

**Summary of the:**

**GQA PAA\VQSET LEVEL 2 NVQ DIPLOMA IN PERFORMING ENGINEERING OPERATIONS 601/1785/0**

**Who is this qualification for?**

This qualification is intended for learners who are undertaking an engineering apprenticeship or are new entrants to the engineering sector and wish to develop a broad range of engineering competencies to enable safe progression into the workplace/employment. It will also benefit learners who are already in employment but require additional engineering competencies as part of an existing job role or to enable career progression which involves the application of skills, knowledge and understanding in a range of work activities often performed in a variety of contexts.

Establishing underpinning knowledge and understanding relevant to the engineering sector, this qualification is intended to be capable of delivery through both a taught programme of off-the-job learning or through workplace assessment (for those with access to the real workplace).

Learners must achieve 6 Units, 3 Mandatory Units and 3 optional groups.

**What is required from candidates?**

Qualifications are made up of a number of units that have a credit value or credits.

These credits must be achieved in the correct combination from mandatory units and optional units.

The units are made up of the things you need to know and the things you need to be able to do to carry out your job safely and correctly. These are called Learning Outcomes, and all must be met to achieve the unit.

Qualifications are now required to indicate the total qualification time (TQT), this is to show the typical time it will take someone to attain the required skills and knowledge to meet the qualification criteria, this qualification has a TQT of 400 hours.

Qualifications are also required to indicate the number of hours of teaching someone would normally need to receive in order to pass the qualification. These are referred to as Guided Learning Hours (GLH). The GLH for this qualification is 214.

Unit Ref	Unit title	Credit value
Mandatory Units		
PEO2-001	Working safely in an engineering environment	5
PEO2-002	Carrying out engineering activities efficiently and effectively	4
PEO2-003	Using and communicating technical information	4
Engineering Practices – Optional Units Learners must achieve 3 units from this Option Group (see restrictions below):		
<ul style="list-style-type: none"> <li>• Only one unit from 4, 32 and 61 may be taken.</li> <li>• If unit 65 is selected units 5, 6, 8, 11, 12, 15, 16, 17 may not be taken.</li> <li>• If unit 66 is selected units 10, 22, 23, 25, 26, 27, 28, 29, 30, 34 may not be taken.</li> <li>• If unit 67 is selected units 33, 35, 36, 40 may not be taken.</li> <li>• If unit 68 is selected units 19, 21, 37, 38, 39, 40, 58, 59 may not be taken.</li> </ul>		
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PEO2-004	Producing mechanical engineering drawings using a CAD system	11
PEO2-005	Producing components using hand fitting techniques	14
PEO2-006	Producing mechanical assemblies	15
PEO2-007	Forming and assembling pipework systems	14
PEO2-008	Carrying out aircraft detail fitting activities	14
PEO2-009	Installing aircraft mechanical fasteners	11
PEO2-010	Producing aircraft detail assemblies	14
PEO2-011	Preparing and using lathes for turning operations	15

PEO2-012	Preparing and using milling machines	15
PEO2-013	Preparing and using grinding machines	15
PEO2-014	Preparing and proving CNC machine tool programs	14
PEO2-015	Preparing and using CNC turning machines	14
PEO2-016	Preparing and using CNC milling machines	14
PEO2-017	Preparing and using CNC machining centres	14
PEO2-018	Preparing and using industrial robots	14
PEO2-019	Maintaining mechanical devices and equipment	14
PEO2-020	Assembling and testing fluid power systems	14
PEO2-021	Maintaining fluid power equipment	14
PEO2-022	Producing sheet metal components and assemblies	14
PEO2-023	Producing platework components and assemblies	14
PEO2-024	Cutting and shaping materials using thermal cutting equipment	14
PEO2-025	Preparing and proving CNC fabrication machine tool programs	14
PEO2-026	Preparing and using CNC fabrication machinery	14
PEO2-027	Preparing and using manual metal arc welding equipment	15
PEO2-028	Preparing and using manual TIG or plasma-arc welding equipment	15
PEO2-029	Preparing and using manual MIG, MAG and other continuous wire welding equipment	15
PEO2-030	Preparing and using manual oxy/fuel gas welding equipment	14
PEO2-031	Preparing and using manual flame brazing and braze welding equipment	11
PEO2-032	Producing electrical or electronic engineering drawings using a CAD system	11
PEO2-033	Wiring and testing electrical equipment and circuits	14
PEO2-034	Forming and assembling electrical cable enclosure and support systems	13
PEO2-035	Assembling, wiring and testing electrical panels/components mounted in enclosures	14
PEO2-036	Assembling and testing electronic circuits	14
PEO2-037	Maintaining electrical equipment/systems	15
PEO2-038	Maintaining electronic equipment/systems	15
PEO2-039	Maintaining and testing process instrumentation and control devices	15
PEO2-040	Wiring and testing programmable controller based systems	15
PEO2-041	Using wood for pattern, modelmaking and other engineering applications	15
PEO2-042	Assembling pattern, model and engineering woodwork components	14
PEO2-043	Producing composite mouldings using wet lay-up techniques	14
PEO2-044	Producing composite mouldings using pre-preg techniques	14
PEO2-045	Producing composite mouldings using resin flow infusion techniques	14
PEO2-046	Producing composite assemblies	14



PEO2-047	Producing components by rapid prototyping techniques	11
PEO2-048	Producing and preparing sand moulds and cores for casting	14
PEO2-049	Producing and preparing molten materials for casting	14
PEO2-050	Producing cast components by manual means	13
PEO2-051	Fettling, finishing and checking cast components	11
PEO2-052	Finishing surfaces by applying coatings or coverings	9
PEO2-053	Finishing surfaces by applying treatments	9
PEO2-054	Carrying out heat treatment of engineering materials	9
PEO2-055	Carrying out hand forging of engineering materials	9
PEO2-056	Stripping and rebuilding motorsport vehicles pre-competition	14
PEO2-057	Inspecting a motorsport vehicle during a competition	14
PEO2-058	Diagnosing and rectifying faults on motorsport vehicle systems during competition	15
PEO2-059	Carrying out maintenance activities on motorsport vehicle electrical equipment	15
PEO2-060	Stripping and rebuilding motorsport engines pre-competition	14
PEO2-061	Producing CAD models/drawings using a CAD system	11
PEO2-065	General machining, fitting and assembly applications	12
PEO2-066	General fabrication and welding applications	12
PEO2-067	General electrical and electronic engineering applications	12
PEO2-068	General maintenance engineering applications	12
PEO2-069	Joining Public Service Vehicle Components by Mechanical Processes	11
PEO2-070	Assembling Structural Sub Assemblies to Produce a Public Service Vehicle	14
PEO2-071	Fitting Sub Assemblies and Components to Public Service Vehicles	14
PEO2-072	Preparing and Manoeuvring Armoured Fighting Vehicles AFVs for Maintenance and Transportation	14
PEO2-073	Producing Composite Mouldings using Resin Film Infusion Techniques	14
Option Group 1 - Learners must achieve 1 Optional Unit from this Group		
PEO2-004	Producing mechanical engineering drawings using a CAD system	11
PEO2-032	Producing electrical or electronic engineering drawings using a CAD system	11
PEO2-061	Producing CAD models/drawings using a CAD system	11
Option Group 2 - Learners must achieve 2 Optional Units from this Group.		
PEO2-062	Producing engineering project plans	8
PEO2-063	Using computer software packages to assist with engineering activities	8
PEO2-064	Conducting business improvement activities	8
Option Group 3 - Learners must achieve 2 Optional Units from this Group.		
PEO2-065	General machining, fitting and assembly applications	12
PEO2-066	General fabrication and welding applications	12



PEO2-067	General electrical and electronic engineering applications	12
PEO2-068	General maintenance engineering applications	12

**Assessment Guidance:**

Evidence should show that you can complete all of the learning outcomes for each unit being taken.

**Types of evidence:**

Evidence of performance and knowledge is required. Evidence of performance should be demonstrated by activities and outcomes, and should be generated in the workplace only, unless indicated under potential sources of evidence (see below). Evidence of knowledge can be demonstrated through performance or by responding to questions.

**Quantity of evidence:**

Evidence should show that you can meet the requirements of the units in a way that demonstrates that the standards can be achieved consistently over an appropriate period of time.

**Potential sources of evidence:**

The main source of evidence for each unit will be observation of the candidate's performance and knowledge demonstrated during the completion of the unit. This can be supplemented by the following types of physical or documentary evidence:

- Accident book/reporting systems
- Safety records
- Training records
- Audio records
- Job specifications and documentation
- Delivery Records
- Witness testimonies
- Correspondence with customers
- Notes and memos
- Photo/video evidence
- Work diaries
- Timesheets
- Telephone Logs
- Meeting records
- Records of toolbox talks
- Equipment
- Prepared materials and sites
- Completed work

**Please Note that photocopied or downloaded documents such as manufacturers' or industry guidance, H&S policies, Risk Assessments etc, are not normally acceptable evidence for GQA unless accompanied by a record of a professional discussion or Assessor statement confirming candidate knowledge of the subject. If you are in any doubt about the validity of evidence, please contact your GQA External Verifier.**

