

Overview

This unit covers the competences required for carrying out set-up reduction techniques. It involves carrying out the principles and processes of set-up reduction on a machine or process set-up, a change over, a clean down or turnaround, an activity that is a bottleneck or a constraint that affects the process such as capacity, flexibility, lead time, inventory or other business performance measure.

You will be expected to identify where problems or conditions occur within the set-up process and determine where improvements can be made. You will need to make recommendations for setting suitable quantifiable objectives and targets against which the improvements are to be made. The activities will require you to carry out set-up reduction activities on different machines or processes and to make improvements to the current set-up, such as reduced set-up time, improved safety, improved quality and improved work practice.

You will also be required to make recommendations for the creation of or changes to standard operating procedures for the new set-up, which includes all of the new steps to be carried out, the time required for each step, differentiation between internal and external steps, standard equipment and its location (e.g. cutting tools, clamps, hand tools, inspection equipment) and information required for a quick set-up and its location (e.g. CNC programs, drawings and manufacturing instructions).

Your responsibilities will require you to comply with organisational policy and procedures for the activities undertaken, and to report any problems that you cannot solve, or that are outside your responsibility, to the relevant authority. You will be expected to take responsibility for your own actions within the activity, and for the quality and accuracy of the work that you carry out.

Your underpinning knowledge will provide a good understanding of your work, and will provide an informed approach to the techniques and procedures used. You will need to understand the principles and procedures of set-up reduction and its application, in adequate depth to provide a sound basis for carrying out the activities to the required criteria.

Applying safe working practices will be a key issue throughout.

SEMBIT2-08 - SQA Unit Code F9J7 04

Carrying out set-up reduction techniques

Performance criteria

- You must be able to:*
- P1 work safely at all times, complying with health and safety and other relevant regulations and guidelines
 - P2 use the given information to carry out set-up reduction activity on the chosen machine or process, using the appropriate techniques
 - P3 identify problems or conditions within the current set-up, where improvements can be made
 - P4 make recommendations for quantifiable objectives/targets for improvements to the set-up chosen
 - P5 carry out improvements to the current set-up to meet the identified objectives and targets
 - P6 make recommendations for the creation of or changes to standard operating procedures (SOPs) or other approved documentation that will sustain the improvements made to the set-up requirements

SEMBIT2-08 - SQA Unit Code F9J7 04

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Knowledge and understanding

You need to know and understand:

- K1 the health and safety requirements of the area in which you are carrying out the set-up reduction activities
- K2 why a machine or process is selected for a set-up reduction activity
- K3 from whom authority is gained for the release of people and resources for the set-up reduction activity
- K4 the application of the Deming cycle (plan, do, check, act)
- K5 the processes for carrying out a set-up reduction activity
- K6 how improvements to the set-up can be achieved
- K7 the need to evaluate improvement ideas and select those that will give most benefit for the least spend
- K8 the need for quantifiable targets and objectives for the improved set-up
- K9 how to correlate information to create or update standard operating procedures (SOPs) or other approved documentation for the revised set-up
- K10 the need to distinguish between internal and external activities, with reference to set-up
- K11 the difference between 'motion' and 'work'
- K12 what constitutes a value adding and non-value adding activity
- K13 the extent of your own authority, and to whom you should report in the event of problems that you cannot resolve

SEMBIT2-08 - SQA Unit Code F9J7 04

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Additional Information

Scope/range related to performance criteria

You must be able to:

1. carry out improvements to the current set-up which cover **three** of the following:
 - 1.1. reduced set-up time
 - 1.2. improved safety
 - 1.3. improved quality
 - 1.4. improved work practice
 - 1.5. improved regulatory compliance
 - 1.6. reduced cost
2. identify and apply improvements to the new set-up, which cover **three** of the following:
 - 2.1. all of the new steps, and the time required for each step
 - 2.2. differentiation between internal and external steps
 - 2.3. standard equipment and its location (eg, cutting tools, clamps, hand tools, inspection equipment)
 - 2.4. information required for a quick set-up and its location (such as CNC programs, drawings and manufacturing instructions)
 - 2.5. methods and standards
 - 2.6. documentation for co-ordination control

SEMBIT2-08 - SQA Unit Code F9J7 04

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