
Overview

This standard covers the skills and knowledge you will need to carry out product assembly operations that bring together a number of components in a logical sequence to construct an assembly or sub-assembly.

This will involve carrying out the assembly operation according to defined operating procedures. You will be expected to monitor and control the assembly operation, making adjustments within your permitted authority, minimising any waste and ensuring that the completed assemblies are to the required specification. Meeting production targets will be an important issue and your production records must show consistent and satisfactory performance.

Your responsibilities will require you to comply with organisational policy and procedures for the assembly activities undertaken, and to report any problems with the assembly activities you cannot personally resolve, or are outside your permitted authority to the appropriate people. You will be expected to work to instructions, with minimum of supervision, taking personal responsibility for your actions and the quality and accuracy of the work that you produce. You will also be expected to complete any necessary documentation accurately and legibly.

Your underpinning knowledge will be sufficient to provide a sound basis for your work, and will enable you to adopt an informed approach to applying the required work instructions and assembly procedures. You will have an understanding of the assembly techniques used, and their application, and will know about the equipment, components and consumables in adequate depth to provide a sound background for carrying out the activities to the required specification.

You will understand the safety precautions required when working with the assembly tools and equipment. You will be required to demonstrate safe working practices throughout, and will understand the responsibility you owe to yourself and others in the workplace.

This standard on producing by assembly operations involves:

1. working with minimum supervision
2. using the correct, tools, equipment and materials for the assembly operation
3. performing the product assembly in the correct sequence
4. monitoring and controlling the assembly operation
5. making adjustments within your permitted authority

SEMPMO209 – SQA Unit Code HK60 04

Producing products by assembly operations

6. reporting unsolvable problems, or problems that you are not responsible for, to the appropriate person
7. completing any necessary documentation accurately and legibly
8. working in ways which maintain the safety of yourself and others

SEMPMO209 – SQA Unit Code HK60 04

Producing products by assembly operations

Performance criteria

- You must be able to:*
- P1 work safely at all times, complying with health and safety, environmental and other relevant regulations, directives and guidelines
 - P2 obtain and follow the correct job instructions and any relevant assembly procedure and quality specifications
 - P3 check that you have all the necessary components and that they are undamaged and in a usable condition
 - P4 position and align the components correctly
 - P5 secure the components in position using the specified fastening device / method
 - P6 use appropriate tools, equipment and materials during the assembly operations
 - P7 monitor and control the assembly operation and identify any faults / variations / problems that occur
 - P8 make any necessary adjustments within your permitted authority
 - P9 report any problems that you cannot solve or are outside your permitted authority to the appropriate person
 - P10 produce assembled product/s which comply with the specification and quality requirements
 - P11 work to achieve your assembly targets
 - P12 deal appropriately with finished assemblies and complete documentation in accordance with organisational procedures (or requirements)

SEMPMO209 – SQA Unit Code HK60 04

Producing products by assembly operations

Knowledge and understanding

You need to know and understand:

- K1 the relevant health and safety requirements of the work area in which you are carrying out the assembly operations
- K2 the specific safe working practices, assembly procedures and environmental regulations that need to be observed
- K3 the hazards associated with carrying out the assembly operations and how can they be minimised
- K4 what actions need to be taken in case of emergencies
- K5 what personal protective equipment (PPE) needs to be used during the assembly activities and where can it be obtained
- K6 how to obtain the necessary job instructions, operating procedures and assembly specifications that are used, and how to interpret them
- K7 what tools and equipment are used for the assembly operation and how to check that they are in a safe and usable condition
- K8 the specific assembly operations to be performed
- K9 why it is important to follow the specified assembly sequence and procedure at all times
- K10 what methods are used to align and position the components prior to fixing them into position
- K11 what methods are used to fix the components securely in position
- K12 what methods can be used to minimise waste during the assembly operation
- K13 how to monitor the quality of the assembly and identify any variations from the specification
- K14 how to check the quality of the assembly, against the required quality standards and what tools and equipment are used
- K15 what fault, problems or variations can occur in the assembly operation
- K16 how to identify the faults, problems or variations in the assembly operation
- K17 what allowable adjustments can you make to achieve the required outcome
- K18 what documentation may need to be completed, and why it is important to complete it accurately and legibly
- K19 what your responsibilities are with regard to the reporting lines and procedures in your working area
- K20 who the appropriate people are and what are their responsibilities within your working area

SEMPMO209 – SQA Unit Code HK60 04

Producing products by assembly operations

Additional Information

Scope/range related to performance criteria

You must be able to:

1. Follow the relevant assembly procedures and safety requirements according to **all** of the following:
 - 1.1. health and safety regulations
 - 1.2. assembly equipment / tool operating instructions
 - 1.3. safe working practices
 - 1.4. company standards and procedures
 - 1.5. assembly instructions

2. Carry out assembly operations using **one** of the following methods:
 - 2.1. hand assembly operations
 - 2.2. fully automated assembly operations
 - 2.3. manually operated machine assembly operations
 - 2.4. combined assembly operations

3. Carry out checks of the assembly to include the following:
 - 3.1. completeness of the assembly and **three** other checks from the following:
 - 3.2. positional accuracy of components
 - 3.3. component security
 - 3.4. correct orientation of components
 - 3.5. freedom from damage or foreign objects
 - 3.6. component alignment
 - 3.7. volume/quantity

4. Make permitted adjustments to solve production faults, variations or problems related to **two** of the following:
 - 4.1. quality
 - 4.2. accuracy
 - 4.3. material utilisation
 - 4.4. operational safety
 - 4.5. productivity
 - 4.6. manufacturing changes

5. Report problems that you cannot solve and/or are outside your permitted authority to the appropriate person to include **one** of the following:
 - 5.1. supervisor
 - 5.2. quality control
 - 5.3. team leader

6. Work to achieve production targets for **both** of the following:
 - 6.1. output

SEMPMO209 – SQA Unit Code HK60 04

Producing products by assembly operations

6.2. quality

SEMPMO209 – SQA Unit Code HK60 04

Producing products by assembly operations

Developed by	SEMTA
Version number	2
Date approved	February 2016
Indicative review date	March 2019
Validity	Current
Status	Original
Originating organisation	SEMTA
Original URN	SEMPMO209
Relevant occupations	Engineering and manufacturing technologies; Manufacturing technologies; Process, Plant and Machine Operatives; Process Operatives
Suite	Performing Manufacturing Operations Suite 2
Key words	joining; manufacturing; operations; equipment; machine; hand; tool; manually; automated; soldering; bonding; gluing; brazing; assembling