short circuits
Dielectric grease	As required	Protects HV electrical connections from corrosion
Coolant for HV battery (if applicable)	As required	Maintains optimal HV battery temperature
HV fuse replacements	As required	Replaces blown fuses causing HV faults
High-voltage warning labels	As required	Ensures safety compliance

Protection Equipment (PPE)

General PPE

Item	Quantity	Purpose & Justification
Gloves – disposable, heatproof, PU coated	As required	Protects hands from injury and contamination
Overalls	1	Protects clothing and body from dirt and hot objects
Safety shoes/boots	1	Prevents injuries from tools and falling objects
Safety eye wear	1	Protects eyes from lubricants and flying debris
Warning signs and notices	As required	Informs others when welding is taking place
Welding helmet	1	Protecting eyes from UV/IR radiation and face from burns and sparks
Heat-retardant welding gloves and jacket	1	Protects body and hands from burns/sparks/molten metal

<i>Fire-resistant work pants</i>	1	To ensure pants dont catch on fire from sparks or molten metal
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Hybrid/Electric Vehicle-Specific PPED

<i>Item</i>	<i>Quantity</i>	<i>Purpose & Justification</i>
<i>Face shield (arc flash protection)</i>	1	Protects against electrical arcs when handling HV
<i>Arc-rated overalls</i>	1	Provides additional fire resistance in case of an arc flash
<i>HV lockout/tagout (LOTO) kit</i>	1	Prevents accidental re-energization of HV components
<i>Emergency rescue hook (HV safety pole)</i>	1	Allows safe rescue in case of an electrical accident

Vehicle Protective Equipment (VPE)

General Vehicle Protection

<i>Item</i>	<i>Quantity</i>	<i>Purpose & Justification</i>
<i>Wing cover</i>	2 per vehicle	Protects the wings from damage or contamination
<i>Steering wheel cover and floormat</i>	1 per vehicle	Protects the steering wheel and floor from contamination
<i>Seat cover</i>	1 per vehicle	Protects seats from dirt and damage

Hybrid/Electric Vehicle-Specific Protection

<i>Item</i>	<i>Quantity</i>	<i>Purpose & Justification</i>
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Electric/Hybrid vehicle safety signage	1 set	Alerts workshop personnel about HV risks
HV battery enclosure cover	1	Protects HV battery components during servicing

Other key requirements

Item	Quantity	Purpose & Justification
Waste disposal	Mandatory	Correct disposal of oils, tires, metals and general waste.
Time needed to carry out jobs	Estimate	<p>Vehicle 1: Prepare 15 min, inspect 30 min, diagnose 30 min, repair 1hr, calibrate 30 min, recommission 30 min, record 30 min, reinstate 15 min.</p> <p>Vehicle 2: Prepare 30 min, inspect 1 hr, diagnose 1 hr, repair 1 hr, calibrate 30 min, recommission 15 min, record 30 min, reinstate 15 min.</p> <p>Welding: Prepare 15 min, welding 75 min, reinstate 15 min, paperwork 15 min.</p>

Fault finding and diagnostic techniques/methods

Item	Purpose & Justification
Test drive	Take the vehicles for a spin to make sure the engine and exhaust are working properly; this can help identify any other issues. Test the brakes on a rolling road, check the exhaust emissions, and review the findings.
Diagnostic code reader	Connect a code reader to check out the error codes completely, then compare them with the system manual or AutoData to pinpoint the issue and help with the diagnosis.
Sensory checks	I check for noise, vibrations, or weird sounds and smells. I also take a look at the system to spot any obvious problems, like warning lights on the dashboard, a burnt-out bulb, or leaks in the fuel or brake lines. I listen for any strange sounds from the vehicle, like rattling, that could signal a problem.

Risk Assessment for Vehicle Servicing & HV System Diagnosis and welding activity

Hazard	Risk	Control	Likelihood (1-5)	Severity (1-5)
Cluttered Work Area	Tripping hazards from tools, parts, or debris	Keep the workspace tidy, store tools and parts securely, and keep walkways clear	4	1
Incorrect Tool Use	Injury from using the wrong tool for a job, causing strains or cuts	Always use the correct tools for each task, and follow proper training for tool usage	3	1
Minor Cuts and Scrapes	Injury from sharp edges of parts, tools, or components	Wear gloves when handling parts and tools, and keep sharp edges away from skin	4	1

Slippery Floors	Slips from oil, coolant, or water on the floor	Clean up spills immediately, use anti-slip mats, and wear slip-resistant footwear	3	1
Heavy Lifting	Strains or back injuries from lifting heavy parts (e.g. tires, engines)	Use correct lifting techniques, ask for help when lifting heavy parts, and use lifting equipment when necessary	3	2
Noise Exposure	Hearing damage from loud tools or machinery	Wear ear protection when using loud tools (e.g. grinders, drills), and limit exposure time	3	1
Inhalation of Fumes	Breathing in harmful fumes from exhaust, brake fluid, or chemicals	Work in a well-ventilated area, use respirators or face masks when necessary, and avoid inhaling vapors	3	1
Unstable Vehicle	Injury from a vehicle rolling off a jack or lift	Use jack stands or wheel chocks to secure the vehicle, and never rely solely on a jack	2	3
Electrical Shock (HV System - Job 2)	Electric shock from high-voltage (HV) electrical system components	Ensure vehicle power is completely off, isolate HV components, wear insulated gloves, and use insulated tools	2	4
Arc Flash (HV System - Job 2)	Injury from arc flash (high voltage discharge)	Always wear arc flash-rated PPE, isolate high-voltage components, and follow strict safety protocols	2	4
Battery Damage or Explosion (HV System - Job 2)	Fire or explosion from damaged battery or electrical component	Ensure proper handling of battery, check for physical damage before working, and follow	2	5

		manufacturer guidelines for handling HV systems		
HV System Diagnosis (Job 2)	Exposure to electrical hazard while diagnosing system fault	Ensure all safety protocols are followed for diagnosis (e.g., use of proper testing tools, multimeters, and isolators)	3	4
Tool Malfunction	Injury from tools breaking or malfunctioning during use	Inspect tools before use, maintain tools properly, and replace damaged tools	2	2
Fatigue	Reduced attention or physical strain leading to mistakes or accidents	Take regular breaks, avoid working for long periods without rest, and stay hydrated	3	1
Vehicle Movement	Injury from unexpected vehicle movement during repairs	Ensure the vehicle is securely stationary, turn off the ignition, and use the parking brake	2	2
Welding Fumes	Inhalation of harmful welding fumes and gases (e.g. from metals, coatings)	Use adequate ventilation, wear appropriate respiratory protection (e.g. welding masks, fume extractors)	3	2
Burns (Welding)	Burns from welding torch, sparks, or hot metal	Wear flame-resistant clothing, gloves, face shields, and ensure proper fire watch	3	3
Eye Injury (Welding)	Damage to eyes from welding arc or flying debris	Wear proper eye protection (e.g. welding helmet with appropriate shade), and shield nearby personnel	4	3

Fire Hazard (Welding)	Fire from sparks, hot metal, or flammable materials	Ensure proper fire extinguisher access, clear the area of flammable materials, and monitor for sparks	3	4
Electric Shock (Welding)	Electric shock from welding equipment	Ensure proper grounding of equipment, use insulated welding gloves, and follow manufacturer safety guidelines	2	4
Heat Stress (Welding)	Heat exhaustion or heat stroke due to prolonged exposure to high temperatures	Stay hydrated, wear lightweight, breathable clothing, and take regular breaks in a cool area	3	2

Key for likelihood		Key for severity	
1	Very unlikely to happen	1	Minor injury
2	Unlikely to happen	2	Major injury
3	Possible to happen	3	Loss of limb
4	Likely to happen	4	Death of an individual
5	Very likely to happen	5	Multiple deaths

Prepared job card for vehicle 1

Candidate name:		Date:	
Registration number:		Approx year:	
Make:		Model:	
VIN number		Details of activities:	<ol style="list-style-type: none"> 1. Full service 2. Complaint of vehicle not cranking
<p>Job details:</p> <p>Tested and made sure all PPE works, and equipped vehicle with available VPE. Moved vehicle into workshop safely due to no crank condition. Used diagnostic tools to test battery, ignition, starter circuit, and immobilizer system. Checked for stored faults and tested multiple components for possible causes of the no crank issue. Replaced any parts as necessary to restore cranking function. Once resolved, carried out a full service: visual inspection, fluid top-ups, oil and filter change, tires, brakes, suspension all checked and replaced if necessary, lights, battery test, filter replacements, and underside check. Reset the service light and cleared any remaining codes. Waste is disposed of according to regulations.</p>		PPE used during job:	
		Gloves, safety boots, eye protection, overalls.	
		Tools used during job:	
		Diagnostic scanner, multimeter, ratchet set, oil drain tray, trolley jack, axle stands, tire gauge, filter wrench.	
		Technical data used:	Torque settings Manufacturer service checklist, electrical wiring diagram, fluid specs.

Prepared job card for welding job

Candidate name:		Date:	
Registration number:		Approx year:	
Make:		Model:	
VIN number			

<p>Job details:</p> <p>Checked and wore correct PPE and VPE. Confirmed welding mask functionality and ensured the workstation complied with HASAWA standards. Cleaned and marked bracket and pipe, clamped bracket in place. Set up and tested MIG welders' power, gas, and feed, all confirmed operational. Positioned extraction over the area. Performed full weld run using correct settings, ensuring proper overlap and joint seal. Let the weld cool, inspected for defects, and ground excess if needed. Switched off equipment. Cleaned and swept the area. Checked and cleaned exhaust system.</p>	PPE used during job:	
	Welding mask, gloves, overalls, safety boots, eye protection.	
	Tools used during job:	
	MIG welder, clamps, marker, grinder, extraction system, wire brush.	
Technical data used:	Welding settings chart, HASAWA compliance checklist.	

Prepared job card for vehicle 2

Candidate name:		Date:	
Registration number:		Approx year:	
Make:		Model:	
VIN number			

<p>Job details:</p> <p>I will begin by ensuring the appropriate personal protective equipment (PPE) is worn and setting up safety signage around the work area to warn of electrical hazards. The next step is to de-energize the high-voltage (HV) system step by step and test for voltage to confirm there is no live power. I will then investigate potential causes for the HV system not powering up, such as a discharged 12V battery, faulty or corroded wiring connections, or damaged HV fuses. After identifying the illuminated warning light, I will connect an OBD scanner to retrieve diagnostic codes and pinpoint the issue. Using the proper high-voltage PPE, I'll inspect the fuses, particularly the DC-DC converter fuse, to ensure they are intact and functional. Once necessary repairs or replacements are made, I'll clear the fault codes with the OBD scanner and perform a retest to verify the issue is resolved. Reconnecting the 12V battery, I'll re-energize the system and test whether the HV system powers up and runs properly. Finally, once confirmed, I'll</p>	<p>PPE used during job:</p> <p>HV insulated gloves (Class 0 or above)</p> <p>Face shield</p> <p>Overalls</p> <p>Eye protection</p> <p>Insulated safety footwear</p> <p>Rubber mat</p>		
	<p>Tools used during job:</p> <p>OBD-II diagnostic scanner</p> <p>Digital multimeter (HV rated)</p> <p>Voltage tester</p> <p>Insulated hand tools (screwdrivers, pliers)</p> <p>Torque wrench</p>		
	<p>Technical data used:</p>	<p>Manufacturer safe isolation procedure</p>	

remove the safety signage, tidy the work area, and document all findings for future reference.		
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Task 2A Perform a full service and maintenance on vehicle 1

Assessment number (eg 1234-033)	8712-315
Assessment title	Light and Electric Vehicles Occupational Specialism

Candidate name	<first name> <surname>
City & Guilds candidate No.	ABC1234

Provider name	<provider name>
City & Guilds provider No.	999999a

Task(s)	2A
Evidence title / description	Completed job card for vehicle 1 Completed manufacturers records Assessor observation Service sheet Photographic evidence
Date submitted by candidate	DD/MM/YY

Task 2A

Assessment themes:

- Health and safety
- Planning and preparation
- Systems and components
- Working with faults
- Reviewing and reporting

You must:

- prepare the working area to complete the full service and maintenance on vehicle 1
- perform the full service and maintenance on vehicle 1 in accordance with the planning documents produced in Task 1. This should include:
 - decommissioning and inspection of the vehicle systems
 - diagnosing and recording faults within the vehicle systems, including carrying out appropriate tests and measurements
 - replacing components and consumables as required in the service schedule and any fault diagnosis
 - safely using the appropriate tools and equipment
 - demonstration of vehicle functionality to the manager
 - re-instating the work area
- record the full service and maintenance, to include:
 - completed service schedule sheet
 - completed job card with description of all work carried out.

Additional evidence of your performance that must be captured for marking:

Assessor observation of:

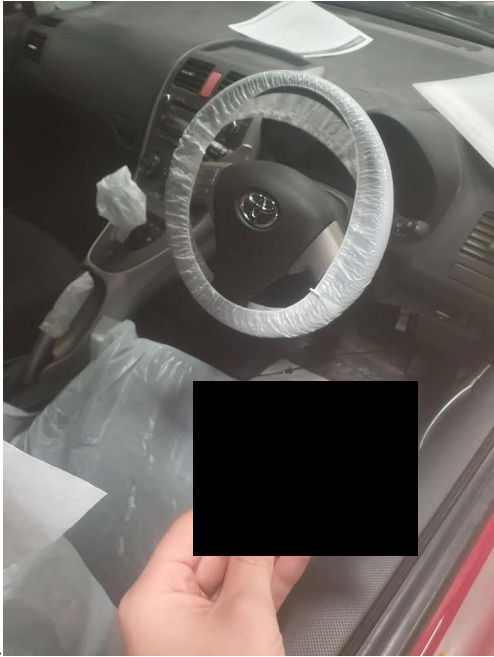

- the work area preparation
- the service and maintenance activities for vehicle 1
- vehicle functionality demonstration.

Photographic evidence which shows:

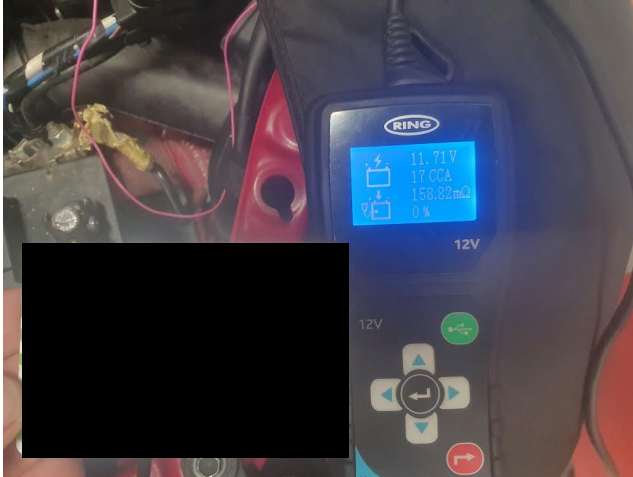
- prepared working area for vehicle 1 service and maintenance
- prepared and fitted VPE
- the engine management fault codes
- re-instated work area

Candidate evidence

Candidate name: A		Date: 8/5/2025	
Registration number:	Auris	Approx year:	2008
Make:	Toyota	Model:	Auris

<p>Job details:</p> <p>Wore appropriate PPE and confirmed that all safety gear was functional. Verified that the workstation and vehicle were compliant with HASAWA regulations. Equipped the vehicle with available VPE and made sure the area was clear of hazards.</p>  	PPE used during job:	
	Safety boots, gloves, overalls, eye protection.	
	Tools used during job:	
	Basic hand tools, multimeter, code reader, oil drain equipment	
	Technical data used:	Service manual specifications, electrical wiring diagram

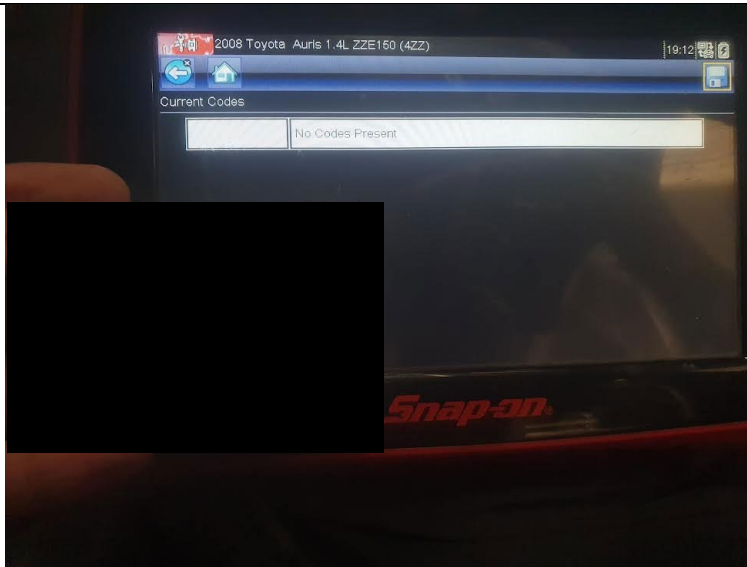
Began with investigating the no-cranking issue on the vehicle. It showed no signs of turning over when attempting to start. I began a step-by-step fault diagnosis starting with the battery, as it is the most common source of starting issues. I tested the battery using a multimeter and a battery tester, confirming that it had insufficient voltage and poor internal health. I safely removed and replaced the battery with a new, fully charged unit.



To assist in the diagnostic process, I connected a diagnostic tester to the vehicle's OBD port to scan for any stored fault codes related to the starting system. The scan returned no active faults related to the ignition switch or immobilizer, but it did highlight a fault code indicating starter circuit malfunction. This information helped narrow down the issue and prompted me to inspect the starter motor and its related wiring, focusing my attention on power delivery and potential mechanical failure. I then moved on to actually testing the starter motor circuit. Using a multimeter, I confirmed that the starter was receiving power, which eliminated the ignition switch and wiring from the battery to the starter as potential faults. This led me to believe the fault was internal to the starter motor.

After removing the starter motor from the vehicle, I carried out a visual and continuity inspection. I discovered that the wire connecting the solenoid to the motor was heavily corroded and rusted, which meant that the electrical current could not properly transfer to the motor itself. Due to this, repair was not viable, so I proceeded to install a new starter motor.

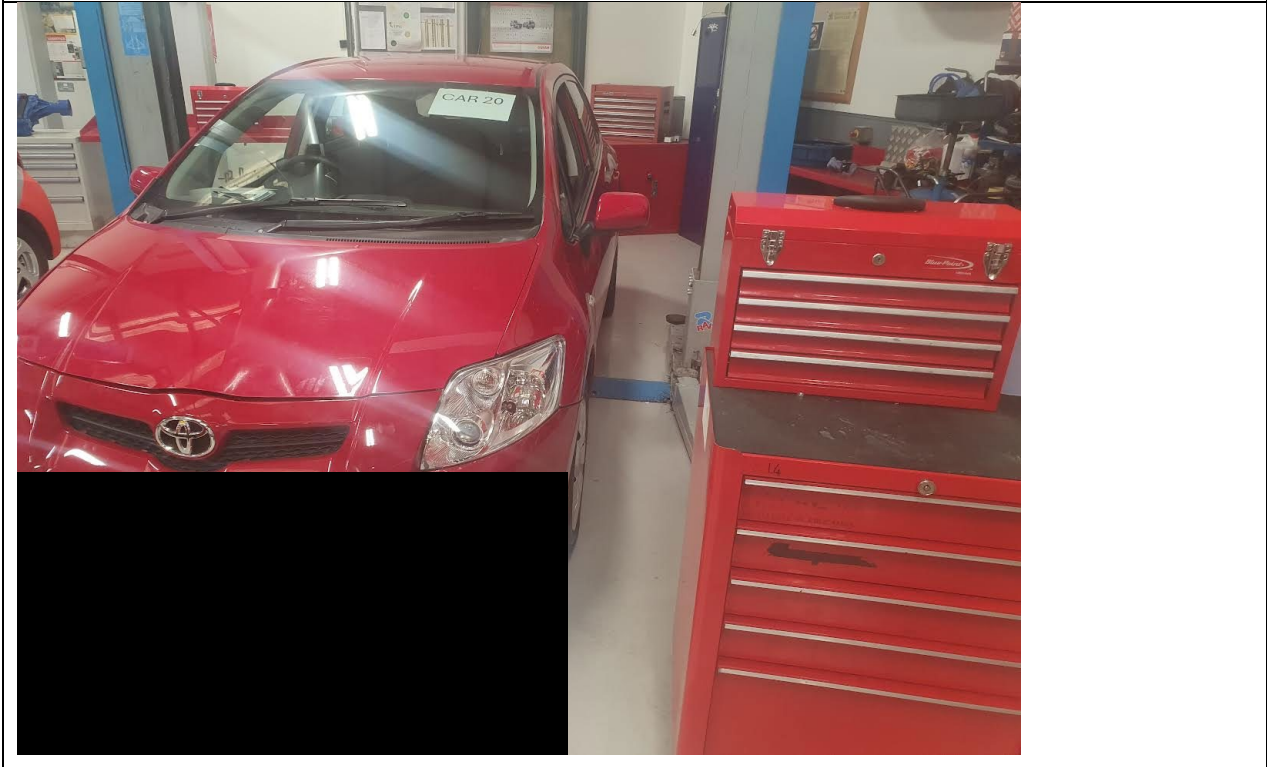
Once the new starter motor was installed, I tested the vehicle again — this time it cranked and started successfully. With the initial fault resolved. And no fault codes showed after I deleted the old ones



I then carried out a full scheduled service on the vehicle, as per the maintenance plan. This included:

- Draining old engine oil and replacing it with manufacturer-specified oil
- Replacing the oil filter
- Checking and topping up all fluids including brake, coolant, washer, and power steering fluid
- Inspecting brake pads and discs for wear
- Checking tread depth on all tires
- Adjusting tire pressures to recommended levels
- Replacing pollen filter
- Conducting a visual inspection of belts, hoses, and the engine bay
- Resetting the service light and checking for any stored diagnostic codes

The vehicle was started again for a final operational check — all systems were functioning correctly, and no fault codes remained. I concluded the job by clearing the workstation, properly disposing of waste materials, and returning all tools to their designated storage areas.



Task 2a – Service sheet fault diagnosis

Service schedule | Autodata

Date: 24/03/2025

Job number :

Vehicle details:
Toyota Auris (07-13)

Powered by
Autodata

Service schedule

Service schedule according to manufacturer's recommendation and specification.

Service type Toyota Auris (07-13) 2ZR-FAE

Service interval 20000 miles 24 months

Total time - 0.80 hrs

VEHICLE ON FLOOR

Footbrake travel	8	Check/report <input checked="" type="checkbox"/>
Parking brake travel		Check/adjust <input checked="" type="checkbox"/>

More information

Parking brake travel

Parking brake travel No. of notches 5-8

Brake/clutch pedal heights		Check/adjust <input checked="" type="checkbox"/>
Clutch operation		Check/report <input checked="" type="checkbox"/>
Driver's floor mat	N/A	Check security <input type="checkbox"/>
Seatbelts/mountings	8	Check/report <input checked="" type="checkbox"/>
Instruments/warning lamps		Check/report <input checked="" type="checkbox"/>
Gear lever operation		Check/adjust <input checked="" type="checkbox"/>
Horn		Check/report <input checked="" type="checkbox"/>
Interior lamps		Check/report <input checked="" type="checkbox"/>
Front wiper blades		Check/report <input checked="" type="checkbox"/>
Rear wiper blade		Check/report <input checked="" type="checkbox"/>
Wash/wipe systems		Check/report <input checked="" type="checkbox"/>
Instrument illumination		Check/report <input checked="" type="checkbox"/>
Direction indicators/hazards		Check/report <input checked="" type="checkbox"/>
Lighting system		Check/report <input checked="" type="checkbox"/>
Headlight levelling system		Check <input checked="" type="checkbox"/>
Headlights		Check/report <input checked="" type="checkbox"/>
Fuel filler cap		Check/report <input checked="" type="checkbox"/>
Body work/paint !		Check condition <input checked="" type="checkbox"/>

! Important

May need to be carried out by an authorised repairer/dealer, refer to bodywork/paint warranty terms and conditions. Additional charge may apply

<https://workshop.autodata-group.com/w1/service-schedules/TOY24903>
1/7

Windscreen/rear screen/windows

Check/report

VEHICLE FULLY RAISED

Engine oil leaks

Check/report

Engine oil

Drain/refill

More information

Engine oil

Ambient temperature range	All temperatures
Engine oil grade	SAE 0W-20, 5W-20, 5W-30
Engine oil classification	API/ACEA SL/A1, A3
Ambient temperature range	-18°C→
Engine oil grade	SAE 10W-30
Engine oil classification	API/ACEA SL/A1, A3
Ambient temperature range	-12°C→
Engine oil grade	SAE 15W-40
Engine oil classification	API/ACEA SL/A1, A3
Ambient temperature range	-7°C→
Engine oil grade	SAE 20W-50
Engine oil classification	API/ACEA SL/A1, A3
Engine with filter(s)	litres 4,2
Sump drain bolt	37 Nm

Engine oil filter

Renew

More information

Engine oil filter

Oil filter	25 Nm
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Manual transmission oil leaks

Check/report

Steering joints

Check/report

Steering rack/box

Check/report

Steering column couplings

Check/report

Suspension joints/seals/gaiters

Track rod end play on both sides

Check/report

Drive shaft joints/seals/gaiters

Check/report

Road springs

Check/report

Shock absorbers/mountings

OFF fasteners for shock absorber loose

Check/report

Exhaust system/mountings

Check/report

Brake pipe corrosion

Check/report

Fuel system leakage !

Check/report

! Important

Including underbonnet fuel rail and hoses

Underbody condition/sealant !

Check/report

! Important

May need to be carried out by an authorised repairer/dealer, refer to bodywork/paint warranty terms and conditions. Additional charge may apply

VEHICLE HALF RAISED

Windscreen/rear screen/windows

Check/report

VEHICLE FULLY RAISED

Engine oil leaks

Check/report

Engine oil

Drain/refill

More information	
Engine oil	
Ambient temperature range	All temperatures
Engine oil grade	SAE 0W-20, 5W-20, 5W-30
Engine oil classification	API/ACEA SL/A1, A3
Ambient temperature range	-18°C→
Engine oil grade	SAE 10W-30
Engine oil classification	API/ACEA SL/A1, A3
Ambient temperature range	-12°C→
Engine oil grade	SAE 15W-40
Engine oil classification	API/ACEA SL/A1, A3
Ambient temperature range	-7°C→
Engine oil grade	SAE 20W-50
Engine oil classification	API/ACEA SL/A1, A3
Engine with filter(s)	litres 4,2
Sump drain bolt	37 Nm

Engine oil filter

Renew

More information	
Engine oil filter	
Oil filter	25 Nm

Manual transmission oil leaks

Check/report

Steering joints

Check/report

Steering rack/box

Check/report

Steering column couplings

Check/report

Suspension joints/seals/gaiters

Track rod end play on both sides

Check/report

Drive shaft joints/seals/gaiters

Check/report

Road springs

Check/report

Shock absorbers/mountings

OFF fasteners for shock absorber loose

Check/report

Exhaust system/mountings

Check/report

Brake pipe corrosion

Check/report

Fuel system leakage !

Check/report

! Important Including underbonnet fuel rail and hoses

Underbody condition/sealant !

Check/report

! Important May need to be carried out by an authorised repairer/dealer, refer to bodywork/paint warranty terms and conditions. Additional charge may apply

VEHICLE HALF RAISED

3/24/25, 10:16 AM

Service schedule | Autodata

Front wheel bearings	Check/report <input checked="" type="checkbox"/>
Rear wheel bearings	Check/report <input type="checkbox"/>
Front brake pads 9mm	Check/report <input checked="" type="checkbox"/>

More information

Front brake pads

Road wheels 103 Nm

Important

Road wheels

- Do NOT lubricate studs, nuts or mating surfaces.

Minimum pad thickness Front 1 mm

Front brake discs	Check/report <input checked="" type="checkbox"/>
-------------------	--

More information

Front brake discs

Brake caliper to carrier Front 30 Nm

Important

Brake caliper to carrier

- Built in Japan (TMC) = 34 Nm

Brake caliper/carrier to hub Front 107 Nm

Road wheels 103 Nm

Important

Road wheels

- Do NOT lubricate studs, nuts or mating surfaces.

Minimum disc thickness for replacement - ventilated Front 23 mm

Important

Minimum disc thickness

- Built in Japan (TMC) = 19 mm

Disc runout Front 0,05 mm

Rear brake pads 4mm	Check/report <input checked="" type="checkbox"/>
----------------------------	--

More information

Rear brake pads

Road wheels 103 Nm

Important

Road wheels

- Do NOT lubricate studs, nuts or mating surfaces.

Minimum pad thickness Rear 1 mm

Rear brake discs

Check/report

More information

Rear brake discs

Brake caliper to carrier Rear 30 Nm

Important

Brake caliper to carrier

- Built in Japan (TMC) = 34 Nm

Brake caliper/carrier to hub Rear 57 Nm

Road wheels 103 Nm

Important

Road wheels

- Do NOT lubricate studs, nuts or mating surfaces.

Minimum disc thickness for replacement Rear 8 mm

Important

Minimum disc thickness

- Built in Japan (TMC) = 7,5 mm

Disc runout Rear 0,15 mm

Brake hydraulic system Check/report

Brake flexible hoses Check/report

Tyre condition *Bad* Check/report

Tyre pressures Check/adjust

ENGINE BAY OPERATIONS

Battery terminals Clean/tighten/re-grease

Battery condition/specific gravity Check/report

Washer bottle(s) Check/top-up

Brake servo Check/report

Brake fluid reservoir *cap missing* Check/top-up

More information

Brake fluid reservoir

Brake fluid Type DOT 3/4

Important

Brake/clutch fluid

- Refer to reservoir cap.

Clutch fluid **!** Renew

! Important

MT only

More information

Clutch fluid

Clutch fluid Type DOT 3/4

Important

Brake/clutch fluid

- Refer to reservoir cap.

Engine coolant/anti-freeze Low Check/top-up

More information

Engine coolant/anti-freeze

Coolant Type Toyota super long life

Coolant Colour Pink

Cooling system - total capacity litres 5,6

Radiator **!** Check/clean

! Important


Externally only, including air conditioning condenser

Air filter Check/clean

FINAL ITEMS CHECK

Cabin filter (if fitted) Renew

More information



Cabin filter

Central locking/alarm remote control batteries Renew

Alarm/Immobiliser Check operation

Front wheel alignment **!** Check/adjust

! Important

Adjustment at additional charge

Rear wheel alignment **!** Check/adjust

! Important

Adjustment at additional charge

Road wheel nuts/bolts Check tightness

More information

Road wheel nuts/bolts

Road wheels	103 Nm
-------------	--------

Important

Road wheels

- Do NOT lubricate studs, nuts or mating surfaces.

ROAD TEST VEHICLE

Vehicle handling/operation/performance Check/report

AFTER ROAD TEST

Engine Check for leaks

Total time - 0.80 hrs

Parts

Engine oil - Drain/refill

Engine oil filter - Renew

Sundries lubricant - Clean/tighten/re-grease

Screen wash - Check/top-up

Brake fluid - Check/top-up

Clutch fluid - Renew !

MT only

Engine coolant/antifreeze - Check/top-up

Cabin filter - Renew

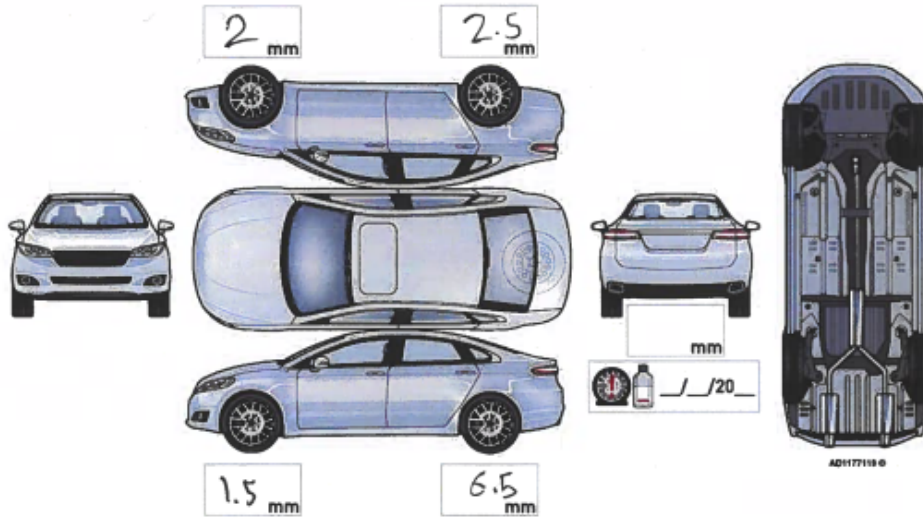
Central locking/alarm remote control batteries - Renew

Suspension eccentric bolts - Check/adjust !

Adjustment at additional charge

Suspension adjustment shims - Check/adjust !

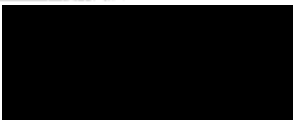
Adjustment at additional charge



Notes/Comments:

Passenger front door does not close
Dents around the car
brake lights non-functional
driverside handligh non-functional
Bonnet latch missing

Technician's signature [Redacted]



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Task 2a - Completed manufacturers records

Maintenance Schedule and Records

Maintenance Schedule and Records

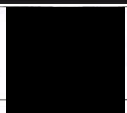
Equipment/System type	Identification No.
Vehicle 1 (Petrol/Diesel)	8712-315
Brand/Model	Location
City & Guilds	Workshop

Equipment/System specification

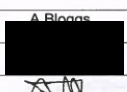

- Please refer to manufacturer's vehicle specification documentation (supplied by provider).

Maintenance records

Service No	Maintenance date	Maintenance type (fault/repair, scheduled/routine, requested)	Checked by	Repair details (where relevant)	Technician signature
01	28/04/2024	Scheduled	JS	<ul style="list-style-type: none"> Carried out an annual service to manufacturer specifications. Recommend coolant flush and change Vehicle functioning as per vehicle specification following annual maintenance activity. 	J Smith
02	17/08/2024	Repair	AB	<ul style="list-style-type: none"> Diagnosed fault on airbag system, replaced control unit and checked vehicle working to manufacturer specifications. 	A Bloggs

03	8/5/25	scheduled	AS	carried out service and starter motor replacement	
----	--------	-----------	----	---	---

Maintenance Schedule – annual unless specified otherwise

Service No	Year	Detail inspection	Recommended planned maintenance	Service advisor signature	Technician signature
01	2023	Annual	Annual- routine/scheduled	D Jones	J Smith
02	2024	Annual	Annual- routine/scheduled	D Jones	A Bloggs
03	2025	Annual	Annual- routine/scheduled	D Jones	
04	2026	annual	annual - routine		
05					
06					

Commentary

Service No	Recommendations for future maintenance activity

Task 2A – Assessor observation

Candidate Name	Candidate number
Provider name	Date

Complete the table below referring to the relevant marking grid, found in the assessment pack.

Do not allocate marks at this stage.

This observation must cover	Assessor observation should include:	Assessment Themes
Work area preparation	<ul style="list-style-type: none"> the work area preparation. 	<ul style="list-style-type: none"> Health and Safety Planning and Preparation Systems and Components
Service and maintenance activities – vehicle 1	<ul style="list-style-type: none"> decommissioning and inspection of the vehicle systems diagnosis and recording of faults within the vehicle system, including carrying out appropriate tests and measurements replacing components and consumables as required in the service schedule and any faults diagnosis safely using the appropriate tools and equipment recommissioning of the system demonstration of vehicle functionality to the manager re-instating the work area. 	<ul style="list-style-type: none"> Health and Safety Planning and Preparation Systems and Components Working with faults Reviewing and Reporting

Notes – detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.

Work area preparation:

Candidate ensured work area was prepared correctly with all relevant tooling within reach

Candidate ensured that vehicle was set up correctly within ramp and ready for lifting

Service and maintenance activities – vehicle 1:

- decommissioning and inspection of the vehicle system
candidate correctly decommissioned vehicle and conducted the inspection to a good standard, but this could have been completed in a more timely manner.
- diagnosis and recording of faults within the vehicle system, including carrying out appropriate tests and measurements
candidate completed diagnostic activities with confidence but a more systematic manner could have been followed as to not repeat tests. Measurements were understood with confidence and outcomes clear
- replacing components and consumables as required in the service schedule and any faults diagnosis
candidate worked confidently ensuring all components and consumables were replaced in the correct manner, at times candidate worked at a slower pace but still completed the task
- safely using the appropriate tools and equipment
candidate used the appropriate tools and equipment for the task but at times could have used alternatives, which would have provided a more timely approach
- recommissioning of the vehicle system
candidate correctly recommissioned the vehicle ensuring that all components which were worked on were correctly refitted
- demonstration of vehicle functionality to the manager
candidate demonstrated vehicle functionality correctly and when questioned provided answers with clear understanding
- re-instating the work area.
Candidate reinstated work area to a good standard ensuring all waste was disposed of correctly, but not all items were returned to correct storage locations
Candidate ensured spilt oil was cleaned in the appropriate manner and no slip hazards were caused.

Internal assessor signature	Date

Task 2B Perform the welding/joining activity

Assessment number (eg 1234-033)	8712-315
Assessment title	Light and Electric Vehicles Occupational specialism

Candidate name	<first name> <surname>
City & Guilds candidate No.	ABC1234

Provider name	<provider name>
City & Guilds provider No.	999999a

Task(s)	2B
Evidence title / description	Completed job card of the welding activity with description of the work carried out Photographic evidence Assessor observation
Date submitted by candidate	DD/MM/YY

Task 2B

Assessment themes:

- Health and safety
- Planning and preparation
- Systems and components
- Working with faults
- Reviewing and reporting

You must:

- prepare the working area to complete welding/joining activity
- perform the activity in accordance with the planning documents produced in Task 1, which should include:
 - preparing the exhaust bracket for welding/joining activity
 - complete the welding/joining activity
 - safely using the appropriate tools and equipment
 - re-instating the work area
 - completing the job card for the welding/joining activity with a description of work carried out.

Additional evidence of your performance that must be captured for marking:

Assessor observations of:

- the work area preparation for welding/joining
- the welding/joining activity

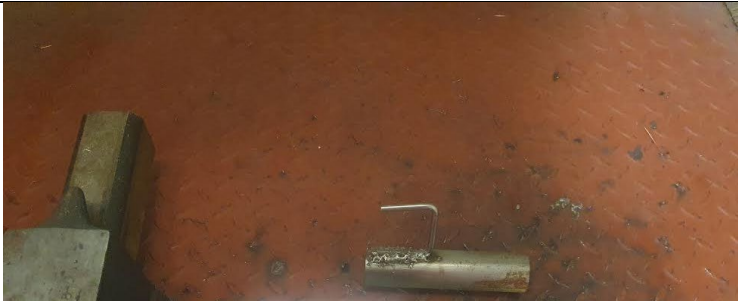
Photographic evidence which shows:

- the work area prepared for the welding/joining activity
- the welding/joining of the bracket to the exhaust pipe
- re-instated work area

Candidate evidence

Candidate name:		Date:	
Registration number:		Approx year:	2013
Make:	Toyota	Model:	Auris

<p>Job details:</p> <p>Prepared and wore correct PPE including welding gauntlets, apron, overalls, safety boots, welding helmet, and bandana. Verified that the welding bay was safe and compliant with HASAWA regulations, including identification of a nearby fire extinguisher. Ensured fume extraction system was functioning and positioned correctly.</p>  <p>Gathered and prepared a MIG welder. Checked power supply, feed speed, gas bottle and flow, and extraction. Cleaned the pipe and bracket surface using a wire brush and cleaning fluid to remove rust, soot, and oils for optimal welding conditions. Marked bracket positions, secured the assembly in a clamp and in the vice to prevent movement, and confirmed workspace accessibility.</p> <p>Set up the MIG welder with appropriate parameters. Used a feed wire of 0.6mm, set the voltage to 3V, confirmed welder performance with a tack weld, then performed full weld runs while ensuring proper overlap and joint sealing.</p> <p>Allowed the weld to cool naturally. Inspected the joint and used wire brush where necessary to remove excess weld.</p>	PPE used during job:
	<ul style="list-style-type: none"> Welding gloves Welding helmet Overalls Insulated safety footwear
	Tools used during job:
	<ul style="list-style-type: none"> MIG Welder Wire brush Clamps Extraction system



On completion, switched off all equipment, cleaned the work area thoroughly, disposed of waste appropriately, and returned tools and PPE.

Task 2B – Assessor observation

Candidate Name	Candidate number
Provider name	Date

Complete the table below referring to the relevant marking grid, found in the assessment pack.

Do not allocate marks at this stage.

This observation must cover	Assessor observation should include:	Assessment Themes
Work area preparation for welding/joining	<ul style="list-style-type: none"> the work area preparation for welding/joining. 	<ul style="list-style-type: none"> Health and Safety Planning and Preparation Systems and Components
The welding/joining activity	<ul style="list-style-type: none"> preparing the exhaust bracket for welding/joining activity complete the welding/joining activity safely using the appropriate tools and equipment re-instating the work area 	<ul style="list-style-type: none"> Health and Safety Planning and Preparation Systems and Components Reviewing and reporting

Notes – detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.

Work area preparation for bonding/joining:

Candidate prepared the work area correctly ensuring that welding activities could be carried out safely and without causing harm to others.

Candidate ensured shields were in place to ensure containment of sparks and to prevent arc eye

The welding/joining activity:

- preparing the exhaust bracket for welding/joining activity

Candidate correctly used clamps to ensure the work piece was stable and ready to be welded but did not correctly prepare the surface for welding, although this did not cause a contaminated weld.

- complete the welding/joining activity

Candidate successfully completed the welding activity, ensured the welder was set up correctly and all shielding gas was in place to ensure a weld of good quality. Candidate created a weld of substantial strength appropriate for the task at hand.

- safely using the appropriate tools and equipment

Candidate safely used all equipment and ensured it was tested prior to use for suitability.

- re-instating the work area.

Candidate ensured that all equipment and PPE was returned to safe storage areas to prevent damage. Candidate ensured all welding equipment was stored correctly with leads stored correctly to avoid damage and shielding gas being turned off. They disposed of all waste in appropriate bins and ensured sharps would not cause harm. Candidate stored hot items appropriately as to not cause damage

Internal assessor signature	Date

Task 2C Perform maintenance and repair activities on vehicle 2

Assessment number (eg 1234-033)	8712-315
Assessment title	Light and Electric Vehicle Occupational specialism

Candidate name	<first name> <surname>
City & Guilds candidate No.	ABC1234

Provider name	<provider name>
City & Guilds provider No.	999999a

Task(s)	2C
Evidence title / description	Completed job card for vehicle 2 Photographic evidence Assessor observation Maintenance schedule and records
Date submitted by candidate	DD/MM/YY

Task 2C

Assessment themes:

- Health and safety
- Planning and preparation
- Systems and components
- Working with faults
- Reviewing and reporting

You must:

- prepare the work area for the maintenance and repair activities on vehicle 2
- perform the maintenance and repair activities on vehicle 2 in accordance with the planning documents produced in Task 1. This should include:
 - decommissioning and inspection of the vehicle systems
 - disassemble and reassemble the relevant system(s)
 - diagnosing and recording faults within the systems, including carrying out appropriate tests and measurements
 - safe isolation of the high voltage system
 - repairing faults and replacing components as required
 - safely using the appropriate tools and equipment
 - demonstration of vehicle functionality to the manager
 - re-energising the high voltage system and recommissioning the vehicle
 - re-instating the work area
- record the maintenance and repair activities, to include:
 - completed job card and control documents
 - record of measurements and test results completed.

Additional evidence of your performance that must be captured for marking:

Assessor observations of:


- the work area preparation
- the maintenance and repair activities to vehicle 2
- vehicle functionality demonstration.

Photographic evidence which shows:

- prepare work area to complete maintenance and repair to vehicle 2
- prepared and fitted VPE
- the working area after disassembly of the appropriate vehicle system(s)
- re-instated work area.

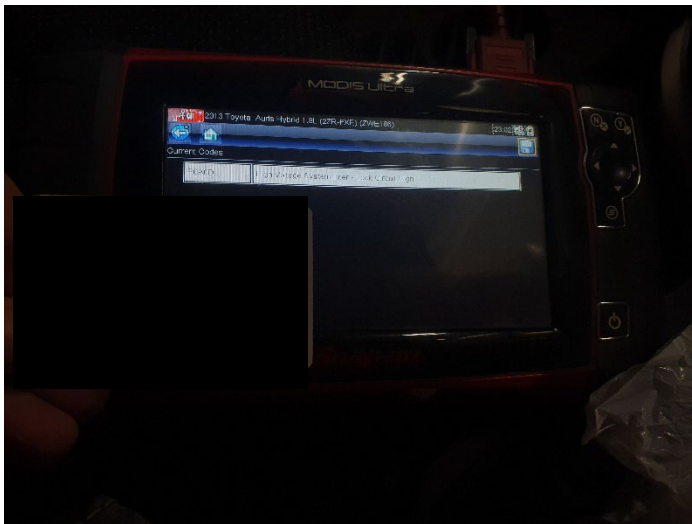
Candidate Evidence

Candidate name:		Date:	
Registration number:	PK64OEM	Approx year:	2013
Make:	Toyota	Model:	Auris

<p>Job details:</p> <p>I began by confirming that all appropriate PPE was worn, including high-voltage insulated gloves, which I tested for holes, an arc-rated face shield, overalls, and insulated safety footwear. Warning signs were placed clearly around the work area to alert others to the presence of a high-voltage job being done and rails were also placed to keep anyone not involved out. I placed all VPE inside the car and put wing covers on the front wings to keep them safe from scratches when m working</p> 	PPE used during job:	
	HV insulated gloves (Class 0 or above) Face shield Overalls Eye protection Insulated safety footwear Rubber mat	
	Tools used during job:	
	OBD-II diagnostic scanner Digital multimeter (HV rated) Voltage tester Insulated hand tools (screwdrivers, pliers) Torque wrench	
Technical data used:	Manufacturer safe isolation procedure	



I put the ignition on and connected a diagnostic scanner to read any fault codes and got one reading

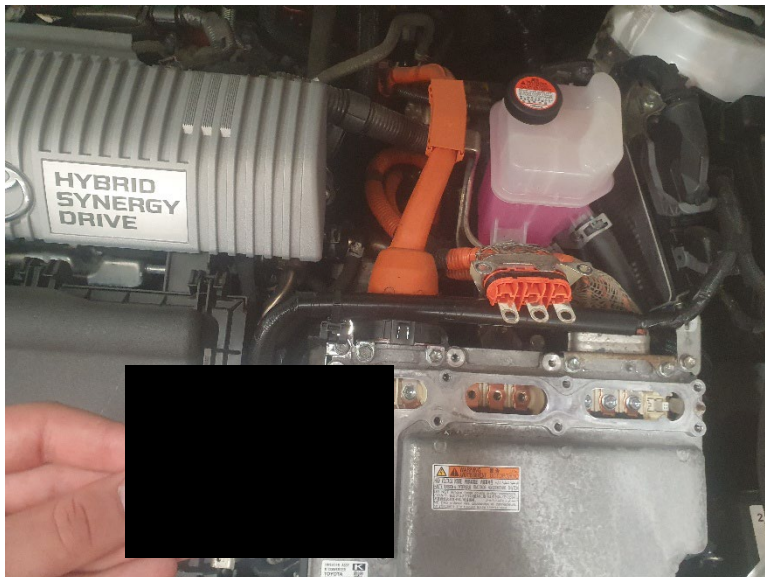


Once the safety measures were in place, I followed the manufacturer's procedure to de-energize the high-voltage (HV) system. By first turning the ignition off and placing the key in a locker at least 10m away from the car, then disconnecting the negative terminal on the low voltage battery and then isolating the HV battery, while wearing all PPE and standing on the rubber mat, I then waited for the system to discharge for 15 minutes (Manufacturers recommended time), I also placed the isolator in a locked locker to make sure nobody can reinstate the system while I waited, I then verified the absence of voltage to confirm it was safe to proceed with, using a calibrated high voltage multimeter, which I tested on the 12V battery.

Upon gaining safe access to the vehicle's systems, I investigated several probable causes for the HV system's failure to power up. These included a depleted or faulty 12V battery, poor or corroded wiring connections, and the possibility of a blown or damaged high-voltage fuse. I visually inspected the battery terminals and cables for corrosion and secure fitting and checked continuity on key wiring circuits.

Seeing that it all looked fine, I took the inverter cover off to do a visual inspection of the connections in there, upon checking, I noticed a bolt was missing on the connector to the three-phase motor, which I suspected was the issue for the fault code that showed up earlier

Following inspection, I decided to remove the connector that was missing a bolt to test it for continuity.



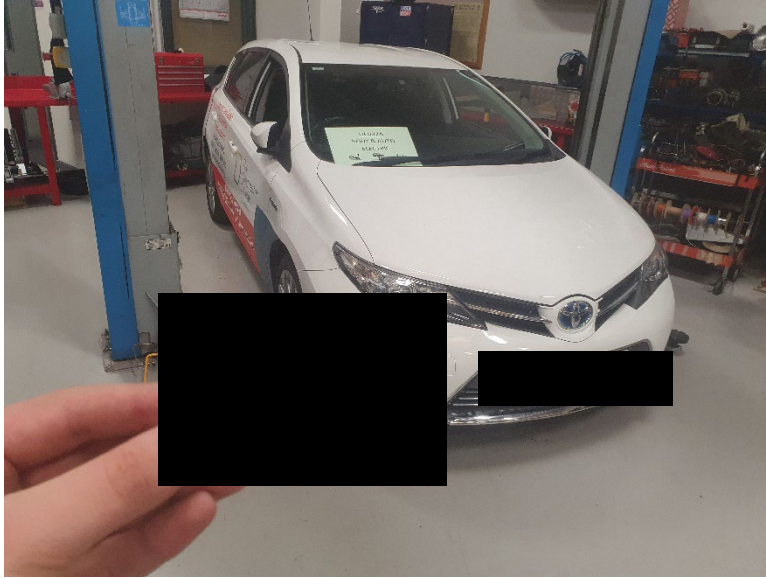
I got a new bolt which I put on it and then placed the cover back on.

After ensuring the vehicle was fault-free, I reconnected the 12V battery and carefully re-energized the HV system in accordance with manufacturer guidelines. I then ran system checks to confirm that the HV components powered up correctly and that no warning indicators remained on the dashboard.

I cleared the fault codes using the OBD scanner and conducted a retest to confirm whether the faults returned under live conditions.

Once the vehicle's HV system was confirmed operational, I removed all safety signage, cleared the work area of tools and debris, and ensured it was left in a clean, hazard-free state. Finally, I recorded all actions taken, including test

results, fault codes, and corrective measures, in the job documentation for traceability and future reference.



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Task 2C – Assessor observation

Candidate Name	Candidate number
Provider name	Date

Complete the table below referring to the relevant marking grid, found in the assessment pack.

Do not allocate marks at this stage.

This observation must cover	Assessor observation should include:	Assessment Themes
Work area preparation	<ul style="list-style-type: none"> the work area preparation. 	<ul style="list-style-type: none"> Health and Safety Planning and Preparation Systems and Components
Maintenance and repair activities – vehicle 2	<ul style="list-style-type: none"> decommissioning and inspection of the vehicle systems disassemble and reassemble the relevant system(s) diagnosing and recording faults within the systems, including carrying out appropriate tests and measurements safe isolation of the high voltage system repairing faults and replacing components as required safely using the appropriate tools and equipment re-energising the high voltage system and recommissioning the vehicle demonstration of vehicle functionality to the manager re-instating the work area. 	<ul style="list-style-type: none"> Health and Safety Planning and Preparation Systems and Components Working with faults Reviewing and Reporting

Notes – detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.

Work area preparation:

Candidate ensured the work area was set up correctly with barriers in place to provide safe area of work although safety signage was present this could have been made more visible due to positioning. Candidate ensured safety equipment was located appropriately

Maintenance and repair activities – vehicle 2:

- decommissioning and inspection of the vehicle systems
candidate correctly decommissioned the vehicle, ensuring keys were kept away and vehicle was in an appropriate position to be lifted onto a 2 post ramp if needed. A good vehicle inspection was carried out where faults were noted.
- disassemble and reassemble the relevant system(s)
confidence was shown during all disassembly and reassembly procedures, ensuring parts were fitted correctly and no further faults had been caused.
- diagnosing and recording faults within the systems, including carrying out appropriate tests and measurements
a step-by-step approach was used to diagnose faults with verbal reminders taking place to ensure no steps were missed. Measurements were understood and outcomes from this clarified.
- safe isolation of the high voltage system
candidate ensured safe isolation steps were followed correctly ensuring the system was safe to work on.
- repairing faults and replacing components as required
repairs were conducted where possible to provide cost effective repair, and new parts fitted to ensure safety of vehicle systems.
- safely using the appropriate tools and equipment
candidate correctly used appropriate tools where needed, ensuring all tools were used carefully to avoid damage to the insulation.
- re-energising the high voltage system and recommissioning the vehicle
high voltage system was re-energised correctly after conducting step-by-step checks to ensure it was safe to do so and no harm or damage would be caused.
- demonstration of vehicle functionality to the manager
candidate correctly demonstrated vehicle functionality and provided good examples of how rectification processes had taken place.
- re-instating the work area.
Candidate ensured work area was re-instated to a good standard with all equipment returned back to correct locations. Candidate ensured safety equipment and high voltage tooling were stored in the correct manner and insulations checked for any damage.

Internal assessor signature	Date

Task 2C - Completed manufacturers records

Maintenance Schedule and Records

03	30/11/2024	Repair	AB	<ul style="list-style-type: none"> Diagnosed engine management fault, replaced air mass meter confirmed component meets manufacturer specifications replaced both rear tyres (1.6mm) 	
04	8/5/25	Repair		Replaced isolation plug and fixed hybrid system	
05					
06					

Maintenance Schedule –annual unless specified otherwise					
Service No	Year	Detail inspection	Recommended planned maintenance	Service Advisor signature	Technician signature
01	2023	Annual	Annual- routine/scheduled	D Jones	J Smith
02	2024	Annual	Annual- routine/scheduled	D Jones	A Bloggs
03	2025	Annual	Annual- routine/scheduled	D Jones	J Smith
04					
05					

Maintenance Schedule and Records

Equipment/System type	Identification No.
Vehicle 2 (Electric/Hybrid)	8712-315
Brand/Model	Location
City and Guilds	Workshop

Equipment/System specification
<ul style="list-style-type: none"> Please refer to manufacturer's vehicle specification documentation (supplied by provider).

Maintenance records					
Service No	Maintenance date	Maintenance type (fault/repair, scheduled/routine, requested)	Checked by	Repair details (where relevant)	Technician signature
01	29/05/2023	Scheduled	JS	<ul style="list-style-type: none"> Carried out an annual service to manufacturer specifications. Vehicle functioning as per vehicle specification following annual maintenance activity. 	J Smith
02	18/04/2024	Scheduled	JS	<ul style="list-style-type: none"> Carried out an annual service to manufacturer specifications. Noted both rear tyres are close to the legal limit. 	A Bloggs

Task 3A Review and report the service, maintenance and repair activities

Assessment number (eg 1234-033)	8712-315
Assessment title	Light and Electric Vehicles Occupational specialism

Candidate name	<first name> <surname>
City & Guilds candidate No.	ABC1234

Provider name	<provider name>
City & Guilds provider No.	999999a

Task(s)	3A
Evidence title / description	A technical report Revised maintenance schedule for vehicle 1
Date submitted by candidate	DD/MM/YY

Task 3A

Assessment themes:

- Health and safety
- Systems and components
- Reviewing and reporting

You must:

- produce a technical report for your manager, covering both vehicles and includes the service, maintenance and welding/joining activities. This should typically be 850 words and must include:
 - a review of the service, maintenance and welding/joining activities, including fault diagnosis/detection techniques used and suggestions for future improvements
 - the faults found and how they were rectified
 - any outstanding faults, including recommendations that may require attention before the next planned maintenance activity according to the current maintenance schedule
 - reporting of stock levels and waste disposal
- produce a revised maintenance schedule for vehicle 1 from your activities and findings, this should include:
 - recommendations for future planned maintenance including justifications
 - due date of next service and maintenance activity.

Additional evidence of your performance that must be captured for marking:

none

Candidate Evidence

Task 3A – Technical report

Vehicle 1 – Petrol Vehicle – No Crank & Full Service

Reported Issue: The vehicle was not cranking at all and was also due for a full scheduled service.

Diagnosis & Repair Process: I began by carrying out a visual inspection of the car and noted all previously existing marks and scratches, before pushing the car onto the lift. I did a basic battery test. The battery voltage was low rendering it faulty, so I replaced it with a new one. After installing the new battery, the car still did not crank. I then used a diagnostic tester to scan for faults and check for any abnormal system responses. The diagnostic tester confirmed that the issue was with the starter.

Following this, I physically inspected the starter motor and found that although power was reaching the solenoid, the motor itself was not engaging. Upon closer checks, I discovered that the wire linking the solenoid to the motor was corroded and rusted through. Since this part could not be easily repaired, I replaced the entire starter motor unit.

Once the starting issue was resolved, I proceeded to carry out a full service. This included:

- Replacing the engine oil and oil filter
- Replacing the air filter and pollen filter
- Checking and topping up all fluids (coolant, washer, brake, transmission)
- Inspecting the brakes, tyres, suspension, lights, and underbody
- Resetting service lights using the diagnostic tool

All necessary waste fluids and parts were disposed of in accordance with workshop environmental guidelines.

Vehicle 2 – Hybrid Vehicle – High Voltage Isolation & Connector Fault

Reported Issue: The hybrid vehicle had the hybrid system warning light on the dash. And the ready light was not coming on (car not starting)

Diagnosis & Repair Process: I began with a full safety check, ensuring PPE and hybrid vehicle protocols were followed, including using HV gloves and tools. Using a diagnostic tester, I scanned the vehicle's systems and identified a fault with the interlock circuit.

After unplugging the low voltage battery and with PPE on removed the service plug to de-energize the system, i saw that one of the pins on it was faulty and that's why the code

probably appeared, before replacing it i wanted to take a look under the inverter cover now that the car is de-energized and saw that a bolt was missing on the three-phase motor connector, i put a new bolt on and close everything back up.

I proceeded to:

- Fit a new OEM service plug
- Reset all fault codes via diagnostic tester and ran a drive cycle

After repairs, no warning lights reappeared, and the vehicle operated as expected under load.

Job 3 – Welding Job – Bracket on Exhaust Pipe (Vehicle 1)

Task Overview: A bracket needed to be welded onto an exhaust section for vehicle 1 to support a pipe extension. This was carried out off the vehicle, secured in a vice on a dedicated welding workstation.

Welding Procedure: I began by preparing the workstation in accordance with Health and Safety standards (HASAWA), ensuring all PPE was worn — including a welding helmet, welding gloves, apron, and safety boots. Extraction was switched on and positioned correctly.

Steps completed:

- Cleaned the bracket and pipe using a wire brush
- Clamped the pipe into the vice and marked bracket placement
- Set up the MIG welder with the required measures
- Conducted a tack weld, then a full continuous weld ensuring overlap for strength
- Allowed the joint to cool naturally
- Inspected and ground the weld slightly for excess if needed

Once completed, I turned off the gas, welder, and extraction, cleaned the area, and checked the weld visually for any defects. The bracket was secure, the weld was sealed, and the component was ready to be fitted to the vehicle later.

Task 3a – Revised maintenance schedule

Vehicle 1, Toyota auris	
Recommended Maintenance schedule	Advisories
Every year or every 10,000 miles	<ul style="list-style-type: none"> • Investigate potential oil leak • Check for missing caps on reservoirs • Replace the 3 tires with tread less than 3mmt • Get track rod end on both sides checked or repaired <p>Frequently check liquid levels and top up as necessary</p>
Justification	
<p>I recommended the yearly service schedule because the car was i generally good shape and it's not a very old car either, the oil was not looking very bad and the only issues I found on the car were just bodywork, although 3 of the 4 tires are above legal requirement, replacing the 3 with less than 3mm is good practice and to stay on the safe side.</p>	

Task 3B Peer Review

Assessment number (eg 1234-033)	8712-315
Assessment title	Light and Electric Vehicle Occupational specialism

Candidate name	<first name> <surname>
City & Guilds candidate No.	ABC1234

Provider name	<provider name>
City & Guilds provider No.	999999a

Task(s)	3B
Evidence title / description	Completed peer review forms Candidates amended document following peer review
Date submitted by candidate	DD/MM/YY

Task 3B

Assessment themes:

- Health and safety
- Systems and components
- Reviewing and reporting

Your job card for vehicle 1 (Task 2A) will now be reviewed by two peers to provide you with feedback. All candidates will also peer review two job cards produced by other candidates. Assessors must distribute the job cards for candidates to review and provide Peer review forms for candidates to complete the written feedback.

You must:

- carry out a peer review on two job cards provided by the assessor. You must consider the following:
 - how well does the job card for vehicle 1 record the service work completed and align to the planned maintenance activity?
- how appropriate are the recommended service works to complete and why?
 - what are the implications to the business of the proposed job card for vehicle 1?
 - how could the job card for vehicle 1 be optimised / improved?
- write up feedback for each of the job cards produced by other candidates on separate peer review forms
- update your own job card for vehicle 1 following feedback from the peer review. Any updates need to include justifications for these changes and any changes not made will be reviewed in the handover.

Additional evidence of your performance that must be captured for marking:

none

Candidate evidence

Task 3b – Peer review forms

Assessment ID	Qualification number
Candidate name	Candidate number
Provider name	Provider number
Date	Series

Question	Feedback
How well does the job card for vehicle 1 record the service work completed and align to the planned maintenance activity?	The job card gives a clear step-by-step breakdown of fault diagnosis and repair. It aligns well with the planned maintenance as it includes both reactive repairs (starter motor fault) and the standard service work.
How appropriate are the recommended service works to complete and why?	The service was essential given the vehicle's condition and customer complaints. Replacing the faulty battery and starter motor was appropriate as both were directly contributing to the no-crank issue. The follow-up service ensured the vehicle would run reliably.
What are the implications to the business of the proposed job card for vehicle 1?	It reflects positively on the workshop — demonstrating thorough diagnostic procedures and good technical decisions. Proper documentation supports transparency with customers and helps with warranty or audit situations.
How could the job card for vehicle 1 be optimised / improved?	The job card could benefit from clearer referencing of service intervals and parts used, especially for the routine service section. Including torque settings or fluid quantities would make it clearer.

Peer review form

Assessment ID	Qualification number
Candidate name	Candidate number
Provider name	Provider number
Date	Series

Question	Feedback
How well does the job card for vehicle 1 record the service work completed and align to the planned maintenance activity?	The job card covers the major work well but could include more customer-facing language or details about preventative benefits of the service. The maintenance aligns, but some clarity on timing (e.g., “this was due at 60k miles”) would be useful.
How appropriate are the recommended service works to complete and why?	They were necessary. If the starter hadn’t been replaced, the car would’ve remained undrivable. Same for the battery. By performing the service afterward, they are also giving themselves the time and chances to take closer looks at the car after repairing the main issue so they can catch any other upcoming issues
What are the implications to the business of the proposed job card for vehicle 1?	It builds customer trust when all faults are logged and addressed methodically. If priced correctly, this also generates revenue from both labor and parts, boosting the average job value
How could the job card for vehicle 1 be optimised / improved?	Use clearer headings or sections to separate diagnostics, repairs, and service items. Mention if parts fitted come with a warranty and whether any advisories were noted for future work.

Task 3b – Candidates amended job card

<p>Job details:</p> <p>Initial Inspection & Diagnosis:</p> <ul style="list-style-type: none"> Performed battery voltage and load test. The voltage was below the recommended threshold and failed the load test. Battery replaced using correct procedure. Old unit safely disposed of following workshop environmental policy. After replacement, the vehicle still did not crank. Used diagnostic tester to check for ECU communication, immobilizer faults and crank signal. No DTCs present. Live data showed no RPM signal when attempting to crank, confirming mechanical or electrical faults. <p>Starter Motor Fault Investigation:</p> <ul style="list-style-type: none"> Conducted voltage test at starter solenoid while key was in the start position — confirmed voltage present. Checked ground connections — all tested OK. Removed starter motor for inspection. Found internal link between solenoid and motor heavily corroded and fractured. Replaced complete starter motor unit (torqued mounting bolts to 45Nm). Checked power/ground connections and starter engagement before installing, they were all functional. <p>Scheduled Maintenance Service (10,000 miles):</p> <p>Performed service according to manufacturer's service schedule:</p> <ul style="list-style-type: none"> Engine oil (5W30 fully synthetic) replaced 4.5L filled Oil filter replaced (torqued to 25Nm) Cabin filter replaced Brake fluid level checked and topped up, cap missing, new one fitted Coolant level checked and topped up Tyres inspected and pressures adjusted Brake pads checked, 6mm left all around Suspension inspected, slight play on track rod end both sides Lights and wipers checked, brake lights all faulty, all replaced 	<p>PPE used during job:</p> <p>Safety boots, gloves, overalls, eye protection.</p> <p>Tools used during job:</p> <p>Basic hand tools, multimeter, code reader, oil drain equipment</p> <table border="1" data-bbox="999 674 1445 1951"> <tr> <td data-bbox="999 674 1225 1951"> <p>Technical data used:</p> </td> <td data-bbox="1225 674 1445 1951"> <p>Service manual specifications, electrical wiring diagram</p> </td> </tr> </table>	<p>Technical data used:</p>	<p>Service manual specifications, electrical wiring diagram</p>
<p>Technical data used:</p>	<p>Service manual specifications, electrical wiring diagram</p>		

<ul style="list-style-type: none"> • Service interval reset using diagnostic tool • Road tested to confirm vehicle starts and runs correctly, no further faults reported <p>Parts Used (Warranty Info):</p> <ul style="list-style-type: none"> • Battery – 3-year warranty • Starter motor – 1-year manufacturer warranty • Oil filter, air filter – standard service parts 		
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Task 4 Complete Handover

Assessment number (eg 1234-033)	8712-315
Assessment title	Light and Electric Vehicle Occupational specialism

Candidate name	<first name> <surname>
City & Guilds candidate No.	ABC1234

Provider name	<provider name>
City & Guilds provider No.	999999a

Task(s)	4
Evidence title / description	Assessor observation Handover documentation
Date submitted by candidate	DD/MM/YY

Task 4

Assessment themes:

- Reviewing and reporting

You must now hold a meeting with the manager to return to service and complete handover procedures, including:

- welded/joined exhaust bracket
- confirmation of work completed
- amended job card for vehicle 1 and how they addressed peer review feedback, including any suggested changes that were not made and why
- appropriate handover documentation.

Additional evidence of your performance that must be captured for marking:

Assessor observation of:

- handover meeting

Candidate evidence

Task 4 – Assessor observation

Candidate Name	Candidate number
Provider name	Date

Complete the table below referring to the relevant marking grid, found in the assessment pack.

Do not allocate marks at this stage.

This observation must cover	Assessor observation should include:	Assessment Themes
Handover	<ul style="list-style-type: none"> the handover of the work completed. 	<ul style="list-style-type: none"> Health and Safety Reviewing and Reporting

Notes – detailed, accurate and differentiating notes which identify areas of strength and weakness are necessary to distinguish between different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.

Handover:

Candidate conducted themselves well and provided an explanation of work carried out on the vehicle systems

Candidate used limited technical language.

Internal assessor signature	Date

Principal Moderator Commentary

The candidate was able to interpret the technical information provided, including workshop manuals and manufacturer's data, and used this information to guide their practical tasks. For example, when replacing the oil on the light vehicle, the candidate consulted the service documentation to identify the correct torque settings for the sump bolt. Although the process was not always executed seamlessly, the candidate planned the work in a logical sequence, laying out tools in advance and conducting a basic risk assessment before starting. Their approach demonstrated an awareness of safe working methods, ensuring the vehicle was correctly supported on the workshop ramp before removal of the wheels. This aligns with the descriptor that at pass level, candidates can interpret information and apply safe methods appropriately to an acceptable standard.

The candidate adequately prepared the working area before beginning the tasks. They inspected the immediate workspace for obstructions, laid out protective floor coverings, and ensured they were wearing all correct PPE. During the activity, used components were placed to one side, preventing clutter and hazards on the bench. While their housekeeping was not exemplary, with some tools left out at the end of the session, the standard achieved was acceptable and demonstrated an awareness of risk reduction and safe working practices. This supports the requirement for safe preparation and basic housekeeping techniques.

In terms of diagnostic ability, the candidate demonstrated basic competence. When presented with a vehicle showing non start conditions, they correctly identified no current flow from the alternator as a possible cause and checked the charge out rate with appropriate equipment. Their diagnostic process was somewhat limited, as they did not fully explore alternative causes, but they were able to follow through with a corrective adjustment in line with the brief. This evidence demonstrates adequate technical skill, sufficient to meet the descriptor of completing diagnostic and repair activities at a basic but functional level.

The candidate displayed adequate proficiency in the selection and use of hand tools and workshop equipment. When removing and replacing a 12V auxiliary battery in a vehicle, they followed safe isolation procedures, disconnecting the negative terminal first and reconnecting it last. They used a torque wrench to tighten connections to component specification, showing they can apply safe working practices with tools and equipment. Although the task took longer than might be expected, the final outcome was safe, compliant, and acceptable.

This aligns with the pass descriptor of demonstrating adequate skills with tools and equipment.

The candidate has shown a sound but basic understanding of the principles behind disassembly, repair, and reassembly. For example, when replacing a light vehicle starter motor, they were able to remove, inspect, and replace the unit, following manufacturer-specifications. While minor prompting was needed to confirm the correct diagnosis, tolerances and calibration of equipment were mostly adhered to. This meets the expectation that pass candidates demonstrate basic knowledge and ensure that “most” tolerances and processes are in line with specification.

Throughout the observed tasks, the candidate demonstrated a consistent awareness of safe working practices. They wore appropriate PPE, isolated electrical systems where necessary, and maintained an awareness of hazards in the workspace. For instance, when working with high-voltage cabling in the electric vehicle task, the candidate appropriately used insulated tools and checked warning labels. Although their confidence was limited, their caution and adherence to procedure ensured safety was maintained. This matches the pass-level requirement of working safely with a suitable level of awareness.

The candidate used technical terminology adequately, though with some inconsistency. In verbal explanations, they sometimes defaulted to informal phrasing (e.g., “big nut” instead of “hub retaining nut”), but in written notes and checklists they demonstrated clearer use of correct terminology such as “torque wrench,” “caliper,” and “tracking adjustment.” Their communication would benefit from more consistent accuracy, but the evidence is sufficient to show that industry terminology was mostly used appropriately and that both technical and non-technical audiences were considered.

Get in touch

The City & Guilds Quality team are here to answer any queries you may have regarding your T Level Technical Qualification delivery.

Should you require assistance, please contact us using the details below:

Monday - Friday | 08:30 - 17:00 GMT

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W: <http://www.cityandguilds.com/tlevels>

Web chat available [here](#).

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