Title	**Apply good work practices when performing basic fabrication operations under supervision**		
Level	**2**	**Credits**	**6**

Purpose	This is an entry-level unit standard for people working in mechanical engineering or fabrication that require a basic knowledge of modifying or producing fabricated components. It is concerned with establishing safe use of machines and good work practices, rather than fabricating to close tolerances. This unit standard does not cover principles and methods of welding. People credited with this unit standard are able to apply good work practices under supervision when: preparing for the fabrication of simple objects; fabricating simple objects; and adjusting and maintaining fabrication machines.

Classification	Mechanical Engineering > Engineering - Fabrication

Available grade	Achieved

Prerequisites	Unit standard 21911, *Demonstrate knowledge of safety on engineering worksites*, or demonstrate equivalent knowledge and skills.

Guidance Information

1 Unit 29670, *Demonstrate knowledge of fabrication machinery, materials, and processes;* Unit 29650, *Demonstrate knowledge of the safe use of powered equipment in a mechanical engineering or fabrication workshop*; and Unit 21912, *Apply safe working practices on an engineering worksite* are recommended for entry into this unit standard.

2 Legislation and Reference
Health and Safety at Work Act 2015 and supporting Regulations.
Timings R. (2011) *Fabrication and welding engineering*. Routledge. Abingdon, England. ISBN 978-0-7506-6691-6.

3 Definitions
Accepted industry practice refers to approved codes of practice and standardised procedures accepted by the wider mechanical engineering industry sectors as examples of best practice.
Good work practices – safe, efficient, and effective routine work practices that are generally accepted by an industry sector. These may include standard operating

procedures such as: a series of specific steps to complete a job, health and safety practices, care and use of tools and equipment, use of personal protective equipment, communications, and reporting. They may also include compliance with quality standards, manufacturer's instructions, and workplace policies and procedures covering: housekeeping, personnel hygiene, drug and alcohol use, computer and internet use, and privacy.
Job specifications refers to instructions relevant to the safe completion of the specific task, such as technical specifications, assembly instructions, drawings, parts lists, standards, codes of practice, test and commissioning procedures, and verbal instructions.
Under supervision refers to working under the direction of a suitably qualified tradesman or manager who oversees the learner and is responsible for ensuring that the quality of work meets the required standard.
Workplace procedures refers to procedures used by the organisation carrying out the work and applicable to the tasks being carried out. They may include but are not limited to – standard operating procedures, safety procedures, equipment operating procedures, codes of practice, quality management practices and standards, procedures to comply with legislative and local body requirements.

4 Range
Simple fabrication objects – includes objects based on rectangular, and/or cylindrical shapes, and simple structural frames.
Materials – mild steel in the range 0.4 to 12mm thickness.
Assembly methods – fasteners, welding;
evidence of at least three different objects is required.

5 Assessment information
Examples/evidence given must be within the context of mechanical engineering or fabrication and must meet applicable workplace procedures and accepted industry practice.
Job specifications for tasks to be assessed should take into account the introductory nature of this unit standard, and the materials and machinery used.

Outcomes and performance criteria

Outcome 1

Apply good work practices when preparing for fabrication of simple objects under supervision.

Performance criteria

1.1 Job specifications are interpreted to determine the required fabrication processes and sequence of operations.

1.2 Machines and tools are selected and their operating procedures and fitness for use are determined.

1.3 Materials are selected in accordance with job specifications.

1.4 Methods to control distortion during fabrication to meet job specifications are described.

1.5 Safety hazards associated with the task to be carried out are identified and controls put in place to eliminate or minimise all hazards.

Outcome 2

Apply good work practices when fabricating simple objects under supervision to meet job specifications.

Performance criteria

2.1 Cutting, bending, and joining allowances are applied in accordance with workplace procedures and/or accepted industry practice.

2.2 Distortion is controlled during fabrication.

2.3 Basic fabrication processes are demonstrated by fabricating simple objects in accordance with workplace procedures and/or accepted industry practice.

Range basic fabrication processes – marking out, cutting, forming, assembling.

2.4 Machines and tools are set and used safely in accordance with workplace procedures and/or accepted industry practice.

2.5 Fabrications are inspected and measured for compliance with job specifications, and any deviations identified and reported in accordance with workplace procedures.

Outcome 3

Apply good work practices when adjusting and maintaining fabrication machines under supervision.

Performance criteria

3.1 Machines are left clean and ready for next use, and any unusable machines and tools are reported in accordance with workplace procedures and/or accepted industry practice.

3.2 Waste material is disposed of in accordance with workplace procedures.

3.3 Routine checks, adjustments, and lubrication are carried out in accordance with workplace procedures and/or accepted industry practice.

Replacement information	This unit standard and unit standard 29670 replaced unit standard 25075.

Planned review date	31 December 2021

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	8 December 2016	N/A
Revision	2	28 March 2019	N/A

Consent and Moderation Requirements (CMR) reference	0013

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.

Comments on this unit standard

Please contact Competenz qualifications@competenz.org.nz if you wish to suggest changes to the content of this unit standard.