

End-point Assessment
Guidance Document for:

Level 4 Propulsion Technician

Standard Reference: ST0588



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Document Amendments

Amendment Made	Issue Number	Effective From
New document	1	07.2021

Apprentice Guidance for Case Study Project: report, presentation and questioning, Occupational Competence Discussion and the End Point Assessment Grading

Overview

The end-point assessment is designed to enable you to demonstrate that you are fully conversant in the skills, knowledge and behaviours expected of individuals working at this level. It is designed to provide assessors with a holistic view of you, and to allow them to assess to what extent you meet or exceed the Level 4 Propulsion Technician Apprenticeship standard.

What is being assessed?

Your End Point Assessment is made up of **two** elements:

- **Method 1:** Case study project: report, presentation and questioning
- **Method 2:** Occupational competence discussion, underpinned by supporting evidence

Readiness for the End-point Assessment (Gateway)

The independent end-point assessment is synoptic, as it takes an overview of your occupational competence. It is important, therefore, that this should only take place when your employer is confident that you have met all the knowledge, skills and behaviours as set out in the standard and are performing competently in your job role. Readiness for end-point assessment is confirmed once your employer is satisfied that you have demonstrated occupational competence against all the knowledge, skills and behaviours specified in the standard, completed the portfolio of evidence and achieved the mandated qualifications.

- You must have achieved Level 2 in English and mathematics. If you have an education, health and care plan or a legacy statement the English and mathematics minimum requirement is Entry Level 3 and British Sign Language qualifications are an alternative to the English qualifications for whom this is their primary language.
- There must be agreement between your employer and independent assessor on the title and content of the case study project to be completed by you during your end-point assessment period. The case study project will be the basis of the report, presentation and questioning for assessment method 1. Your project should allow you the opportunity to cover the KSBs assigned to this method of assessment and the following should be discussed and agreed at the gateway as a minimum:
 1. Background
 2. Outline of the project to be undertaken
 3. Justification for the project (business need/impact and alignment to the relevant KSBs)
 4. Potential risks
 5. Consideration of legislation, regulation, industry and organisational policies, procedures and requirements
 6. Proposed plan for implementation
 7. Stakeholder engagement (internal and/or external)
 8. Measures of success
- Supporting portfolio of evidence for Method 2 (Occupational Competence Discussion)
- The apprentice can then progress to the end-point assessment via the apprenticeship gateway (decision point).

EAL, as the EPAO will check the gateway information as a pre-requisite prior to the EPA taking place.

Guidelines for Assessment Method 1: Case Study Project, Report, Presentation and Questioning

The Case Study Project: Report, Presentation and Questioning must be based on a work-based project/task that you have completed during the EPA period.

Evidence from the different components – report, presentation and questioning will be assessed holistically against the KSBs as shown in **Annex A**. It will be graded - fail, pass or distinction, using the grading criteria and descriptors in **Annex B**. The planning document for the project which will be sent to the EPAO for final approval see **Annex D**.

Typically the project will be undertaken over a **6/8** week period. You must complete the report by or before the end of month three of their EPA period. The EPAOs must ensure the presentation and questioning is scheduled during the apprentice's maximum EPA period, after the report has been reviewed.

Report

- The report should contain **2500 words +/- 10%**, detailing the scope, objectives and outcomes of the case study project. The project report must include as a minimum:
 1. Department overview
 2. Project brief detailing objectives/scope
 3. Project plan
 4. Company documentation (such as build or test specifications and procedures)
 5. Tools and equipment requirements
 6. Safety requirements including any risk assessments
 7. How project objectives/scope were undertaken
 8. Project analysis and conclusions
 9. Make recommendations
 10. Mapping to relevant Knowledge, Skills and Behaviours
 11. Annex – Supporting evidence
- You must provide supporting evidence relating to the project in an annex, which does not contribute to the word count. There must be a maximum of **fifteen** discrete pieces of evidence. Evidence could include job cards, test scripts, data reports, build specifications, quality/compliance records or fault reports, pictures or links to video clips. This list is not definitive and other relevant sources are permissible. The annex must include a mapping of the evidence to the relevant KSBs for this assessment method. It is expected that each piece of evidence will cover multiple KSBs. The annex must also include a statement from the employer authenticating the apprentice's evidence. It is important that the apprentice carefully selects the evidence to be used to support the project report and only includes relevant evidence. It is not about the volume of evidence but the quality of evidence that aligns to and covers the relevant KSBs.
- The independent assessor must review the case study report and supporting evidence prior to the end-point assessment at a date, time and location agreed with the employer. This must be a **minimum of 10** working days prior to the case study project presentation. However, for efficiency reasons this time can be reduced on agreement with the EPAO, who is responsible for ensuring that the assessor has sufficient time to prepare for the presentation and questioning.
- In certain circumstances, depending on the nature of the business/department where the apprentice is employed, the evidence/documentation may not be allowed to leave the premises and/or certain cases information in the evidence may be required to be redacted for confidentiality reasons. The EPAO and independent assessors may also be required to sign a confidentiality/non-disclosure agreement with your employer.

Presentation and Questioning

- You must prepare and deliver a presentation, based on their case study project to their independent assessor.
- A technical expert from the employer can be in attendance at the request of the EPAO. Their role would be to provide the independent assessor with any relevant technical support, advice and guidance such as confirming company policies, procedures, processes, providing context on technical information or on emerging technologies. Any information provided by the employer technical expert must only be at the request of the independent assessor who assesses and determines the grade awarded. The employer technical expert must not provide evidence on behalf of the apprentice or seek to influence the apprentice or independent assessor in any way.
- The independent assessor must review the case study presentation prior to the end-point assessment at a date, time and location agreed with the employer. This must be a minimum of **10** working days prior to the end-point assessment. However, for efficiency reasons this time can be reduced depending on the number of apprentices requiring the EPA and the availability of the assessor.
- The project report and supporting evidence must be available throughout the duration of the presentation and questioning components so that it can be referenced by the independent assessor and/or apprentice.
- You should have a minimum of **two** weeks' notice of the date and time of the presentation and questioning component.
- The presentation must be **30-minutes +/- 10%** in duration.
- The presentation must cover: the project scope, outcomes/achievements, and where applicable any difficulties faced/lessons learnt and recommendations.
- You can use a range of aids to support the presentation, such as flip charts, video clips, work products/outputs and Power Points.
- The presentation must be followed by a question and answer session, which must be **35-minutes +/- 10%** in duration. The independent assessor must ask a minimum of **8** open questions. Follow up questions are allowed to seek clarification. The question and answer session will provide the opportunity for the independent assessor to seek clarification and probe for further detail/evidence as required.
- EPAOs must develop a bank of sample questions which can be used and contextualised by independent assessors during the questioning. The independent assessor can develop/adapt questions based on their review of the report, presentation and supporting evidence.
- The sample question bank must be of sufficient size to prevent predictability and must be reviewed regularly, at least one per year to ensure they, and the questions they contain are fit for purpose.
- EPAOs must provide a structured template for independent assessors to record the presentation and questioning evidence, with a clear and auditable mechanism for providing feedback to the apprentice.
- The presentation and questioning components can be recorded (audio or video) if all parties are in agreement. Where permission is not given, it is permissible for another independent assessor to be present to scribe/document evidence presented and record the response to questions. Where a second independent assessor is used to act as a scribe, they must not be involved in any assessment decision and must be independent i.e has had nothing to gain from the outcome of the assessment and has had no direct involvement in the day to day training and development of the apprentice during the on-programme phase of apprenticeship.
- The presentation and questioning components can be conducted face-to-face or via live video link (where a live video link is used the EPAO must guarantee the integrity of the assessment process).
- The presentation and questioning components must be conducted in a 'controlled environment', i.e. a quiet room, free from distraction and influence, away from the apprentice's normal work area. It is anticipated a room will be sourced at the apprentice's employer's premises to minimise cost however, other venues may be sourced as necessary.



You can record their presentation on the Template Supplied by EAL to ensure all Knowledge, Skills and Behaviours requirements have been met.

Alternatively, you can use a presentation template supplied by your employer or your own presentation templates but they must ensure the same criteria have been met:

- EAL L4 Propulsion Technician - Apprentice Presentation Template

You will evidence your report on the **Apprentice Report Template** contained within **Annex C**. This will ensure all Knowledge, Skills and Behaviours requirements have been met:

- EAL L4 Propulsion Technician - Apprentice Guidance

Guidelines for Assessment Method 2: Occupational Competence Discussion

The Occupational Competence Discussion is a structured and formal discussion between the you and the independent assessor on a one-to-one basis, informed by your supporting evidence. The supporting evidence is not directly assessed but must be used by you to illustrate your answers.

Evidence from the occupational competence discussion will be assessed against the KSBs as shown in **Annex A**. It will be graded - fail, pass or distinction, using the grading criteria and descriptors in **Annex B**. EPAOs must develop a bank of core questions which can be used and contextualised by the independent assessor during the Occupational Competence Discussion. The question bank must be of sufficient size to prevent predictability and must be reviewed regularly, at **least one** per year to ensure they, and the questions they contain are fit for purpose. The independent assessor must ask a **minimum of 10** open questions. Follow up questions are allowed to seek clarification and/or to further explore competence against the KSBs assessed by the occupational competence discussion.

EPAOs must develop a structured template for the independent assessor to use during the Occupational Competence Discussion, to provide robustness, consistency and fairness with a clear and auditable mechanism for providing feedback to you.

The requirements for the Occupational Competence Discussion are:

- The apprentice should have a **minimum of two weeks'** notice of the date and location of the Occupational Competence Discussion.

The Occupational Competence Discussion will be 60 +/- 5 minutes in duration.

- You must make your supporting evidence available throughout the duration of the Occupational Competence Discussion so that it can be referenced during the discussion and subsequent questioning by the independent assessor.
- The Occupational Competence Discussion will be conducted face to face or via live video link (where the End-Point Assessment Organisation have the facilities available and can guarantee the integrity of the end-point assessment).
- The Occupational Competence Discussion will be conducted in a 'controlled environment', i.e. a quiet room free from distraction and influence, away from the apprentice's normal work area.
- The Occupational Competence Discussion can be recorded (audio or video) if all parties are in agreement. Where permission is not given, it is permissible for another independent assessor to be present to document evidence presented and record the response to questions. Where a second independent assessor is used to act as a scribe, they must not be involved in any assessment decision and must be independent i.e has had nothing to gain from the outcome of the assessment and has had no direct involvement in the day to day training and development of you during the on-programme phase of apprenticeship.
- A technical expert from the employer can be in attendance at the request of the EPAO in order to provide the independent assessor with any relevant technical support, advice and guidance such as confirming company policies, procedures, processes, providing context on technical information or on emerging technologies. Any information provided by the employer technical expert must only be at the request of the independent assessor who has the final say over the end-point assessment and grade awarded. The employer technical expert must not provide evidence on behalf of you or seek to influence you or the independent assessor in any way.



The Independent Assessor will record answers given within the **Assessor Recording Document (ARD)**. This will ensure all Knowledge, Skills and Behaviours requirements have been met:

- EAL L4 Propulsion Technician - Assessment Recording Document

Apprentice Guidance for EPA Occupational Professional Discussion Preparation

What is an EPA Occupational Professional Discussion?

The EPA Occupational Professional Discussion is an interactive formal discussion focussed on the skills, knowledge and behaviours you need for your job role. It will enable the endpoint assessor to ask questions of you in relation to your skills, knowledge and behaviours, based on your on-programme period occupational competence report of evidence. Questions will be standardised, so that essential knowledge can be demonstrated consistently by all apprentices.

It is a structured discussion between you and the end point assessor drawing upon an occupational competence report of evidence of how you have performed during your Apprenticeship. It covers both the tasks you have completed in your day-to-day work, the standard of your work and the behaviours you have demonstrated throughout, such as being a team player, having a positive attitude and a strong work ethic; being a responsible and self-motivated employee with a proven commitment to your organisation. This enables the EPA Professional Discussion to cover a broad range of skills, knowledge and behaviours set out in the apprenticeship standard.

It will also be an opportunity for the end point assessor to:

- Clarify any points and/or question you on the evidence you have presented in the occupational competence report
- Confirm and validate that the occupational competence report of evidence is your own work
- Confirm and validate the judgements about the quality of the work you have completed
- Explore particular areas of work presented in the occupational competence report, how it was carried out, any problems that you encountered and how these were resolved
- Validate your skills, knowledge and behaviours of the organisation in terms of their products, processes, procedures and information systems.

The EPA Professional Discussion will also find out the depth and breadth of your understanding of the learning areas requirements.

Who is involved within EPA?

EAL as the EPAO can request the employer/nominated representative to attend, they may come from within their own organisation or brought in if required from other employers/nominated representative or from the training provider, but one member will come from the EPA organization. They will not have directly worked with you or participated in your learning and training. An IQA (Internal Quality Assessor) may also be present on the day for EPAO auditing purposes. The **EPA** members will have:

- Excellent knowledge and understanding of the apprenticeship standard
- The ability to contextualise the relevant **work-based** project(s)/task(s)
- Current, relevant occupational knowledge and expertise, at the relevant level of the occupational area(s) they are assessing, which has been gained through “hands on” experience in the profession within the last 5 years.

They will be ‘approved’ by EAL for the purposes of conducting the end-point assessment.

What preparation is needed for the EPA Occupational Competence Discussion?

Every EPA Occupational Competence Discussion is different, so it is not possible to know in advance exactly what the end point assessor will ask you. However, there are some common styles and approaches for this type of Professional Discussion that will help the end point assessor to assess your submitted occupational competence report. The examples you have submitted will be how you have performed your work activities and the EPA Professional Discussion will be your opportunity to show case all your skills, knowledge and behaviours. This will be the main focus during the assessment. However, you should also plan for wider questioning about your apprenticeship and what you have learned, how you have used the skills, knowledge and behaviours gained and applied this learning in your work.

It is not a memory test and you can prepare notes making reference to your occupational competence report so you may want to do this as your planned approach and have your notes with you during the Professional Discussion.

Having spent so much time developing your occupational competence report of evidence to showcase your skills, knowledge and behaviours to your employer, it may seem strange to hear that a key part of your preparations is to get to re-cap on what you have submitted in your occupational competence report. The end point assessor will expect you to have a good understanding of the contents of your work and that means knowing your on-programme period occupational competence report so you can discuss the content with minimum notes, after all you performed the tasks.

Here are some ideas to help you prepare for your EPA Occupational Competence Discussion.

- Make notes to remind you of key points you need to remember and flag pages in your occupational competence report where you may need to refer for detailed information. Practice using this method to ensure any reference you give is correct.
- Who are you? Think bigger picture. What do you know about your organisation? What do you do in your organisation? Who do you report to and interact with? Where do you sit within your organisation? How important is your work to you and your organisation? What would happen if you didn't do your job?
- Develop an introduction of yourself, what you do and the apprenticeship journey you have taken to get to where you are.
- Read through each example and think about the key features of how you do your job and the behaviours you have demonstrated. It is likely the questions from EPAO/Independent Assessor will probe stages of your approach to your work, the behaviours you have adopted to ensure it follows a logical sequence in a safe, effective and efficient manner in line with the expected organisational procedures. If you think you missed details or made a mistake during your own review of your occupational competence report, don't panic. Make a note, build it in to your showcase and prepare an answer that you can use if it is questioned during the EPA Occupational Competence Discussion.
- Work with your mentor to build your evidence against the apprenticeship standard and what is required for the standard and how your evidence meets those requirements. Your EPA Occupational Competence Discussion will find out your depth and breadth of understanding of the competence requirements.
- Be clear when discussing your work in the context of what you did. Think about including 'I' instead of 'We'.
- For example; 'I was responsible for.....' and when discussing working in a team be clear in defining what your contribution was and the work elements you completed.
- Practice showcasing examples of your work to yourself and then with others who are not involved in the EPA Professional Discussion to gain confidence. Ask them to challenge you with questions.
- Make a list of what you need for your EPA Occupational Competence Discussion and check it off before you arrive to ensure you have all you need for a successful Professional Discussion.

What happens during the EPA Occupational Competence Discussion?

- Be prepared.
- Be well presented, you should at least be well groomed and neatly dressed.
- Stay calm and pleasant.

Your end point assessor will cover some preliminary generic items such as; introductions, the approach and timings of the EPA Professional Discussion as well as your right to appeal, in the event that you feel the final decision is not appropriate.

A series of questions will be put to you to answer and notes will be recorded by the end point assessor, For example:

- Talk us through.....
- Explain in detail.....
- Describe.....
- Give an example.....
- Demonstrate.....
- Where do you find.....
- How did you.....
- What was the objective.....
- Why did you.....

Listen carefully to the questions. Don't answer simply 'yes' or 'no' to questions; on the other hand, do not give a prepared speech. Try to answer the question as it is put to you. If you don't understand the question, ask the end point assessor to repeat it or repeat your interpretation to the end point assessor. If you still don't understand the question, then it is better to admit it than to try and bluff.

Don't be overly worried that some parts of the EPA Professional Discussion were really difficult; it is only by pushing you to your limits that the end point assessor can determine your ability.

At the end of the assessment you will be informed the EPA Occupational Competence Discussion is over. Collect your papers and any items you prepared and breathe – well done you have just completed your EPA Occupational Competence Discussion.

Guidelines for Grading Methods 1 and 2

Independent assessors must individually grade each assessment method – fail, pass or distinction, according to the requirements set out in this plan. Restrictions on grading apply where apprentices re-sit/re-take an assessment method – see re-sit/re-take section below.

The EPAO must combine the grades of both assessment methods to determine the EPA grade. The assessment methods are equally weighted. To achieve an EPA pass, apprentices must achieve at least a **pass** in both assessment methods. To achieve an EPA distinction, apprentices must achieve a distinction in both assessment methods (See **Annex B**). The apprentice has failed if they do not achieve a pass in all the relevant KSBs for both assessment methods (See **Annex A**). The apprentice is awarded a pass if they have demonstrated the requirements for a pass in all the relevant KSBs for both assessment methods (See **Annex A**). See grading combinations table below.

Independent assessors' decisions must be subject to moderation by the EPAO – see internal quality assurance section below. Decisions must not be confirmed until after moderation.

Project report, presentation and questioning grade	Occupational competence discussion grade	Overall EPA grade
Fail	Fail	Fail
Pass	Fail	Fail
Fail	Pass	Fail
Distinction	Fail	Fail
Fail	Distinction	Fail
Pass	Pass	Pass
Distinction	Pass	Pass
Pass	Distinction	Pass
Distinction	Distinction	Distinction

The independent assessment panel members will complete the overall scoring and grading tables within the Assessment Recording Document (ARD) provided by EAL:

- EAL L4 Propulsion Technician - Assessment Recording Document

The EPA must be completed over a maximum period of **6-months**, after you have met the EPA gateway requirements. It is anticipated that the case study presentation and questioning components will take place on the same day as the occupational competence discussion to aid efficiency, although this is not a requirement. The **two** assessment methods can be undertaken in any order. When completed on the same day, it is recommended that there is a break of **45-minutes** between the **two** assessment methods to allow the independent assessor to record notes and make the assessment decision. It will also allow you and independent assessor to prepare for the second assessment method.

You will be informed of the overall assessment decision as soon as possible after both end-point assessment methods have been completed. This may be after the End-Point Assessment Organisation has moderated the decisions made by independent assessors.

Requirements for each assessment method are detailed in the guidelines below.

Performance in the EPA will determine your grade awarded i.e. fail, pass or distinction.

Confirmation of the outcomes will be sent to your employer and once agreed, EAL as the EPAO will submit your results and request your apprenticeship certificate.

Re-sits and Re-takes

If you are awarded a **Fail** in **one** or both assessment methods will be offered the opportunity to re-sit or re-take. A re-sit does not require further learning, whereas a re-take does. Re-sits/re-takes must not be offered to you if wishing to move from **pass** to **distinction**. You should have an agreed action plan to prepare for the re-sit/re-take. If requested the employer can invite their Training Provider to be part of the development of any action plans for a re-take.

The timescales for a resit/retake is agreed between the employer and EPAO. A resit is typically taken within **three** months of the EPA outcome notification. The timescale for a retake is dependent on how much re-training is required and is typically taken within six months of the EPA outcome notification.

The **maximum** grade awarded to a re-sit/re-take will be **Pass**, unless the End-Point Assessment Organisation identifies exceptional circumstances accounting for the original grade of Fail.

Professional Engineering Institution Recognition

On completion of the apprenticeship and supported by the required experience and evidence, the apprentice may apply to a relevant Professional Engineering Institution licenced by the Engineering Council for professional recognition at the appropriate level such as Engineering Technician (EngTech), subject to meeting any requirements set by the Professional Engineering Institution. For more details on the requirements and application process go to the Engineering Council website at www.engc.org.uk

The end point assessor will complete the overall scoring and grading tables within the Assessment Recording Document (ARD) provided by EAL:

- EAL L4 Propulsion Technician - Assessment Recording Document

Annex A - End-Point Assessment Methods Mapping

The following tables are taken from the assessment plan and provide an overview of the requirements detailed within the Level 4 Propulsion Technician standard and where they are covered by each end-point assessment component.

Your End Point Assessment is made up of **two** elements:

- **Method 1:** Case study project: report, presentation and questioning
- **Method 2:** Occupational competence discussion, underpinned by supporting evidence

CK	Core Knowledge – The apprentice must be able to demonstrate an understanding of:	Assessment Method
CK1	The statutory and organisation health and safety policies, procedures and regulations that must be adhered to in a propulsion environment.	1 & 2
CK2	The risk assessment process, procedures and documentation used within their own area of responsibility.	1
CK3	How to communicate effectively, listen, question, support and mentor others.	2
CK4	The relevant internal and external quality standards and procedures that apply to the design, development and manufacture of propulsion systems.	1
CK5	The principles and purpose of quality auditing.	2
CK6	The core engineering principles such as mathematics, science, mechanical and electrical/electronic applications relevant to their specialism.	2
CK7	The importance of developing and maintaining Standard Operating Procedures (SOP's) in order to meet all the relevant requirements, i.e. legal & code of practice.	1
CK8	How to prioritise their own and their team's workload to ensure that targets are met and to ensure effective use of resource/equipment.	2
CK9	The various data collection systems used and their formats.	1
CK10	The principles and application of Measurement Systems Analysis methods and techniques.	2
CK11	How to analyse and interpret first line data accurately in order to validate quality, draw conclusions, provide recommendations and communicate with others in a recognised format.	2
CK12	The use, benefits and applications of continuous improvement techniques and methods for engineering (such as Kaizen and Six Sigma).	2
CK13	The importance for organisations to manage and monitor supplier performance ensuring that cost, service, quality and sustainability objectives are being achieved and their responsibilities in that process.	2
CK14	How to produce accurate, effective and concise plans, presentations and analysis of graphs/charts, process and lessons learnt documents.	2
CK15	The Internal and external audit compliance requirements (such as TS16949 and ISO 14001)	1

CS	Core Skills – The apprentice must be able to:	Assessment Method
CS1	Manage risk and the application of Health and Safety within their area of responsibility.	1&2
CS2	Communicate effectively, listen, question, support and mentor others, whilst promoting an attention to detail throughout the propulsion development process.	2
CS3	Manage checks on test or build systems and problem solve where issues arise.	1
CS4	Demonstrate critical and analytical reasoning, robust planning and task co-ordination.	2
CS5	Lead the setting up of equipment and ancillary systems used for build or test and where applicable carry out any required modifications.	1
CS6	Ensure instrumentation captures high quality data in a systematic and repeatable way.	1
CS7	Carry out checks, measurement and calibration activities following approved procedures and processes.	1
CS8	Comply with internal processes and procedures to ensure equipment is fit for purpose, maintained correctly and in calibration.	1
CS9	Monitor and validate test or build data quality.	1
CS10	Implement proposals for test or build plan modifications based on quality and quantitative data.	2
CS11	Prioritise test or build output to maximise efficient use of specialist equipment.	2
CS12	Manage all internal and external customer needs throughout test or build execution.	2
CS13	Develop procedures and processes necessary to meet all relevant standards and requirements, i.e. legal & code of practice.	2
CS14	Guide and develop other team members.	2
CS15	Create internal test or build instructions and process documents.	2
CS16	Support the development of proposals to develop new/alternative technologies.	2

B	Behaviours – The apprentice must be able to demonstrate the following:	Assessment Method
CB1	Personal Responsibility & Compliance: Complies with statutory and organisational health & safety regulations and policies at all times. Accepts responsibility for their work load with a responsible approach to risk. Continually demonstrates a high level of motivation and resilience when facing challenges.	1&2
CB2	Working Effectively in Teams: Create and maintain positive, professional and trusting working relationships with the team and a wide range of internal, external and connected stakeholders. Maintains the highest standards of integrity and ethics in all business relationships.	2
CB3	Effective Communication & Interpersonal Skills: Maintain effective partnerships with suppliers and customers through the company processes to achieve sound objectives. Open and honest clear communication using appropriate methods. Always demonstrating a positive and respectful attitude.	2
CB4	Quality & Problem Solving: Strong desire to ensure that the root cause of a problem is identified and addressed, continually seeks opportunities to improve quality, speed and efficiency whilst also demonstrating technical leadership.	2
CB5	Continuous Personal Development. Reflect on skills, knowledge and behaviours and seeks opportunities to develop, adapt to different situations, environments or technologies and have a positive attitude to feedback and advice.	2

Apprentices must complete the specific knowledge and skills requirements for **one** of the following Propulsion Test or Engine Build pathways:

PTK	Propulsion Test - Specific Knowledge – The apprentice must be able to demonstrate an understanding of:	Assessment Method
PTK1	The criteria used to determine the testing method(s) and equipment to be used.	1
PTK2	The principles of how to create and edit test scripts to ensure data obtained is valid and reliable.	2
PTK3	The preparation and set up requirements of testing and data collection equipment/ancillary systems.	1
PTK4	The preparation and set up requirements of propulsion units to be tested.	1
PTK5	How to run and operate propulsion testing equipment effectively to ensure quality and consistent outcomes including understanding limits of adjustment and parameters for safe running and standardisation.	2
PTK6	The different types and purpose of the tests that can be carried out on propulsion units/systems being developed such as performance, emissions, climatic, noise, vibration, durability, mechanical, electrical and calibration	2

PTS	Propulsion Test – Specific Skills – The apprentice must be able to:	Assessment Method
PTS1	Lead the preparation and installation activities for propulsion units under test	1
PTS2	Lead the testing activity ensuring the test is carried out in line with manufacturer instructions and/or company standard operating procedures	1
PTS3	Check and monitor the test to ensure that it is carried out under the specified conditions set out in the test script/specification	1
PTS4	Ensure the servicing schedules and maintenance of propulsion testing equipment is carried out in line with manufacturer instructions and/or company standard operating procedures	2
PTS5	Lead the diagnosis and analysis of any faults found on propulsion units under test	2

EBK	Engine Build - Specific Knowledge – The apprentice must be able to demonstrate an understanding of:	Assessment Method
EBK1	The importance of ensuring that engines are not contaminated during the build and the implications for the quality of the development programme data if this is not adhered to.	1
EBK2	The importance of adhering to the quality criteria such as setting working clearances and torque settings.	1
EBK3	The different fault diagnostic methods used, their application and selection.	2
EBK4	The methodologies used for part and product quality investigations.	2
EBK5	How to validate tooling and build deviations and associated equipment and instrumentation.	2

EBS	Engine Build Specific Skills – The apprentice must be able to:	Assessment Method
EBS1	Check that all preparation activities to support the prototype engine build development programme have been carried out correctly.	1
EBS2	Ensure that the specified components are available for the build and that they are in a usable condition.	1
EBS3	Lead the build of the prototype/ development engine ensuring it has been built to the correct specification and is ready for testing.	1
EBS4	Lead the diagnosis and analysis of any faults identified during the development engine build.	2
EBS5	Lead and support modification activities to improve engine build reliability and performance.	2
EBS6	Lead the validation process for tooling and build deviations and associated equipment/instrumentation.	2

Annex B – Grading Criteria - Method 1 and Method 2

Assessment Method 1 - Case Study Project (Report, Presentation & Questioning)

Criteria Ref.	Core Knowledge Criteria		
CK1	The statutory and organisation health and safety policies, procedures and regulations that must be adhered to in a propulsion environment.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Describe their roles and responsibilities for health and safety and the implications if policies, procedures are not adhered to.	Describe their role and responsibilities for health and safety and the implications if policies, procedures are not adhered to.	Explain the organisation management system for health and safety. For example the evidence includes reference to Governance structure, roles, responsibilities and annual reporting requirements.
CK2	The risk assessment process, procedures and documentation used within their own area of responsibility.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Show that they understand the risk assessment process, procedures and documentation used within their own area of responsibility.	Show that they understand the risk assessment process, procedures and documentation used within their own area of responsibility.	Show that they understand the process how to develop a new risk assessment or modify an existing risk assessment.
CK4	The relevant internal and external quality standards and procedures that apply to the design, development and manufacture of propulsion systems.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Show that they understand the relevant internal and external quality standards and procedures that apply to the design, development and manufacture of propulsion systems.	Show that they understand the relevant internal and external quality standards and procedures that apply to the design, development and manufacture of propulsion systems.	Show that they understand how they know they are working to the most up to date quality build or test standards and procedures where to locate this information. For example the evidence includes reference to external accreditations such as ISO 9001 or TS 16949. Reference to the organisations Quality Management System including roles and responsibilities.
CK7	The importance of developing and maintaining Standard Operating Procedures (SOP's) in order to meet all the relevant requirements, i.e. legal & code of practice.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Show that they understand the importance of developing and maintaining Standard Operating Procedures (SOP's) in order to meet all the relevant requirements, i.e. legal & code of practice.	Show that they understand the importance of developing and maintaining Standard Operating Procedures (SOP's) in order to meet all the relevant requirements, i.e. legal & code of practice.	Describe how to evaluate the effectiveness of the Standard Operating Procedures (SOP's) being used and the process to be followed to make amendments and the potential implications if SOPs are not adhered to or are not fit for purpose.
CK9	The various data collection systems used and their formats.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Show that they understand the various data collection systems used and their formats.	Show that they understand the various data collection systems used and their formats.	Show that they understand how to select the correct data collection system to be used and the required data format.
CK15	The internal and external audit compliance requirements (such as TS16949 and ISO 14001).		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Show that they understand the internal and external audit compliance requirements (such as TS16949 and ISO 14001).	Show that they understand the internal and external audit compliance requirements (such as TS16949 and ISO 14001).	Explain the purpose and structure of the organisations Quality Management System (QMS) and their responsibilities within it including who they should inform if they identify any non-compliance.

Criteria Ref.	Core Skills Criteria		
CS1	Manage risk and the application of Health and Safety within their area of responsibility		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate how they manage risk and the application of Health and Safety within their area of responsibility.	Demonstrate how they manage risk and the application of Health and Safety within their area of responsibility.	Demonstrate where they have identified and recommended improvements to Health and Safety in their work area or improvements in order to mitigate risk.
CS3	Manage checks on test or build systems and problem solve where issues arise.		
CS6	Ensure instrumentation captures high quality data in a systematic and repeatable way.		
CS7	Carry out checks, measurement and calibration activities following approved procedures and processes.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have managed checks on test or build systems and problem solve where issues arise, ensured that instrumentation captures high quality data in a systematic and repeatable way and carried out checks, measurement and calibration activities following approved procedures and processes.	Demonstrate where they have managed checks on test or build systems and problem solve where issues arise, ensured that instrumentation captures high quality data in a systematic and repeatable way and carried out checks, measurement and calibration activities following approved procedures and processes.	Demonstrate where they have provided engineers with new or additional information/data that has led to improvements e.g. setting up of instrumentation, the standard operation procedure/work instruction, in the equipment used in order to capture high quality data, the checking process or the measurement/calibration activities.
CS5	Lead the setting up of equipment and ancillary systems used for build or test and where applicable carry out any required modifications.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have led the setting up of equipment and ancillary systems used for build or test.	Demonstrate where they have led the setting up of equipment and ancillary systems used for build or test.	Demonstrate where they have made a recommendation to engineers setting out the type of modification required to the setup of equipment and ancillary systems, the standard operation procedure/work instruction or in the equipment used.
CS8	Comply with internal processes and procedures to ensure equipment is fit for purpose, maintained correctly and in calibration.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have complied with internal processes and procedures to ensure equipment is fit for purpose, maintained correctly and in calibration.	Demonstrate where they have complied with internal processes and procedures to ensure equipment is fit for purpose, maintained correctly and in calibration.	Demonstrate where they have developed proposals to make improvements to internal processes and procedures to ensure equipment is fit for purpose, maintained correctly and in calibration, e.g. improvement to the maintenance schedule, equipment calibration identification system or training of maintenance personnel.
CS9	Monitor and validate test or build data quality.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have monitored and validated test or build data quality.	Demonstrate where they have monitored and validated test or build data quality.	Demonstrate where they have developed proposals to make improvements to internal processes, procedures or in the equipment used in order to improve the monitoring or validation of test or build data quality.

Criteria Ref.	Core Behaviours Criteria		
CB1	Personal Responsibility & Compliance.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have complied with statutory and organisational health & safety regulations and policies. Accepted responsibility for their work load with a responsible approach to risk. Continually shown a high level of motivation and resilience when facing challenges.	Demonstrate where they have complied with statutory and organisational health & safety regulations and policies. Accepted responsibility for their work load with a responsible approach to risk. Continually shown a high level of motivation and resilience when facing challenges.	Demonstrate where they have met one the following: 1) challenged other people on Health and Safety compliance. 2) advocated best practice behaviours to others.

Apprentices must complete the specific knowledge and skills requirements for **one** of the following **Propulsion Test** or **Engine Build** pathways:

Propulsion Test

Criteria Ref.	Propulsion Test – Specific Knowledge Criteria		
PTK1	The criteria used to determine the testing method(s) and equipment to be used.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Show that they understand the criteria used to determine the testing method(s) and equipment to be used.	Show that they understand the criteria used to determine the testing method(s) and equipment to be used.	Show that they understand how to evaluate and check that the criteria used to determine the testing method(s) and equipment to be used is fit for purpose.
PTK3	The preparation and set up requirements of testing and data collection equipment/ancillary systems.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Show that they understand the preparation and set up requirements of testing and data collection equipment/ancillary systems.	Show that they understand the preparation and set up requirements of testing and data collection equipment/ancillary systems.	Explain the implications for the test and future development of the propulsion system if the data collection equipment/ancillary systems are not prepared or set up correctly.
PTK4	The preparation and set up requirements of propulsion units to be tested.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Show that they understand the preparation and set up requirements of propulsion units to be tested.	Show that they understand the preparation and set up requirements of propulsion units to be tested.	Explain the implications for the test and future development of the propulsion system if the set up requirements for the propulsion unit under test is not carried out correctly are not prepared or set up correctly.

Criteria Ref.	Propulsion Test – Specific Skills Criteria		
PTS1	Lead the preparation and installation activities for propulsion units under test.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have led the preparation and installation activities for propulsion units under test.	Demonstrate where they have led the preparation and installation activities for propulsion units under test.	Demonstrate where they have led and supported multiple concurrent projects to prepare and install propulsion units under test.
PTS2	Lead the testing activity ensuring the test is carried out in line with manufacturer instructions and/or company standard operating procedures.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have led the testing activity ensuring the test is carried out in line with manufacturer instructions and/or company standard operating procedures.	Demonstrate where they have led the testing activity ensuring the test is carried out in line with manufacturer instructions and/or company standard operating procedures.	Demonstrate where they have led multiple concurrent testing projects to ensure the tests are carried out in line with manufacturer instructions and/or company standard operating procedures.
PTS3	Check and monitor the test to ensure that it is carried out under the specified conditions set out in the test script/specification.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have checked and monitored the test to ensure that it is carried out under the specified conditions set out in the test script/specification.	Demonstrate where they have checked and monitored the test to ensure that it is carried out under the specified conditions set out in the test script/specification.	Demonstrate where they have led multiple concurrent testing projects in order to check and monitor the test to ensure that it is carried out under the specified conditions set out in the test script/specification.

Engine Build

Criteria Ref.	Engine Build – Specific Knowledge Criteria		
EBK1	The importance of ensuring that engines are not contaminated during the build and the implications for the quality of the development programme data if this is not adhered to.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Show that they understand the importance of ensuring that engines are not contaminated during the build and the implications for the quality of the development programme data if this is not adhered to.	Show that they understand the importance of ensuring that engines are not contaminated during the build and the implications for the quality of the development programme data if this is not adhered to.	Show that they understand how to evaluate processes, procedures and test data to either make improvements to contamination procedures or to reinforce the need to comply with processes and procedures.
EBK2	The importance of adhering to the quality criteria such as setting working clearances and torque settings.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Show that they understand the importance of adhering to the quality criteria. For example the evidence includes reference to criteria such as setting working clearances, applying correct torque settings and using the specified securing devices.	Show that they understand the importance of adhering to the quality criteria. For example, the evidence includes reference to criteria such as setting working clearances and applying correct torque settings and using the specified securing devices.	Show that they have the depth of knowledge to understand the implications if the engine build does not meet the quality criteria such as not having the correct working clearances or torque settings.

Criteria Ref.	Engine Build – Specific Skill Criteria		
EBS1	Check that all preparation activities to support the prototype engine build development programme have been carried out correctly.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have checked that all preparation activities to support the prototype engine build development programme have been carried out correctly.	Demonstrate where they have checked that all preparation activities to support the prototype engine build development programme have been carried out correctly.	Demonstrate where they have developed proposals to make improvements to internal processes and procedures to ensure preparation activities have been carried out correctly e.g. improvement to the visual management system, manual or computerised check sheets or sign off process.
EBS2	Ensure that the specified components are available for the build and that they are in a usable condition.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have ensured that the specified components are available for the build and that they are in a usable condition.	Demonstrate where they have ensured that the specified components are available for the build and that they are in a usable condition.	Demonstrate where they have developed proposals to improve either the internal processes used to ensure all components are available at the right time or supplier performance.
EBS3	Lead the build of the prototype/ development engine ensuring it has been built to the correct specification and is ready for testing.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have led the build of the prototype/ development engine ensuring it has been built to the correct specification and is ready for testing.	Demonstrate where they have led the build of the prototype/ development engine ensuring it has been built to the correct specification and is ready for testing.	Demonstrate where they have led multiple concurrent build projects to ensure the engine has been built to the correct specification.

Assessment Method 2 - Occupational Competence Discussion

Criteria Ref.	Core Knowledge Criteria		
CK1	The statutory and organisation health and safety policies, procedures and regulations that must be adhered to in a propulsion environment.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Describe the applicable statutory and organisation health and safety policies, procedures and regulations that must be adhered to in their immediate work area.	Describe the applicable statutory and organisation health and safety policies, procedures and regulations that must be adhered to in their immediate work area.	Explain the purpose and content of three relevant health and safety policies, procedures and regulations and the process to be followed for updating and amending. For example the evidence could include reference to why the policy/procedure is required, what is it for/scope, who is it aimed at/recipient, individual roles and responsibilities for monitoring, review and amending.

CK3	How to communicate effectively, listen, question, support and mentor others.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Describe the key principles of effective communication and listening skills. Describe the different types of questions that can be used and their application. Describe the key principles of effective mentoring.	Describe the key principles of effective communication and listening skills. Describe the different types of questions that can be used and their application. Describe the key principles of effective mentoring.	Explain the importance that body language plays when communicating, listening and mentoring and the implications if poor practice is demonstrated. Explain the key differences between mentoring and coaching.
CK5	The principles and purpose of quality auditing.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Describe the principles and purpose of quality auditing and their role in the process and their role in the process.	Describe the principles and purpose of effective quality auditing and their role in the process.	Explain the benefits of gaining ISO accreditation and which accreditations are applicable to their work area. Explain the purpose and structure the organisations Quality Management System (QMS).
CK6	The core engineering principles such as mathematics, science, mechanical and electrical/electronic applications relevant to their specialism.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Show that they understand how to use mathematical, scientific, mechanical, electrical/electronic principles relevant to their role in order to make logical informed decisions.	Show that they understand how to use mathematical, scientific, mechanical, electrical/electronic principles relevant to their role in order to make logical informed decisions.	Show that they understand how to use mathematical, scientific, mechanical, electrical/electronic principles relevant to their role, in order to solve challenging or complex issues/problems. For example the evidence could include reference to emission flow measurements, CO2 tracer calculations, power or torque outputs, limits and fits for components, stress in components leading to failure, electrical vehicle battery principles and energy consumption calculations.
CK8	How to prioritise their own and their/team's workload to ensure that targets are met and to ensure effective use of resource/equipment.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Describe how they prioritise their own and their team's workload to ensure effective use of resource/equipment to meet targets.	Describe how they prioritise their own and their team's workload to ensure effective use of resource/equipment to meet targets.	Explain, the criteria/metrics and planning/scheduling tools that are used to ensure that targets are met to ensure effective use of resource/equipment.
CK10	The principles and application of Measurement Systems Analysis methods and techniques.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Show that they understand how to use basic operating principles and application of Measurement Systems Analysis methods and techniques and the documentation used.	Show that they understand how to use basic operating principles and application of Measurement Systems Analysis methods and techniques and the documentation used.	Show that they understand how to apply the principles of Measurement Systems Analysis with reference to: Location (Average Measurement Value vs. Actual Value) with reference to stability, bias and linearity and Variation (Spread of Measurement Values - Precision) with reference to repeatability and reproducibility.

CK11	How to analyse and interpret first line data accurately in order to, validate quality, draw conclusions, provide recommendations and communicate with others in a recognised format.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Show that they understand how to analyse and interpret first line data accurately in order to validate quality, draw conclusions, provide recommendations and communicate with others in a recognised format.	Show that they understand how to analyse and interpret firstline data accurately in order to validate quality, draw conclusions, provide recommendations and communicate with others in a recognised format.	Show that they understand how to analyse and interpret firstline data sets for different specifications of propulsion units using computational or qualitative methods with appropriate graphical representations.
CK12	The use, benefits and applications of continuous improvement techniques and methods for engineering (such as Kaizen and Six Sigma).		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Describe the use, benefits and applications of continuous improvement techniques and methods (such as Kaizen and Six Sigma).	Describe the use, benefits and applications of continuous improvement techniques and methods (such as Kaizen and Six Sigma).	Explain the specific continuous improvement techniques and methods that are used in the work area and the improvements that have been achieved and their impact.
CK13	The importance for organisations to manage and monitor supplier performance ensuring that cost, service, quality and sustainability objectives are being achieved and their responsibilities in that process.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Describe the importance for organisations to manage and monitor supplier performance ensuring that cost, service, quality and sustainability objectives are being achieved and their responsibilities in that process.	Describe the importance for organisations to manage and monitor supplier performance ensuring that cost, service, quality and sustainability objectives are being achieved and their responsibilities in that process.	Explain the benefits of undertaking benchmarking activities to establish baselines, define best practices, identify improvement opportunities and create a competitive environment.
CK14	How to produce accurate, effective and concise plans, presentations and analysis of graphs/charts, process and lessons learnt documents.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Show that they understand how to produce accurate, effective and concise plans, presentations and analysis of graphs/charts, process and lessons learnt documents.	Show that they understand how to produce accurate, effective and concise plans, presentations and analysis of graphs/charts, process and lessons learnt documents.	Explain the importance of providing quality and accurate information to support the development process and the implications on the development programme if this is not achieved.

Criteria Ref.	Core Skills Criteria		
CS1	Manage risk and the application of Health and Safety within their area of responsibility.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate how they manage risk and the application of Health and Safety within their area of responsibility.	Demonstrate how they manage risk and the application of Health and Safety within their area of responsibility	Demonstrate where they have developed proposals to make improvements to health and safety within their area of responsibility.

CS2	Communicate effectively, listen, question, support and mentor others, whilst promoting an attention to detail throughout the propulsion development process.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have communicated effectively, listened, questioned, supported and mentored a team member, whilst promoting an attention to detail throughout the propulsion development process.	Demonstrate where they have communicated effectively, listened, questioned, supported and mentored a team member, whilst promoting an attention to detail throughout the propulsion development process.	Show how mentoring has improved individual performance and how this was defined and measured.
CS4	Demonstrate critical and analytical reasoning, robust planning and task co-ordination		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have applied critical and analytical reasoning, robust planning and task co-ordination.	Demonstrate where they have applied critical and analytical reasoning, robust planning and task co-ordination.	Demonstrate where they have used critical and analytical reasoning or robust planning to make proposals to improve task co-ordination in their work area.
CS10	Implement proposals for test or build plan modifications based on quality and quantitative data.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have implemented proposals for test or build plan modifications based on quality and quantitative data.	Demonstrate where they have implemented proposals for test or build plan modifications based on quality and quantitative data.	Demonstrate where they have led the implementation of test or build plan proposals.
CS11	Prioritise test or build output to maximise efficient use of specialist equipment.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have prioritised test or build output to maximise efficient use of specialist equipment.	Demonstrate where they have prioritised test or build output to maximise efficient use of specialist equipment.	Demonstrate where they have had to have interface with the management team to resolve issues around work prioritisation and use of equipment.
CS12	Manage all internal and external customer needs throughout test or build execution.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have managed internal and external customer needs throughout test or build execution.	Demonstrate where they have managed internal and external customer needs throughout test or build execution.	Provide an example of where they have exceeded customer expectations. For example, the evidence could make reference to delivering ahead of schedule or finding solutions to a problem.
CS13	Develop procedures and processes necessary to meet all relevant standards and requirements, i.e. legal & code of practice.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have developed procedures and processes necessary to meet all relevant standards and requirements, i.e. legal & code of practice.	Demonstrate where they have developed procedures and processes necessary to meet all relevant standards and requirements, i.e. legal & code of practice.	Demonstrate where they have developed proposals to make improvements to procedures and processes necessary to meet all relevant standards and requirements, i.e. legal & code of practice and the impact this has had.

CS14	Guide and develop other team members.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have guided and developed other team members.	Demonstrate where they have guided and developed other team members.	Demonstrate with auditable evidence that they know how the development has impacted on team members and improved performance. For example the evidence could include reference to update skills matrices, improved delivery schedules or improvements in quality.
CS15	Create internal test or build instructions and process documents.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have created internal test or build instructions and process documents.	Demonstrate where they have created internal test or build instructions and process documents.	Demonstrate where they have developed proposals to make improvements to internal test or build instructions and process documents and the impact this has had.
CS16	Support the development of proposals to develop new/alternative technologies.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have supported the development of proposals to develop new/alternative technologies.	Demonstrate where they have supported the development of proposals to develop new/alternative technologies.	Demonstrate where they have led or made a significant contribution to the development of proposals to develop new/alternative technologies.

Criteria Ref.	Core Behaviours Criteria		
CB1	Personal Responsibility & Compliance.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have complied with statutory and organisational health & safety regulations and policies. Accepted responsibility for their work load with a responsible approach to risk. Continually shown a high level of motivation and resilience when facing challenges.	Demonstrate where they have complied with statutory and organisational health & safety regulations and policies. Accepted responsibility for their work load with a responsible approach to risk. Continually shown a high level of motivation and resilience when facing challenges.	Demonstrate where they have met one of the following: <ol style="list-style-type: none"> 1) challenged others on poor behaviour. 2) provided encouragement in order to keep others motivated when facing challenges.
CB2	Working Effectively in Teams.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have created and maintained positive, professional and trusting working relationships with the team and a wide range of internal, external and connected stakeholders. Maintained the highest standards of integrity and ethics in all business relationships.	Demonstrate where they have created and maintained positive, professional and trusting working relationships with the team and a wide range of internal, external and connected stakeholders. Maintained the highest standards of integrity and ethics in all business relationships.	Demonstrate where they have developed proposals to make improvements that have had a positive impact on the team and/or customer relationships.
CB3	Effective Communication & Interpersonal Skills.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can

	Demonstrate where they have maintained effective partnerships with suppliers and customers through the company processes to achieve sound objectives, open, honest and clear communication using appropriate methods, always with a positive and respectful attitude.	Demonstrate where they have maintained effective partnerships with suppliers and customers through the company processes to achieve sound objectives, open, honest and clear communication using appropriate methods, always with a positive and respectful attitude.	Demonstrate that they have proactively shared information, openly & honestly at all times, is able to tailor their approach to different audiences and in different formats and frequently goes out of way to represent the business positively and professionally.
CB4	Quality & Problem Solving.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have shown a strong desire to ensure that the root cause of a problem is identified and addressed, they continually seek opportunities to improve quality, speed and efficiency whilst also demonstrating technical leadership.	Demonstrate where they have shown a strong desire to ensure that the root cause of a problem is identified and addressed, they continually seek opportunities to improve quality, speed and efficiency whilst also demonstrating technical leadership.	Demonstrate that having found the root cause of a problem they have recommended a solution that has made an improvement to the testing or build process or data obtained.
CB5	Continuous Personal Development.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have reflected on their skills, knowledge and behaviours and seeks opportunities to develop, adapt to different situations, environments or technologies and had a positive attitude to feedback and advice.	Demonstrate where they have reflected on their skills, knowledge and behaviours and seeks opportunities to develop, adapt to different situations, environments or technologies and had a positive attitude to feedback and advice.	Demonstrate that they have proactively researched how to engage with a relevant Professional Engineering Institution in order to gain professional recognition at the appropriate level, such as Engineering Technician (EngTech) and understand the requirements and benefits of gaining professional recognition.

Apprentices must complete the specific knowledge and skills requirements for **one** of the following **Propulsion Test** or **Engine Build** pathways:

Propulsion Test

Criteria Ref.	Propulsion Test – Specific Knowledge Criteria		
PTK2	The principles of how to create and edit test scripts to ensure data obtained is valid and reliable.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Show that they understand how to create and edit test scripts to ensure data obtained is valid and reliable.	Show that they understand how to create and edit test scripts to ensure data obtained is valid and reliable.	Show that they understand the principles that need to be embedded to ensure the quality and validity of data captured including knowing how to locate and identify the organisations governance, policies and procedures relating to test script data.
PTK5	How to run and operate propulsion testing equipment effectively to ensure quality and consistent outcomes including understanding limits of adjustment and parameters for safe running and standardisation.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can

	Show that they understand how to run and operate propulsion testing equipment effectively to ensure quality and consistent outcomes including understanding limits of adjustment and parameters for safe running and standardisation.	Show that they understand how to run and operate propulsion testing equipment effectively to ensure quality and consistent outcomes including understanding limits of adjustment and parameters for safe running and standardisation.	Show that they have the depth of knowledge to develop others to run and operate propulsion testing equipment effectively to ensure quality and consistent outcomes including understanding limits of adjustment and parameters for safe running and standardisation.
PTK6	The different types and purpose of the tests that can be carried out on propulsion units/systems being developed such as performance, emissions, climatic, noise, vibration, durability, mechanical, electrical and calibration.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Describe the different types and purpose of the tests that can be carried out on propulsion units/systems being developed such as performance, emissions, climatic, noise, vibration, durability, mechanical, electrical and calibration.	Describe the different types and purpose of the tests that can be carried out on propulsion units/systems being developed such as performance, emissions, climatic, noise, vibration, durability, mechanical, electrical and calibration.	Provide an overview of the different regulations that must be met (national and international where applicable) in order to meet compliance standards.

Criteria Ref.	Propulsion Test – Specific Skills Criteria		
PTS4	Ensure the servicing schedules and maintenance of propulsion testing equipment is carried out in line with manufacturer instructions and/or company standard operating procedures.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have ensured that the servicing schedules and maintenance of propulsion testing equipment is carried out in line with manufacturer instructions and/or company standard operating procedures.	Demonstrate where they have ensured that the servicing schedules and maintenance of propulsion testing equipment is carried out in line with manufacturer instructions and/or company standard operating procedures.	Demonstrate where they have put in place proposals to improve equipment maintenance and/or equipment downtime.
PTS5	Lead the diagnosis and analysis of any faults found on propulsion units under test.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have led the diagnosis and analysis of any faults found on propulsion units under test.	Demonstrate where they have led the diagnosis and analysis of any faults found on propulsion units under test.	Demonstrate how they have contributed to finding solutions to the faults found on propulsion units under test.

Engine Build

Criteria Ref.	Engine Build – Specific Knowledge Criteria		
EBK3	The different fault diagnostic methods used, their application and selection.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Show that they understand the different fault diagnostic methods used, their application and selection.	Show that they understand the different fault diagnostic methods used, their application and selection.	Explain the criteria and process used to select the correct fault diagnostic method and the implications on the development programme if the diagnostic method used is not the appropriate method to determine the fault identified.
EBK4	The methodologies used for part and product quality investigations.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Show that they understand the methodologies used for part and product quality investigations.	Show that they understand the methodologies used for part and product quality investigations.	Explain the criteria and process used to determine the correct methodology to be used when undertaking a product/part quality investigation and the implications on the development programme if the appropriate methodology is not used.
EBK5	How to validate tooling and build deviations and associated equipment and instrumentation.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Show that they understand how to validate tooling and build deviations and associated equipment and instrumentation.	Show that they understand how to validate tooling and build deviations and associated equipment and instrumentation.	Explain the importance of undertaking the validation process correctly and the implications on the development programme if the validation process is not carried out to the required specification.

Criteria Ref.	Engine Build – Specific Skill Criteria		
EBS4	Lead the diagnosis and analysis of any faults identified during the development engine build.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have led the diagnosis and analysis of any faults identified during the development engine build.	Demonstrate where they have led the diagnosis and analysis of any faults identified during the development engine build.	Demonstrate how they have contributed to finding solutions to the faults found on development engine build that lead to modifications being implemented.
EBS5	Lead and support modification activities to improve engine build reliability and performance.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have led and supported a modification activity to improve engine build reliability and performance.	Demonstrate where they have led and supported a modification activity to improve engine build reliability and performance.	Demonstrate where they have led and supported modification activities on multiple concurrent build projects.

EBS6	Lead the validation process for tooling and build deviations and associated equipment/instrumentation.		
Grade	Fail - The apprentice is unable to	Pass - The apprentice can	Distinction - In addition to meeting the Pass criteria the apprentice can
	Demonstrate where they have led a validation process for tooling and build deviations and associated equipment/instrumentation.	Demonstrate where they have led a validation process for tooling and build deviations and associated equipment/instrumentation.	Demonstrate where they have led the validation process for tooling and build deviation and associated equipment/instrumentation on multiple concurrent build projects.

Assessment Methods 1 and 2 - Requirements for a Distinction Grade

Assessment Method.	Distinction Grade Requirements. The apprentice must be awarded, as a minimum, the following number of distinctions in both assessment methods to be awarded an overall distinction for the apprenticeship.
Assessment Method 1 – Case Study Project (Presentation and Report)	<p>Core Knowledge Skills and Behaviours Knowledge – 4 out of 6 Skills – 3 out of 5 Behaviours – 1 out of 1</p> <p>Role Specific Knowledge Skills and Behaviours Pathway Options (one option to be completed)</p> <p>Propulsion Test Knowledge – 2 out of 3 Skills – 2 out of 3</p> <p>Engine Build Knowledge – 2 out of 2 Skills – 2 out of 3</p>
Assessment Method 2 – Occupational Competence Discussion	<p>Core Knowledge Skills and Behaviours Knowledge – 6 out of 10 Skills – 6 out of 10 Behaviours – 3 out of 5</p> <p>Role Specific Knowledge Skills and Behaviours Pathway Options (one option to be completed)</p> <p>Propulsion Test Knowledge – 2 out of 3 Skills – 2 out of 2</p> <p>Engine Build Knowledge – 2 out of 3 Skills – 2 out of 3</p>

Annex C – Apprentice Report Template

End Point Assessment On-Programme period occupational competence report review for Level 4 Propulsion Technician

Apprentice Name:	Click or tap here to enter text.
Date of submission:	Click or tap to enter a date.
Employer Name:	Click or tap here to enter text.

Date of End Point Assessment: Click or tap to enter a date.

***Note: The Apprentice Report Template must be submitted to EAL as supporting evidence as part of their EPA application.**

Please note this is for guidance purposes only

Case Study Project, Presentation and Report evidence mapping.

CK	Core Knowledge – The apprentice must be able to demonstrate an understanding of:	Mapping to Project
CK1	The statutory and organisation health and safety policies, procedures and regulations that must be adhered to in a propulsion environment.	Click or tap here to enter text.
CK2	The risk assessment process, procedures and documentation used within their own area of responsibility.	Click or tap here to enter text.
CK4	The relevant internal and external quality standards and procedures that apply to the design, development and manufacture of propulsion systems.	Click or tap here to enter text.
CK7	The importance of developing and maintaining Standard Operating Procedures (SOP's) in order to meet all the relevant requirements, i.e. legal & code of practice.	Click or tap here to enter text.
CK9	The various data collection systems used and their formats.	Click or tap here to enter text.
CK15	The Internal and external audit compliance requirements (such as TS16949 and ISO 14001)	Click or tap here to enter text.

CS	Core Skills – The apprentice must be able to:	Mapping to Project
CS1	Manage risk and the application of Health and Safety within their area of responsibility.	Click or tap here to enter text.
CS3	Manage checks on test or build systems and problem solve where issues arise.	Click or tap here to enter text.

CS5	Lead the setting up of equipment and ancillary systems used for build or test and where applicable carry out any required modifications.	Click or tap here to enter text.
CS6	Ensure instrumentation captures high quality data in a systematic and repeatable way.	Click or tap here to enter text.
CS7	Carry out checks, measurement and calibration activities following approved procedures and processes.	Click or tap here to enter text.
CS8	Comply with internal processes and procedures to ensure equipment is fit for purpose, maintained correctly and in calibration.	Click or tap here to enter text.
CS9	Monitor and validate test or build data quality.	Click or tap here to enter text.

B	Behaviours – The apprentice must be able to demonstrate the following:	Mapping to Project
CB1	Personal Responsibility & Compliance: Complies with statutory and organisational health & safety regulations and policies at all times. Accepts responsibility for their work load with a responsible approach to risk. Continually demonstrates a high level of motivation and resilience when facing challenges.	Click or tap here to enter text.

PTK	Propulsion Test - Specific Knowledge – The apprentice must be able to demonstrate an understanding of:	Mapping to Project
PTK1	The criteria used to determine the testing method(s) and equipment to be used.	Click or tap here to enter text.
PTK3	The preparation and set up requirements of testing and data collection equipment/ancillary systems.	Click or tap here to enter text.
PTK4	The preparation and set up requirements of propulsion units to be tested.	Click or tap here to enter text.

PTS	Propulsion Test – Specific Skills – The apprentice must be able to:	Mapping to Project
PTS1	Lead the preparation and installation activities for propulsion units under test	Click or tap here to enter text.
PTS2	Lead the testing activity ensuring the test is carried out in line with manufacturer instructions and/or company standard operating procedures	Click or tap here to enter text.
PTS3	Check and monitor the test to ensure that it is carried out under the specified conditions set out in the test script/specification	Click or tap here to enter text.

EBK	Engine Build - Specific Knowledge – The apprentice must be able to demonstrate an understanding of:	Mapping to Project
EBK1	The importance of ensuring that engines are not contaminated during the build and the implications for the quality of the development programme data if this is not adhered to.	Click or tap here to enter text.
EBK2	The importance of adhering to the quality criteria such as setting working clearances and torque settings.	Click or tap here to enter text.

EBS	Engine Build Specific Skills – The apprentice must be able to:	Mapping to Project
EBS1	Check that all preparation activities to support the prototype engine build development programme have been carried out correctly.	Click or tap here to enter text.
EBS2	Ensure that the specified components are available for the build and that they are in a usable condition.	Click or tap here to enter text.
EBS3	Lead the build of the prototype/ development engine ensuring it has been built to the correct specification and is ready for testing.	Click or tap here to enter text.

Assessment Method 2 - Occupational Competence Discussion

Core Knowledge Criteria				
Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CK1	The statutory and organisation health and safety policies, procedures and regulations that must be adhered to in a propulsion environment.		Describe their role and responsibilities for health and safety and the implications if policies, procedures are not adhered to.	Explain the organisation management system for health and safety. For example the evidence includes reference to Governance structure, roles, responsibilities and annual reporting requirements.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CK1 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CK1 annex	
			Click or tap here to enter text.	
Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CK3	.How to communicate effectively, listen, question, support and mentor others.		Describe the key principles of effective communication and listening skills. Describe the different types of questions that can be used and their application. Describe the key principles of effective mentoring	Explain the importance that body language plays when communicating, listening and mentoring and the implications if poor practice is demonstrated. Explain the key differences between mentoring and coaching.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CK3 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CK3 annex	
			Click or tap here to enter text.	

Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CK5	The principles and purpose of quality auditing.		Describe the principles and purpose of effective quality auditing and their role in the process.	Explain the benefits of gaining ISO accreditation and which accreditations are applicable to their work area. Explain the purpose and structure the organisations Quality Management System (QMS).
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CK5 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CK5 annex	
			Click or tap here to enter text.	
Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CK6	The core engineering principles such as mathematics, science, mechanical and electrical/electronic applications relevant to their specialism.		Show that they understand how to use mathematical, scientific, mechanical, electrical/electronic principles relevant to their role in order to make logical informed decisions	Show that they understand how to use mathematical scientific, mechanical, electrical/electronic principles relevant to their role, in order to solve challenging or complex issues/problems. For example the evidence could include reference to emission flow measurements, CO2 tracer calculations, power or torque outputs, limits and fits for components, stress in components leading to failure electrical vehicle battery principles and energy consumption calculations.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CK6 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CK6 annex	
			Click or tap here to enter text.	

Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CK8	How to prioritise their own and their/team's workload to ensure that targets are met and to ensure effective use of resource/equipment		Describe how they prioritise their own and their team's workload to ensure effective use of resource/equipment to meet targets.	Explain, the criteria/metrics and planning/scheduling tools that are used to ensure that targets are met to ensure effective use of resource/equipment.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CK8 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CK8 annex	
			Click or tap here to enter text.	
Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CK10	The principles and application of Measurement Systems Analysis methods and techniques		Show that they understand how to use basic operating principles and application of Measurement Systems Analysis methods and techniques and the documentation used.	Show that they understand how to apply the principles of Measurement Systems Analysis with reference to: Location (Average Measurement Value vs. Actual Value) with reference to stability, bias and linearity and Variation (Spread of Measurement Values - Precision) with reference to repeatability and reproducibility.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CK10 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CK10 annex	
			Click or tap here to enter text.	

Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CK11	How to analyse and interpret first line data accurately in order to, validate quality, draw conclusions, provide recommendations and communicate with others in a recognised format.		Show that they understand how to analyse and interpret first line data accurately in order to, validate quality, draw conclusions, provide recommendations and communicate with others in a recognised format	Show that they understand how to analyse and interpret first line data sets for different specifications of propulsion units using computational or qualitative methods with appropriate graphical representations.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CK11 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CK11 annex	
			Click or tap here to enter text.	
Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CK12	The use, benefits and applications of continuous improvement techniques and methods for engineering (such as Kaizen and Six Sigma).		Describe the use, benefits and applications of continuous improvement techniques and methods (such as Kaizen and Six Sigma).	Explain the specific continuous improvement techniques and methods that are used in the work area and the improvements that have been achieved and their impact.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CK12 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CK12 annex	
			Click or tap here to enter text.	

Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CK13	The importance for organisations to manage and monitor supplier performance ensuring that cost, service, quality and sustainability objectives are being achieved and their responsibilities in that process.		Describe the importance for organisations to manage and monitor supplier performance ensuring that cost, service, quality and sustainability objectives are being achieved and their responsibilities in that process	Explain the benefits of undertaking benchmarking activities to establish baselines, define best practices, identify improvement opportunities, and create a competitive environment
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CK13 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CK13 annex	
			Click or tap here to enter text.	
Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CK14	How to produce accurate, effective and concise plans, presentations and analysis of graphs/charts, process and lessons learnt documents. Grade		Show that they understand how to produce accurate, effective and concise plans, presentations and analysis of graphs/charts, process and lessons learnt documents.	Explain the importance of providing quality and accurate information to support the development process and the implications on the development programme if this is not achieved.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CK14 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CK14 annex	
			Click or tap here to enter text.	

Core Skills Criteria				
Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CS1	Manage risk and the application of Health and Safety within their area of responsibility		Demonstrate how they manage risk and the application of Health and Safety within their area of responsibility.	And... Demonstrate where they have identified and recommended improvements to Health and Safety in their work area of responsibility.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CS1 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CS1 annex	
Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CS2	Communicate effectively, listen, question, support and mentor others, whilst promoting an attention to detail throughout the propulsion development process.		Demonstrate where they have communicated effectively, listened, questioned, supported and mentored a team member, whilst promoting an attention to detail throughout the propulsion development process.	Show how mentoring has improved individual performance and how this was defined and measured.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CS2 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CS2 annex	
			Click or tap here to enter text.	

Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CS4	Demonstrate critical and analytical reasoning, robust planning and task co-ordination		Demonstrate where they have applied critical and analytical reasoning, robust planning and task co-ordination.	Demonstrate where they have used critical and analytical reasoning or robust planning to make proposals to improve task co-ordination in their work area.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CS4 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CS4 annex	
			Click or tap here to enter text.	
Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CS10	Implement proposals for test or build plan modifications based on quality and quantitative data.		Demonstrate where they have implemented proposals for test or build plan modifications based on quality and quantitative data.	Demonstrate where they have led the implementation of test or build plan proposals.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CS10 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CS10 annex	
			Click or tap here to enter text.	

Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
C11	Demonstrate where they have prioritised test or build output to maximise efficient use of specialist equipment.		Demonstrate where they have prioritised test or build output to maximise efficient use of specialist equipment.	Demonstrate where they have had to have interface with the management team to resolve issues around work prioritisation and use of equipment.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CS11 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CS11 annex	
			Click or tap here to enter text.	
Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CS12	Manage all internal and external customer needs throughout test or build execution.		Demonstrate where they have managed internal and external customer needs throughout test or build execution	Provide an example of where they have exceeded customer expectations. For example the evidence could make reference to delivering ahead of schedule or finding solution to a problem.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CS12 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CS12 annex	
			Click or tap here to enter text.	

Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CS13	Develop procedures and processes necessary to meet all relevant standards and requirements, i.e. legal & code of practice.		Demonstrate where they have developed procedures and processes necessary to meet all relevant standards and requirements, i.e. legal & code of practice.	Demonstrate where they have developed proposals to make improvements to procedures and processes necessary to meet all relevant standards and requirements, i.e. legal & code of practice and the impact this has had.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CS13 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CS13 annex	
Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CS14	Guide and develop other team members.		Demonstrate where they have guided and developed other team members.	Demonstrate with auditable evidence that they know how the development has impacted on team members and improved performance. For example the evidence could include reference to update skills matrices, improved delivery schedules or improvements in quality.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CS14 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CS14 annex	

Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CS15	Create internal test or build instructions and process documents.		Demonstrate where they have created internal test or build instructions and process documents.	Demonstrate where they have developed proposals to make improvements to internal test or build instructions and process documents and the impact this has had.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CS15 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CS15 annex	
			Click or tap here to enter text.	
Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CS16	Support the development of proposals to develop new/alternative technologies.		Demonstrate where they have supported the development of proposals to develop new/alternative technologies.	Demonstrate where they have led or made a significant contribution to the development of proposals to develop new/alternative technologies.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CS16 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CS16 annex	
			Click or tap here to enter text.	

Core Behaviours Criteria

Core Behaviours Criteria				
Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CB1	Personal Responsibility & Compliance.		Demonstrate where they have complied with statutory and organisational health & safety regulations and policies. Accepted responsibility for their work load with a responsible approach to risk. Continually shown a high level of motivation and resilience when facing challenges.	And... Demonstrate where they have met one the following: <ol style="list-style-type: none"> 1) challenged other people on Health and Safety compliance. 2) advocated best practice behaviours to others.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CB1 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CB1 annex	
			Click or tap here to enter text.	
Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CB2	Working Effectively in Teams.		Demonstrate where they have created and maintained positive, professional and trusting working relationships with the team and a wide range of internal, external and connected stakeholders. Maintained the highest standards of integrity and ethics in all business relationships.	Demonstrate where they have developed proposals to make improvements that have had a positive impact on the team and/or customer relationships.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CB2 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CB2 annex	

Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CB3	Effective Communication & Interpersonal Skills.		Demonstrate where they have maintained effective partnerships with suppliers and customers through the company processes to achieve sound objectives, open, honest and clear communication using appropriate methods, always with a positive and respectful attitude.	Demonstrate that they have proactively shared information, openly & honestly at all times, is able to tailor their approach to different audiences and in different formats and frequently goes out of way to represent the business positively and professionally.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CB3 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CB3 annex	
			Click or tap here to enter text.	
Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CB4	Quality & Problem Solving.		Demonstrate where they have shown a strong desire to ensure that the root cause of a problem is identified and addressed, they continually seek opportunities to improve quality, speed and efficiency whilst also demonstrating technical leadership.	Demonstrate that having found the root cause of a problem they have recommended a solution that has made an improvement to the testing or build process or data obtained.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CB4 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CB4 annex	
			Click or tap here to enter text.	



Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
CB5	Continuous Personal Development.		Demonstrate where they have reflected on their skills, knowledge and behaviours and seeks opportunities to develop, adapt to different situations, environments or technologies and had a positive attitude to feedback and advice.	Demonstrate that they have proactively researched how to engage with a relevant Professional Engineering Institution in order to gain professional recognition at the appropriate level, such as Engineering Technician (EngTech) and understand the requirements and benefits of gaining professional recognition.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate CB5 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate CB5 annex	
			Click or tap here to enter text.	

Apprentices must complete the specific knowledge and skills requirements for **one** of the following **Propulsion Test** or **Engine Build** pathways:

Propulsion Test

Propulsion Test – Specific Knowledge Criteria				
Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
PTK2	The principles of how to create and edit test scripts to ensure data obtained is valid and reliable.		Show that they understand how to create and edit test scripts to ensure data obtained is valid and reliable.	Show that they understand how to create and edit test scripts to ensure data obtained is valid and reliable.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate PTK2 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate PTK2 annex	
			Click or tap here to enter text.	
Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
PTK5	How to run and operate propulsion testing equipment effectively to ensure quality and consistent outcomes including understanding limits of adjustment and parameters for safe running and standardisation.		Show that they understand how to run and operate propulsion testing equipment effectively to ensure quality and consistent outcomes including understanding limits of adjustment and parameters for safe running and standardisation.	Show that they have the depth of knowledge to develop others to run and operate propulsion testing equipment effectively to ensure quality and consistent outcomes including understanding limits of adjustment and parameters for safe running and standardisation.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate PTK5 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate PTK5 annex	
			Click or tap here to enter text.	



Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
PTK6	The different types and purpose of the tests that can be carried out on propulsion units/systems being developed such as performance, emissions, climatic, noise, vibration, durability, mechanical, electrical and calibration.		Describe the different types and purpose of the tests that can be carried out on propulsion units/systems being developed such as performance, emissions, climatic, noise, vibration, durability, mechanical, electrical and calibration.	Provide an overview of the different regulations that must be met (national and international where applicable) in order to meet compliance standards.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate PTK6 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate PTK6 annex	
			Click or tap here to enter text.	



Propulsion Test – Specific Skills Criteria				
Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
PTS4	Ensure the servicing schedules and maintenance of propulsion testing equipment is carried out in line with manufacturer instructions and/or company standard operating procedures		Demonstrate where they have ensured that the servicing schedules and maintenance of propulsion testing equipment is carried out in line with manufacturer instructions and/or company standard operating procedures.	Demonstrate where they have put in place proposals to improve equipment maintenance and/or equipment downtime.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate PTS4 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate PTS4 annex	
			Click or tap here to enter text.	
Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
PTS5	Lead the diagnosis and analysis of any faults found on propulsion units under test.		Demonstrate where they have led the diagnosis and analysis of any faults found on propulsion units under test.	Demonstrate how they have contributed to finding solutions to the faults found on propulsion units under test.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate PTS5 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate PTS5 annex	
			Click or tap here to enter text.	

Engine Build

Engine Build – Specific Knowledge Criteria				
Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
EBK3	The different fault diagnostic methods used, their application and selection.		Show that they understand the different fault diagnostic methods used, their application and selection.	Explain the criteria and process used to select the correct fault diagnostic method and the implications on the development programme if the diagnostic method used is not the appropriate method to determine the fault identified.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate EBK3 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate EBK3 annex	
			Click or tap here to enter text.	
Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
EBK4	The methodologies used for part and product quality investigations.		Show that they understand the methodologies used for part and product quality investigations	Explain the criteria and process used to determine the correct methodology to be used when undertaking a product/part quality investigation and the implications on the development programme if the appropriate methodology is not used.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate EBK4 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate EBK4 annex	
			Click or tap here to enter text.	

Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
EBK5	How to validate tooling and build deviations and associated equipment and instrumentation.		Show that they understand how to validate tooling and build deviations and associated equipment and instrumentation.	Explain the importance of undertaking the validation process correctly and the implications on the development programme if the validation process is not carried out to the required specification.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate EBK5 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate EBK5 annex	
			Click or tap here to enter text.	

Engine Build – Specific Skills Criteria				
Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
EBS4	Lead the diagnosis and analysis of any faults identified during the development engine build.		Demonstrate where they have led the diagnosis and analysis of any faults identified during the development engine build.	Demonstrate how they have contributed to finding solutions to the faults found on development engine build that lead to modifications being implemented.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate EBS4 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate EBS4 annex	



Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
EBS5	Lead and support modification activities to improve engine build reliability and performance.		Demonstrate where they have led and supported a modification activity to improve engine build reliability and performance.	Demonstrate where they have led and supported modification activities on multiple concurrent build projects.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate EBS5 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate EBS5 annex	
			Click or tap here to enter text.	
Ref.	Descriptors	Fail	Pass Criteria	Distinction Criteria
EBS6	Lead the validation process for tooling and build deviations and associated equipment/instrumentation.		Demonstrate where they have led a validation process for tooling and build deviations and associated equipment/instrumentation.	Demonstrate where they have led the validation process for tooling and build deviation and associated equipment/instrumentation on multiple concurrent build projects.
Pass criteria of Scope statements*			Apprentice's justification of why they think they met Pass criteria referenced to appropriate EBS6 annex	
			Click or tap here to enter text.	
Distinction criteria of scope statements*			Apprentice's justification of why they think they met Distinction criteria referenced to appropriate EBS6 annex	
			Click or tap here to enter text.	

Occupational Competence Discussion evidence mapping.

CK	Core Knowledge – The apprentice must be able to demonstrate an understanding of:	Mapping for discussion
CK1	The statutory and organisation health and safety policies, procedures and regulations that must be adhered to in a propulsion environment.	Click or tap here to enter text.
CK3	How to communicate effectively, listen, question, support and mentor others.	Click or tap here to enter text.
CK5	The principles and purpose of quality auditing.	Click or tap here to enter text.
CK6	The core engineering principles such as mathematics, science, mechanical and electrical/electronic applications relevant to their specialism.	Click or tap here to enter text.
CK8	How to prioritise their own and their team’s workload to ensure Occupational Competence that targets are met and to ensure effective use of Discussion resource/equipment.	Click or tap here to enter text.
CK10	The principles and application of Measurement Systems Analysis methods and techniques.	Click or tap here to enter text.
CK11	How to analyse and interpret first line data accurately in order to, validate quality, draw conclusions, provide recommendations and communicate with others in a recognised format.	Click or tap here to enter text.
CK12	The use, benefits and applications of continuous improvement techniques and methods for engineering (such as Kaizen and Six Sigma).	Click or tap here to enter text.
CK13	The importance for organisations to manage and monitor supplier performance ensuring that cost, service, quality and sustainability objectives are being achieved and their responsibilities in that process.	Click or tap here to enter text.
CK14	How to produce accurate, effective and concise plans, presentations and analysis of graphs/charts, process and lessons learnt documents.	Click or tap here to enter text.

CS	Core Skills – The apprentice must be able to:	Mapping for discussion
CS1	Manage risk and the application of Health and Safety within their area of responsibility.	Click or tap here to enter text.
CS2	Communicate effectively, listen, question, support and mentor others, whilst promoting an attention to detail throughout the propulsion development process.	Click or tap here to enter text.
CS4	Demonstrate critical and analytical reasoning, robust planning and task co-ordination.	Click or tap here to enter text.
CS10	Implement proposals for test or build plan modifications based on quality and quantitative data.	Click or tap here to enter text.
CS11	Prioritise test or build output to maximise efficient use of specialist equipment.	Click or tap here to enter text.
CS12	Manage all internal and external customer needs throughout test or build execution	Click or tap here to enter text.

CS13	Develop procedures and processes necessary to meet all relevant standards and requirements, i.e. legal & code of practice.	Click or tap here to enter text.
CS14	Guide and develop other team members.	Click or tap here to enter text.
CS15	Create internal test or build instructions and process documents.	Click or tap here to enter text.
CS16	Support the development of proposals to develop new/alternative technologies.	Click or tap here to enter text.

B	Behaviours – The apprentice must be able to demonstrate the following:	Mapping for discussion
CB1	Personal Responsibility & Compliance: Complies with statutory and organisational health & safety regulations and policies at all times. Accepts responsibility for their work load with a responsible approach to risk. Continually demonstrates a high level of motivation and resilience when facing challenges.	Click or tap here to enter text.
CB2	Working Effectively in Teams: Create and maintain positive, professional and trusting working relationships with the team and a wide range of internal, external and connected stakeholders. Maintains the highest standards of integrity and ethics in all business relationships.	Click or tap here to enter text.
CB3	Effective Communication & Interpersonal Skills: Maintain effective partnerships with suppliers and customers through the company processes to achieve sound objectives. Open and honest clear communication using appropriate methods. Always demonstrating a positive and respectful attitude.	Click or tap here to enter text.
CB4	Quality & Problem Solving: Strong desire to ensure that the Occupational Competence Discussion root cause of a problem is identified and addressed, continually seeks opportunities to improve quality, speed and efficiency whilst also demonstrating technical leadership.	Click or tap here to enter text.
CB5	Continuous Personal Development: Reflect on skills, knowledge and behaviours and seeks opportunities to develop, adapt to different situations, environments or technologies and have a positive attitude to feedback and advice.	Click or tap here to enter text.



PTK	Propulsion Test - Specific Knowledge – The apprentice must be able to demonstrate an understanding of:	Mapping for discussion
PTK2	The principles of how to create and edit test scripts to ensure data obtained is valid and reliable.	Click or tap here to enter text.
PTK5	How to run and operate propulsion testing equipment effectively to ensure quality and consistent outcomes including understanding limits of adjustment and parameters for safe running and standardisation.	Click or tap here to enter text.
PTK6	The different types and purpose of the tests that can be carried out on propulsion units/systems being developed such as performance, emissions, climatic, noise, vibration, durability, mechanical, electrical and calibration	Click or tap here to enter text.

PTS	Propulsion Test – Specific Skills – The apprentice must be able to:	Mapping for discussion
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PTS4	Ensure the servicing schedules and maintenance of propulsion testing equipment is carried out in line with manufacturer instructions and/or company standard operating procedures	Click or tap here to enter text.
PTS5	Lead the diagnosis and analysis of any faults found on propulsion units under test	Click or tap here to enter text.

EBK	Engine Build - Specific Knowledge – The apprentice must be able to demonstrate an understanding of:	Mapping for discussion
EBK3	The different fault diagnostic methods used, their application and selection.	Click or tap here to enter text.
EBK4	The methodologies used for part and product quality Occupational Competence Discussion investigations.	Click or tap here to enter text.
EBK4	How to validate tooling and build deviations and associated equipment and instrumentation.	Click or tap here to enter text.

EBS	Engine Build Specific Skills – The apprentice must be able to:	Mapping for discussion
EBS4	Lead the diagnosis and analysis of any faults identified during the development engine build.	Click or tap here to enter text.
EBS5	Lead and support modification activities to improve engine build reliability and performance.	Click or tap here to enter text.
EBS6	Lead the validation process for tooling and build deviations and associated equipment/instrumentation.	Click or tap here to enter text.

Your details	
Apprentice Name:	Click or tap here to enter text.
Apprentice Employee Number:	Click or tap here to enter text.
Apprentice Signature:	Click or tap here to enter text. 
I confirm that the information and evidence contained in this assessment occupational competence report is the work of the apprentice, named above <input type="checkbox"/> (tick)	
Employer representative (mentor) details	
Employer Representative Name:	Click or tap here to enter text.
Employer Representative Job Title:	Click or tap here to enter text.
Relationship to Apprentice:	Click or tap here to enter text.
Representative Signature:	Click or tap here to enter text. 

Recommended check list for employers for EPA:

- The End Point Assessment (presentation and professional discussion) is booked with the Apprentice Assessment Organisation
- A date and place of assessment is confirmed
- The name of the EPAO/Independent Assessor is confirmed along with assessment dates
- Prior to End Point Assessment the Apprentice, supported by their employer/provider, must have completed the occupational competence report recording document against the apprenticeship standards
- The Apprentice has prepared for the EPA presentation and professional discussion
- All dates/times/locations and contact details are confirmed



Details of mentor or witnesses who will authenticate the examples of performance

Name	Position	Contact Email/Telephone	Signature
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	

Assessor Notes: Where the apprentice has provided sufficient evidence to satisfy the learning area as identified in the **EAL L4 Propulsion Technician Assessment Report Template**, the IA will indicate within the **EAL L 4 Propulsion Technician Assessment Recording Document**. Where a Learning Area has not been fully met, questions should be prepared to be used at the professional discussion.



EPA Case Study Project - Planning Outline

EPA Case Study Proposal and Planning Document for:

L4 Propulsion Technician

Standard Reference: ST0588

Apprentice Name: Click or tap here to enter text.

Employer Name: Click or tap here to enter text.



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Document Amendments

Amendment Made	Issue Number	Effective From
New document	1.0	04.2021

Document Purpose

This document is intended to provide a means of presenting an outline of the apprentices proposed case study project and evidence how it will meet the requirements of the assessment plan. This will then form the basis of an agreement between the apprentice, employer and EPAO that the chosen project will meet all the necessary criteria the apprentice must demonstrate in this aspect of their EPA.

Overview

The EPA for this Standard consists of two distinct assessment methods:

- Case study project: report, presentation and questioning
- Occupational competence discussion, underpinned by supporting evidence

This document covers **only** the case study project, report, presentation and questioning method.

The agreed project including the written report, presentation and questioning must be undertaken and completed within the 6 month EPA period beginning once the apprentice has achieved all of the gateway requirements.

The Case Study Project: Report, Presentation and Questioning must be based on a work-based project/task that the apprentice will complete during the EPA period.

Agreement must be reached between the apprentice, the apprentice's employer and the EPA independent assessor on the title and content of the case study project to be completed by the apprentice during the end-point assessment period. The case study project will be the basis of the report, presentation and questioning for this assessment method. The project should allow the opportunity to cover the KSBs assigned to this method of assessment and the following should be discussed and agreed at the gateway and include as a minimum:

1. Background
2. Outline of the project to be undertaken
3. Justification for the project (business need/impact and alignment to the relevant KSBs)
4. Potential risks
5. Consideration of legislation, regulation, industry and organisational policies, procedures and requirements
6. Proposed plan for implementation
7. Stakeholder engagement (internal and/or external)
8. Measures of success

Please enter the information relating to each of the areas above in the relevant tables on page 7.

What is being assessed?

Case study project: report, presentation and questioning

The case study project will be assessed against the prescribed KSBs (core and pathway specific). The case study project must cover duties undertaken by a Propulsion Technician including:

1. Supporting the development of propulsion technologies
2. Working to company processes and procedures
3. Managing risk and the application of Health and Safety within their area of responsibility
4. Managing any required pre-checks on test or build systems
5. Leading the setting up of equipment and ancillary systems used for build or test
6. Ensuring any instrumentation captures high quality data in a systematic and repeatable way
7. Carrying out checks, measurement and calibration activities
8. Leading the build or testing of propulsion units
9. Monitoring and validating test or build data quality
10. Identifying and contributing to finding solutions where problems arise
11. Contributing to the development of proposals for continuous improvement

Examples of a typical project could be:

- 1) To build development engines to incorporate a number of thermocouples at strategic points in the engine in order to obtain data on engine performance to a specification set by the engineer
- 2) To prepare and set up emission tests on static engines in order to produce high quality test data for an engineer to use to support the engine development programme to meet recognised international and UK standards

Case Study Project, Report, Presentation and Questioning

The Case Study Project, Report and Presentation followed by Questioning will give the apprentice an opportunity to choose and carry out an exemplar work-based project that will allow them to showcase and demonstrate their practical application of the knowledge, skills and behaviours they have acquired during their apprenticeship. The Case Study Presentation will be followed by a question and answer session led by their designated end-point assessor.

Evidence from the different components – report, presentation and questioning will be assessed holistically against the KSBs. It will be graded - fail, pass or distinction.

Typically the project will be undertaken over a 6 - 8 week period. The apprentice must complete their report by or before the end of month three of their EPA period. The EPAO must ensure the presentation and questioning is scheduled during the apprentice's maximum EPA period, after the report has been reviewed.

Report

The report should contain 2500 words +/- 10%, detailing the scope, objectives and outcomes of the case study project. The project report must include as a minimum:

1. Department overview
2. Project brief detailing objectives/scope
3. Project plan
4. Company documentation (such as build or test specifications and procedures)
5. Tools and equipment requirements
6. Safety requirements including any risk assessments
7. How project objectives/scope were undertaken
8. Project analysis and conclusions
9. Make recommendations
10. Mapping to relevant Knowledge, Skills and Behaviours
11. Annex – Supporting evidence

Items 10 & 11 above are not included in the word count.

Supporting evidence

The apprentice must provide supporting evidence relating to the project in an annex, which does not contribute to the word count. There must be a maximum of fifteen discrete pieces of evidence. Evidence could include job cards, test scripts, data reports, build specifications, quality/compliance records or fault reports, pictures or links to video clips. This list is not definitive and other relevant sources are permissible. The annex must include a mapping of the evidence to the relevant KSBs for this assessment method. It is expected that each piece of evidence will cover multiple KSBs. The annex must also include a statement from the employer authenticating the apprentice's evidence. It is important that the apprentice carefully selects the evidence to be used to support the project report and only includes relevant evidence. It is not about the volume of evidence but the quality of evidence that aligns to and covers the relevant KSBs.

The independent assessor must review the case study report and supporting evidence prior to the end-point assessment at a date, time and location agreed with the employer. This must be a minimum of 10 working days prior to the case study project presentation. However, for efficiency reasons this time can be reduced on agreement with the EPAO, who is responsible for ensuring that the assessor has sufficient time to prepare for the presentation and questioning.

In certain circumstances, depending on the nature of the business/department where the apprentice is employed, the evidence/documentation may not be allowed to leave the premises and/or certain cases information in the evidence may be required to be redacted for confidentiality reasons. The EPAO and independent assessors may also be required to sign a confidentiality/non-disclosure agreement with the apprentice's employer.

Presentation and Questioning

Apprentices must prepare and deliver a presentation, based on their case study project to their independent assessor.

A technical expert from the employer can be in attendance at the request of the EPAO. Their role would be to provide the independent assessor with any relevant technical support, advice and guidance such as confirming company policies, procedures, processes, providing context on technical information or on emerging technologies. Any information provided by the employer technical expert must only be at the request of the independent assessor who assesses and determines the grade awarded. The employer technical expert must not provide evidence on behalf of the apprentice or seek to influence the apprentice or independent assessor in any way.

The independent assessor must review the case study presentation prior to the end-point assessment at a date, time and location agreed with the employer. This must be a minimum of 10 working days prior to the end-point assessment. However, for efficiency reasons this time can be reduced depending on the number of apprentices requiring the EPA and the availability of the assessor.

The project report and supporting evidence must be available throughout the duration of the presentation and questioning components so that it can be referenced by the independent assessor and/or apprentice.

The apprentice should have a minimum of two weeks' notice of the date and time of the presentation and questioning component.

The presentation must be 30-minutes +/- 10% in duration.

The presentation must cover: the project scope, outcomes/achievements, and where applicable any difficulties faced/lessons learnt and recommendations.

The apprentice can use a range of aids to support the presentation, such as flip charts, video clips, work products/outputs and Power Points.

The presentation must be followed by a question and answer session, which must be 35-minutes +/- 10% in duration. The independent assessor must ask a minimum of 8 open questions. Follow up questions are allowed to seek clarification. The question and answer session will provide the opportunity for the independent assessor to seek clarification and probe for further detail/evidence as required.

The presentation and questioning components can be recorded (audio or video) if all parties agree. Where permission is not given it is permissible for another independent assessor to be present to scribe/document evidence presented and record the response to questions. Where a second independent assessor is used to act as a scribe, they must not be involved in any assessment decision and must be independent i.e. they have nothing to gain from the outcome of the assessment and have had no direct involvement in the day to day training and development of the apprentice during the on-programme phase of apprenticeship.

- The presentation and questioning components can be conducted face-to-face or via live video link.
- The presentation and questioning components must be conducted in a 'controlled environment', i.e. a quiet room, free from distraction and influence, away from the apprentice's normal work area. It is anticipated a room will be sourced at the apprentice's employer's premises to minimise cost however, other venues may be sourced as necessary.

This Standard has two options, each one applicable to the specific job role the apprentice is undertaking.

Apprentice to indicate which option has been chosen below (only one can be chosen).

Option 1: Propulsion Test (✓)	<input type="checkbox"/>
Option 2: Engine Build and Process Technician (✓)	<input type="checkbox"/>
Please enter the title of the Case Study Project Below	EPAO agrees (✓)
Click or tap to enter a date.	<input type="checkbox"/>
Planned timescale in days of the Case Study Project Below	EPAO agrees (✓)
Click or tap to enter a date.	<input type="checkbox"/>

Aspects of the project to be considered and agreed. Please briefly outline the approach, content and evidence proposed below.	EPAO agrees (✓)
Background: Click or tap to enter a date.	<input type="checkbox"/>
Outline of the project to be undertaken: Click or tap to enter a date.	<input type="checkbox"/>
Justification for the project (business need/impact and alignment to the relevant KSBs): Click or tap to enter a date.	<input type="checkbox"/>

Potential risks: Click or tap to enter a date.	<input type="checkbox"/>
Consideration of legislation, regulation, industry and organisational policies, procedures and requirements: Click or tap to enter a date.	<input type="checkbox"/>
Proposed plan for implementation: Click or tap to enter a date.	<input type="checkbox"/>
Stakeholder engagement (internal and/or external): Click or tap to enter a date.	<input type="checkbox"/>
Measures of success: Click or tap to enter a date.	<input type="checkbox"/>

Please use the table below to record which criteria the Case Study Project, Report and Presentation will meet.

Core Knowledge		EPAO agrees project meets this criteria (✓)
The apprentice must be able to demonstrate an understanding of:		
CK1	The statutory and organisation health and safety policies, procedures and regulations that must be adhered to in a propulsion environment.	<input type="checkbox"/>
CK2	The risk assessment process, procedures and documentation used within their own area of responsibility.	<input type="checkbox"/>
CK4	The relevant internal and external quality standards and procedures that apply to the design, development and manufacture of propulsion systems.	<input type="checkbox"/>
CK7	The importance of developing and maintaining Standard Operating Procedures (SOP's) in order to meet all the relevant requirements, i.e. legal & code of practice.	<input type="checkbox"/>

CK9	The various data collection systems used and their formats.	<input type="checkbox"/>
CK15	The Internal and external audit compliance requirements (such as TS16949 and ISO 14001)	<input type="checkbox"/>
Core Skills The apprentice must be able to:		EPAO agrees project meets this criteria (✓)
CS1	Manage risk and the application of Health and Safety within their area of responsibility.	<input type="checkbox"/>
CS3	Manage checks on test or build systems and problem solve where issues arise.	<input type="checkbox"/>
CS5	Lead the setting up of equipment and ancillary systems used for build or test and where applicable carry out any required modifications.	<input type="checkbox"/>
CS6	Ensure instrumentation captures high quality data in a systematic and repeatable way.	<input type="checkbox"/>
CS7	Carry out checks, measurement and calibration activities following approved procedures and processes.	<input type="checkbox"/>
CS8	Comply with internal processes and procedures to ensure equipment is fit for purpose, maintained correctly and in calibration.	<input type="checkbox"/>
CS9	Monitor and validate test or build data quality.	<input type="checkbox"/>
Behaviours The apprentice must be able to demonstrate the following:		EPAO agrees project meets this criteria (✓)
CB1	Personal Responsibility & Compliance: Complies with statutory and organisational health & safety regulations and policies at all times. Accepts responsibility for their work load with a responsible approach to risk. Continually demonstrates a high level of motivation and resilience when facing challenges.	<input type="checkbox"/>

Please complete the relevant table below according to the job role option chosen.

Job role 1: Propulsion Test

Propulsion Test - Specific Knowledge		EPAO agrees project meets this criteria (✓)
The apprentice must be able to demonstrate an understanding of:		
PTK1	The criteria used to determine the testing method(s) and equipment to be used.	<input type="checkbox"/>
PTK3	The preparation and set up requirements of testing and data collection equipment/ancillary systems.	<input type="checkbox"/>
PTK4	The preparation and set up requirements of propulsion units to be tested.	<input type="checkbox"/>

Propulsion Test Specific Skills		EPAO agrees project meets this criteria (✓)
The apprentice must be able to:		
PTS1	Lead the preparation and installation activities for propulsion units under test	<input type="checkbox"/>
PTS2	Lead the testing activity ensuring the test is carried out in line with manufacturer instructions and/or company standard operating procedures	<input type="checkbox"/>
PTS3	Check and monitor the test to ensure that it is carried out under the specified conditions set out in the test script/specification	<input type="checkbox"/>

Job role 2: Engine Build

Engine Build - Specific Knowledge		EPAO agrees project meets this criteria (✓)
The apprentice must be able to demonstrate an understanding of:		
EBK1	The importance of ensuring that engines are not contaminated during the build and the implications for the quality of the development programme data if this is not adhered to.	<input type="checkbox"/>
EBK2	The importance of adhering to the quality criteria such as setting working clearances and torque settings.	<input type="checkbox"/>

Engine Build Specific Skills The apprentice must be able to:		EPAO agrees project meets this criteria (✓)
EBS1	Check that all preparation activities to support the prototype engine build development programme have been carried out correctly.	<input type="checkbox"/>
EBS2	Ensure that the specified components are available for the build and that they are in a usable condition.	<input type="checkbox"/>
EBS3	Lead the build of the prototype/development engine ensuring it has been built to the correct specification and is ready for testing.	<input type="checkbox"/>

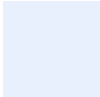
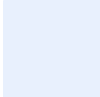
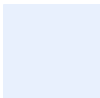
All of the above requirements are to be agreed by the Apprentice, Employer and EPAO.

If any criteria cannot be met, the proposed project is unsuitable in its current form.

If all requirements of the proposed project have been met and agreed by all parties, please sign and date in the relevant areas on page 12 to evidence the agreement that this project is suitable for the L4 Propulsion Technician EPA.

Signatures

All of the requirements for the Level 4 Propulsion Technician EPA Case study project, report and presentation will be met by the proposed project and this has been agreed by the Apprentice, Employer and EPAO. The signatures below testify to this.

Role	Name	Signature	Date
Apprentice	Click or tap to enter a date.		Click or tap to enter a date.
Employer	Click or tap to enter a date.		Click or tap to enter a date.
EPAO	Click or tap to enter a date.		Click or tap to enter a date.

The tables on the following pages show the grading criteria which will be applied by the independent assessor when marking and grading your project, report, presentation and questioning. The information contained within them may assist you when planning your project in order to achieve the best grade possible in your EPA.



Part of the
Enginuity Group

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