

**T Level in Engineering and
Manufacturing for Maintenance,
Installation and Repair**

**8712-315 Light and Electric Vehicle
Occupational Specialism Report
(Summer 2024)**

Version and date	Change detail	Section
1.0 08/08/24		

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Foreword

Summer 2024 Results

The occupational specialism qualification is made up of one component, which needs to be successfully achieved to attain the T Level Light and Electric vehicle Occupational Specialism.

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 ([grading-arrangements-for-vtqsand-technical-qualifications-within-t-levels-in-the-academic-year-2023-to-2024](#)), whilst also recognising the standards required for these qualifications.

Introduction

This document has been prepared to be used as a feedback tool for providers in order to support and enhance teaching and preparation for assessment. It is advised that this document is referred to when planning delivery and when preparing candidates for the T Level Technical Qualification (TQ) in Engineering and Manufacturing **Occupational Specialisms**.

This report provides general commentary on candidate performance in the occupational specialism assignment. It highlights common themes in relation to the technical aspects explored within the assessment, giving areas of strengths and weakness demonstrated by the cohort of candidates who sat assessments in the summer 2024 assessment series.

The grade boundaries that were used to determine candidate's final summer 2024 results are also provided. **For summer 2024, as per Ofqual guidance, the approach to grading recognises that these are new qualifications.**

8712-315 Occupational Specialism

Task 1 Plan the service and maintenance activities:

Candidates were required to produce several key documents for marking: a list of requirements and resources, including justifications for their selections, a completed risk assessment and a method statement.

High performing candidates produced risk assessments that were detailed and highlighted all associated risks they may encounter when completing the tasks. They also provided detailed justifications of technical data and equipment and provided specific reasons why a piece of data or tool may be required. The high performing candidates produced job cards that considered the upcoming task and contained boxes to enter critical information.

Low performing candidates produced lists of tools and equipment that were limited, justification for tools were missing or incomplete. Some candidates listed technical websites as technical data but were not specific about which item of data was needed or why. The job cards produced by the low performing candidates were limited in scope and were generally written lists or typed documents.

Actions providers can take to support assessment preparation for future series:

Improve candidates' knowledge on the risks associated with electric vehicles. This will enable candidates to provide more detailed risk assessments and justifications.

Task 2a Perform a full service and maintenance on vehicle 1:

Candidates are required to complete a full service and maintenance activity in accordance with their planning documentation produced in Task 1. Candidates were required to decommission and inspect the vehicle, diagnose and record faults, including carrying out appropriate tests and measurements, replace faulty components and consumables as required in the service schedule and any fault diagnosis, using the appropriate tools and equipment, before recommissioning the vehicle and reinstating the work area. Candidates were asked to complete service sheets and complete job cards to report the activities completed.

High performing candidates followed manufacturer guidelines when completing the service. They then carried out diagnosis checks on the oxygen sensor or coolant sensor using the diagnosis scanner, guided testing and using a multi-meter. High performing candidates worked methodically and safely throughout the task and carried out calibration checks on the multi-meter and on the torque wrench. High performing candidates completed their job cards in a logical sequence and reported using comparisons to technical data where necessary.

Low performing candidates generally followed a methodical process when completing the service, however they lost marks through lack of confirmation steps when diagnosing components, i.e. the candidate found a fault code then requested a part. Some low performing candidates completed secondary checks but lost marks through lack of comparison to manufacturer data.

Actions providers can take to support assessment preparation for future series:

In preparation for the next series candidates need to be taught the importance of using diagnosis steps/logical sequences to confirm diagnosis and rectification activities. Candidates need to be taught the importance of checking tools for correct and up to date calibration.

Task 2B Perform the joining/welding/fastening activity:

Candidates were required to complete a plastic bond/weld to a crack on a bumper.

Higher performing candidates used tools and equipment safely. The high performing candidates completed cleaning and prepared the surface before commencing the weld they also completed the weld to manufacturer standards.

Low performing candidates did not prepare the work surfaces adequately before bonding. Some low performing candidates completed a weld that was not consistent with industry standards.

Actions providers can take to support assessment preparation for future series:

Providers should teach the importance of work area preparation and proper preparation of the surfaces prior to the joining activity. Providers should teach the candidates all the associated risks that accompany the joining activity and mitigation measures.

Task 2C Perform maintenance and repair activities on vehicle 2:

Candidates were required to carry out a maintenance activity on a high voltage vehicle. The candidates were required to diagnose and repair two faults.

Most candidates were able to successfully diagnose the interlock connector with most providers fitting a damaged component and assessing candidates' performance in diagnosis.

High performing candidates used a methodical approach to diagnosis, using industry approved skills in testing resistance and continuity in the high voltage components. High performing candidates carried out safety checks on the high voltage PPE and ensured calibration and date checks on tools were carried out. High performing candidates also provided detailed narratives using the job cards using industry recognised terminology.

Low performing candidates did not follow steps to diagnose components and used DTCs to determine faulty components without confirmation checks. Low performing candidates did not evidence checks on PPE and in most cases did not carry out calibration checks on testing equipment.

Actions providers can take to support assessment preparation for future series:

Ensure candidates are aware of the importance of the checking equipment prior to use, specifically checking multi-meters before carrying out resistance and high voltage testing. Health and Safety should be taught throughout, and providers should embed this throughout the curriculum.

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

Candidates were required to produce a technical report and a revised maintenance schedule, accompanied by justifications.

High performing candidates produced detailed reports that clearly identified and evaluated the steps they had taken in the tasks. High performing candidates made comparisons to technical data, referred to calibration checks and made references to health and safety throughout the report. Lower scoring candidates use some incorrect technical language and presented reports that did not contain references to technical data with content superficial in places, showing gaps in knowledge and understanding of principals and processes relating to Light and Electric vehicle maintenance activities.

Actions providers can take to support assessment preparation for future series:

A greater emphasis on the ability of candidates to write technical reports, making reference to health and safety and using manufacturer data to justify diagnosis decisions.

Task 3B Peer review:

Candidates were required to conduct a peer review of two annotated method statements provided by the assessor, write detailed feedback for each, and subsequently update their own annotated method statements based on the peer feedback received.

High performing candidates completed detailed peer review documents that met the four key areas. The high performing candidates also provided justifications of changes and provided thorough evaluation of the implications of the changes. Lower performing candidates provided less justification for changes or made changes to a document that was not appropriate. Some low performing candidates amended service tick sheets or changed their write ups without thorough justification.

Actions providers can take to support assessment preparation for future series:

Teach peer reviewing skills and facilitate practice activities that involve reviewing their own and other candidates work.

Task 4 Complete Handover:

Candidates are required to conduct a formal meeting with their supervisor to facilitate the return to service and complete the handover procedures. This included demonstrating vehicle functionality and confirming the completion of assigned tasks.

High performing candidates led the handover and demonstrated confident presentation skills. The high performing candidates gave effective demonstrations of the fully functioning vehicles and gave thorough explanation of the steps they had completed to diagnose the faults, including health and safety considerations. Lower performing candidates completed the handover by listing steps they had taken without thorough explanation. Some lower scoring

candidates did not provide operational demonstration of the vehicles and gave verbal overviews of completed tasks.

Actions providers can take to support assessment preparation for future series:

Improve candidates' presentation skills and confidence in using technical terminology, ensuring their work is structured and coherent.

Best practice and guidance to providers on potential areas for improving performance in assessment

It is recommended that providers utilise and deliver the sample assessments as formative assessment to support candidates in preparation for summative assessment. This will not only help prepare candidates but will be an ideal opportunity for marker training and standardisation.

The centre staff and candidates must thoroughly read the assessment to ensure the work is carried out to the design criteria required. Moderators will be working to the assessment brief and marking grids and making judgments accordingly.

Appropriate PPE should be worn at all times and assessors should ensure that candidates are working safely and should not come to harm or risks to health from the materials, tools or equipment and vehicles used in the assessment.

Where photographic evidence is requested ensure all stages of service and maintenance are included.

Photographs do not need to be great in number but do need to show everything a moderator would require to be able to perform the remote moderation work. Photographs need to be of sufficient resolution to enable “zooming in” to determine quality. Photographs should be collated into one document, and well labelled, and with commentary if possible.

Videos will need to show specific and important points of the assessment, for instance the candidate completing handover activities.

Utilisation of the Photographic Evidence Guidance Document would support providers to capture relevant and valuable information for marking and moderation purposes to support practical observation feedback.

Providers should ensure that practical observation forms are detailed, covering all aspects of the activity being observed. The practical observation records should contain accurate information, specific to the candidate being observed and offer differentiating commentary between individual candidate’s performance utilising the marking grid terminology. They should also identify areas of strength and weakness to distinguish between the different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.

Support materials

Sample and Past Occupational Specialism (OS) Assessments:

It is recommended that Providers utilise and deliver the **sample OS** as well as **past OS** (if available) as formative assessment to support candidates in preparation for summative assessment.

Sample and past OS (if available): [T Level Practical Assignment - Light and Electric Vehicles: Sample Assessor Pack \(cityandguilds.com\)](#)

Guide Standard Exemplification Material (GSEM) Assessments:

It is also recommended that Providers utilise the **GSEMs** to help understand the standard required to achieve a Distinction and Pass grade.

8712-315 OS Distinction GSEM: [T Level Technical Qualification in Maintenance, Installation and Repair – Light and Electric Vehicles – Guide Standard Exemplification Materials – Distinction \(cityandguilds.com\)](#)

8712-315 OS Pass GSEM: [T Level Technical Qualification in Maintenance, Installation and Repair – Light and Electric Vehicles – Guide Standard Exemplification Materials – Threshold Competence \(cityandguilds.com\)](#)

TQ Occupational Specialism Assessment Process Guide:

The guide gives support to Providers in preparing for and delivering T Level Occupational Specialism assessments.

Link: [TQ Occupational Specialism Assessment process guide \(cityandguilds.com\)](#)

Events and Webinars:

City & Guilds run free webinars and events throughout the year on preparing for and delivering the T Level Occupational Specialisms. The below link provides details on upcoming in person events, live webinars, on-demand webinars and preparation for the Occupational specialism assessment.

Link: [Events and webinars - T Levels | City & Guilds \(cityandguilds.com\)](#)

Grade boundaries

The table below shows the grade mark ranges for the Occupational Specialism **for the summer 2024 series**.

Grade	Mark range 8712-315
Distinction	69-70
Merit	53-68
Pass	37-52
Unclassified (U)	0-36

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:

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Web chat available [here](#).

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