



EAL Level 3 Diploma in **Aerospace Manufacturing (Development Competence)**

Qualification specification

Overview

This qualification covers the specific skills, knowledge and behaviours for a range of aerospace and aviation engineering manufacturing disciplines which have been developed in consultation with sector industry specialists and training providers to ensure that it meets the needs of industry, employers and apprentices and covers a range of apprenticeship standards developed across the aerospace and aviation engineering manufacturing sector.

Typical job roles

- Aerospace manufacturing fitter,
- Aerospace manufacturing electrical/mechanical and systems fitter.

Qualification code:	603/0051/6
Level:	3
TQT:	Minimum 1366 hours
Minimum learning age:	16



Purpose of the qualification

What is this qualification?

This qualification is a competency qualification which lies within the National Qualification Framework (NQF) and has been approved by the aerospace and aviation engineering sector employer group which is made up of a range of employers, training providers and professional institutions. The qualification focuses on the skills, knowledge and behaviours required to achieve the development phase requirements of the relevant apprenticeship standards. This arrangement ensures that when the apprentice completes the qualification they will have gained knowledge and practical experience of some of the situations that they could face within the occupational sector in which it is being delivered.

What does this qualification cover?

The qualification covers the specific skills, knowledge and behaviours of a range of aerospace and aviation engineering disciplines which have been developed in consultation with engineering industry specialists and training providers to ensure that it meets the needs of industry employers and learners.

The content and structure of the qualification has been developed to provide the appropriate level of skills, knowledge and behaviours required to be achieved and assessed to demonstrate full occupational competence in the development phase of the apprenticeship.

This qualification is a Level 3 Diploma and has a minimum Total Qualification Time of 1366 hours.

Who is this qualification for?

- Apprentices working towards a relevant apprenticeship standard,
- Apprentices looking to advance to the development phase of a relevant apprenticeship standard.

Who supports the qualification?

This qualification is:

- Accredited by Ofqual at Level 3,
- Supported by Semta,
- Supported by the aerospace and aviation engineering sector.

What could this qualification lead to?

Typical job roles include:

- Aerospace manufacturing fitter,
- Aerospace manufacturing electrical/mechanical and systems fitter.

The qualification will provide progression onto other suitable and appropriate Level 3 and Level 4 engineering and manufacturing qualifications.

Entry requirements

Apprentices must be at least 16 years old. There are no formal entry requirements for this qualification; however centres should ensure that the apprentice have the potential to achieve this qualification. Apprentices must have the minimum levels of literacy and numeracy to complete the learning outcomes and the external assessment.

Centres should make apprentices with particular requirements aware of the content of the qualification and they should be given every opportunity to successfully complete the qualification. EAL will consider any reasonable suggestions for, and from, those with disabilities that would help them to achieve the learning outcomes without compromising the standards required.

How is the qualification achieved?

The qualification is achieved when all the necessary units have been completed. The centre will then be able to apply for the apprentice's certificate of achievement. The apprentice will also receive a certificate of unit credit, listing all the units they have achieved.

What will be assessed?

This qualification is gained when all the performance, skills knowledge and behaviours have been successfully demonstrated across the assessment criteria for each unit selected.

The assessment criteria within the units of competence have been specifically developed to cover the skills, knowledge and behaviours for a wide range of activities relevant to a range of roles that are available within the aerospace and aviation engineering sector. The evidence produced for the units will, therefore, depend on the skills and knowledge required by the employer and as specified in the apprentice's training plan.

Grading criteria

This qualification is not graded, apprentices can achieve a pass or be referred (competent/not yet competent).

To achieve a pass, apprentices must be able to demonstrate their performance, skills, knowledge and behaviours across all the mandatory and optional units.

How will it be assessed?

Performance evidence must be a product of the apprentice's work, such as engineering assemblies, sub-assemblies or components that have been produced or worked on, plans, charts, reports, standard operating procedures, documents produced as part of a work activity, records or photographs of the completed activity together with evidence of the way the apprentice carried out the activities, such as witness testimonies, assessor observations or authenticated apprentice reports of the activity undertaken.

Knowledge and understanding are key components of competent performance, but it is unlikely that performance evidence alone will provide enough evidence in this area. Where the apprentice's knowledge and understanding is not apparent from performance evidence, it must be assessed by other means and be supported by suitable evidence.

Structure

This qualification can be achieved by the apprentice by completing the **mandatory** units **plus** the required number of **optional units**.

Mandatory units: all four mandatory units must be completed:

EAL Code	Unit title	GL(hrs)	Ofqual Code
AAED3-001	Complying with statutory regulations and organisational safety requirements (Aerospace and Aviation)	18	M/508/6179
AAED3-002	Using and interpreting engineering data and documentation (Aerospace and Aviation)	18	H/508/6180
AAED3-003	Working efficiently and effectively in advanced manufacturing and engineering (Aerospace and Aviation)	50	T/508/6183
AAED3-004	Reinstating the work area on completion of activities (Aerospace and Aviation)	50	F/508/6185

Optional units: a minimum of four optional units must be completed from the following:

EAL Code	Unit title	GL(hrs)	Ofqual Code
AAED3-005	Marking out composites and/or metallic aircraft components (Aerospace and Aviation)	280	L/508/6190
AAED3-006	Cutting and shaping aircraft components (Aerospace and Aviation)	480	D/508/6193
AAED3-007	Bending and forming aircraft components (Aerospace and Aviation)	480	F/508/6199
AAED3-008	Installing aircraft mechanical fasteners into composite and/or metallic components (Aerospace and Aviation)	420	A/508/6203
AAED3-009	Producing aircraft detail assemblies (Aerospace and Aviation)	710	F/508/6204
AAED3-010	Producing composite and/or metallic aircraft sub-assemblies (Aerospace and Aviation)	710	J/508/6205
AAED3-011	Producing composite and/or metallic aircraft major assemblies (Aerospace and Aviation)	700	L/508/6206
AAED3-012	Installing aircraft mechanical controls (Aerospace and Aviation)	860	R/508/6207
AAED3-013	Repairing airframes and structures (Aerospace and Aviation)	620	J/508/6561
AAED3-014	Modifying airframes (Aerospace and Aviation)	600	D/508/6209
AAED3-015	Drilling and finishing holes in composite and/or metallic aircraft structures or components (Aerospace and Aviation)	400	R/508/6210
AAED3-016	Producing aircraft composite mouldings using pre-preg laminating techniques (Aerospace and Aviation)	860	Y/508/6211
AAED3-017	Trimming aircraft composite mouldings using hand tools (Aerospace and Aviation)	460	D/508/6212
AAED3-018	Repairing aircraft composite mouldings (Aerospace and Aviation)	770	Y/508/6208
AAED3-019	Bonding aircraft composite mouldings (Aerospace and Aviation)	300	T/508/6278
AAED3-020	Producing composite mouldings using ATL/AFP laminating techniques (Aerospace and Aviation)	860	A/508/6279
AAED3-021	Producing aircraft composite assemblies (Aerospace and Aviation)	860	A/508/6282
AAED3-022	Welding materials by the manual TIG and plasma arc welding process (Aerospace and Aviation)	1750	M/508/6280

Optional units - continued

AAED3-024	Installing aircraft fuel systems (Aerospace and Aviation)	860	D/508/6288
AAED3-025	Installing aircraft environmental systems (Aerospace and Aviation)	860	H/508/6289
AAED3-026	Installing flying control surfaces and systems (Aerospace and Aviation)	860	D/508/6291
AAED3-027	Installing aircraft main engines (Aerospace and Aviation)	950	K/508/6293
AAED3-028	Installing aircraft power transmission systems (Aerospace and Aviation)	890	T/508/6295
AAED3-029	Testing aircraft power transmission systems (Aerospace and Aviation)	550	L/508/6299
AAED3-030	Testing aircraft hydraulic systems (Aerospace and Aviation)	550	K/508/6309
AAED3-031	Testing aircraft environmental systems (Aerospace and Aviation)	550	A/508/6329
AAED3-032	Testing aircraft fuel systems (Aerospace and Aviation)	550	M/508/6330
AAED3-033	Testing aircraft flying control surfaces and systems (Aerospace and Aviation)	550	T/508/6331
AAED3-034	Carrying out test bed runs on aircraft engines (uninstalled) (Aerospace and Aviation)	1500	A/508/6332
AAED3-035	Assembling mechanical products (Aerospace and Aviation)	700	F/508/6333
AAED3-036	Fitting fluid power components to mechanical assemblies (Aerospace and Aviation)	600	J/508/6334
AAED3-037	Repairing and modifying mechanical assemblies (Aerospace and Aviation)	700	L/508/6335
AAED3-038	Dressing aircraft engines (Aerospace and Aviation)	630	R/508/6336
AAED3-039	Producing power turbine combustion assemblies (Aerospace and Aviation)	1260	Y/508/6337
AAED3-040	Producing power turbine compressor assemblies (Aerospace and Aviation)	950	D/508/6338
AAED3-041	Producing power turbine assemblies (Aerospace and Aviation)	840	H/508/6339
AAED3-042	Producing power turbine gearbox assemblies (Aerospace and Aviation)	950	Y/508/6340
AAED3-043	Producing power turbine major assemblies (Aerospace and Aviation)	1470	D/508/6341
AAED3-044	Checking that completed assemblies comply with specification (Aerospace and Aviation)	300	H/508/6342
AAED3-045	Carrying out fault diagnosis on instrumentation and control equipment and circuits (Aerospace and Aviation)	500	K/508/6343
AAED3-046	Testing and calibrating instrumentation and control equipment and circuits (Aerospace and Aviation)	500	M/508/6344
AAED3-047	Inspecting mechanical products (Aerospace and Aviation)	1420	T/508/6345
AAED3-048	Overhauling power turbines by module replacement (Aerospace and Aviation)	1500	A/508/6346
AAED3-049	Overhauling power turbine compressor assemblies (Aerospace and Aviation)	1350	F/508/6347

Optional units - continued

AAED3-050	Overhauling power turbine combustion assemblies (Aerospace and Aviation)	1500	J/508/6348
AAED3-051	Overhauling power turbine assemblies (Aerospace and Aviation)	1250	L/508/6349
AAED3-052	Overhauling gearbox assemblies (Aerospace and Aviation)	1250	F/508/6350
AAED3-053	Carrying out tests on overhauled power turbines (Aerospace and Aviation)	700	J/508/6351
AAED3-054	Carrying out fault diagnosis on engineered systems (Aerospace and Aviation)	530	L/508/6352
AAED3-055	Installing aircraft cableforms/looms (Aerospace and Aviation)	770	R/508/6353
AAED3-056	Installing aircraft visual display units and computer systems (Aerospace and Aviation)	860	Y/508/6354
AAED3-057	Installing aircraft power supplies (Aerospace and Aviation)	770	D/508/6355
AAED3-058	Installing aircraft flight guidance and control systems (Aerospace and Aviation)	860	H/508/6356
AAED3-059	Modifying aircraft electrical systems (Aerospace and Aviation)	770	K/508/6357
AAED3-060	Modifying aircraft avionics systems (Aerospace and Aviation)	770	M/508/6358
AAED3-061	Testing aircraft cableforms/looms (Aerospace and Aviation)	770	T/508/6359
AAED3-062	Testing aircraft visual display units and computer systems (Aerospace and Aviation)	550	K/508/6360
AAED3-063	Testing aircraft flight guidance and control systems (Aerospace and Aviation)	550	M/508/6361
AAED3-064	Producing aircraft wiring layouts and routeings (Aerospace and Aviation)	350	T/508/6362
AAED3-065	Producing aircraft electrical sub-assemblies, cableforms and looms (Aerospace and Aviation)	860	A/508/6363
AAED3-066	Modifying aircraft cableforms and looms (Aerospace and Aviation)	770	F/508/6364
AAED3-067	Installing, testing and modifying aircraft cableforms/looms in a mechanical structure (Aerospace and Aviation)	710	L/508/6366

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