# Project Assessment

**Event: 2 of 2**

# Trainer & Assessor Marking Guide

## Criteria

### Unit code, name and release number

MEM09002B - Interpret technical drawing (1)

### Qualification/Course code, name and release number

MEM30205 - Certificate III in Engineering - Mechanical Trade (3)

Version: 1.0

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*Block B Level 1*

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This assessment can be found in the: [Learning Bank](https://share.tafensw.edu.au/share/access/searching.do?doc=%3Cxml%2F%3E&in=P7ac4831b-430a-4b8d-8b56-f7b32ed5b9cf&q=&type=standard&sort=rank&dr=AFTER)

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## Assessment instructions

Table 1 Assessment instructions

| Assessment details | Instructions |
| --- | --- |
| **Instructions for the trainer and assessor** | This is a project based assessment and will be assessing the student on their knowledge and performance of the unit.  This assessment is in 4 parts:   1. Validation report – Validate current drawing version and date 2. Standard operating procedures – Interpret standard operating procedures 3. Print reading and interpretation – Read and interpret information from a range of drawings 4. Assessment checklist   **Pre assessment**  The student must have successfully completed the knowledge assessment for MEM09002B prior to attempting the project assessment.  **Part 1**  The purpose of Part 1 is to ensure the student can identify and validate the latest version of the drawings.  **Part 2**  The student must demonstrate an understanding of standard operating procedures, WHS practices and drawing requirements.  **Part 3**  The student needs to show they can correctly read and interpret in formation on an engineering drawing.   The assessor also has the opportunity in the observation checklist to record other relevant questions and responses in the table Additional Questions |
|  | Model answers, sample responses or a criteria for each task or activity is provided below.  Use these to support your judgement when determining a satisfactory result.  The student’s response to each question must contain the information indicated in this marking guide in order for their response to be correct. However, if a student provides information other than indicated below, and in the professional opinion of the assessor it is appropriate and meets the intent of the question, it may be considered correct.  Complete the Observation Checklist for each task and activity and the Assessment Feedback to the student. Ensure you have taken a copy of the assessment prior to it being returned to the student.  The Assessment Feedback page must be signed by both the student and the assessor so the student displays that they have received, understood and accepted the feedback.  Ensure the students name appears on the bottom of each page of the submitted assessment |
| **Due date/time allowed/venue** | 1Hr  *TBC* |
| **About this marking guide** | The student’s response to each task or activity must contain the criteria indicated in this marking guide in order for their response to be correct.  All tasks and activities must be completed correctly in order to satisfactorily complete this assessment event.  Assessors will need to make a judgement call as to whether each response meets the criteria based upon the:   * Rules of Evidence:   + Validity – does the answer address the skill required and does the evidence reflect the four dimensions of competency?   + Sufficiency – is the task or activity sufficient in terms of length and depth?   + Currency – has the work been done so recently as to be current?   + Authenticity – is this work the student’s own authentic work? * Principles of Assessment   + Fairness – individual student’s needs are considered in the assessment process   + Flexibility – assessment is flexible to the individual student   + Validity – any assessment decision is justified, based on the evidence of performance of the student   + Reliability – evidence presented for assessment is consistently interpreted and assessment results are comparable irrespective of the assessor conducting the assessment * Dimensions of competency   + Task skills   + Task Management Skills   + Contingency Planning Skills   + Job Role Environment Skills |
| **Student must provide** | Calculator, pens, pencil, eraser, PPE. |
| **Assessor must provide** | Drawings: 09204-T5-1 -Stair Assembly ISO Arrangement (Issue B)  09204-T5-2 - Stair Assembly Orthogonal Arrangement (Issue B)  09204-T5-3 - Stair Assembly Frame Details (Issue B and Issue C)  5210 – 1A - Components Hydraulic Punch Details (Issue B)  SOP Issue 1.0 - Engineering Technical Drawing Issue and Interpretation  Drawings may be printed on A3 sheets if required |

## Specific task instructions

The instructions and the criteria in the tasks and activities below will be used by the assessor to determine if the student has satisfactorily completed this assessment event. Use these instructions as a guide to ensure the student demonstrates the required skills and knowledge.

This assessment requires the student to complete checklists, answer questions, and demonstrate print reading and interpretation within the 3 parts summarised below:

* Part 1 – Validation report
* Part 2 – Read Standard Operating Procedures (SOP)
* Part 3 – Print reading

You will the opportunity in the observation checklist to record other relevant questions and responses in the table Additional Questions.

**Contingency Management:**

While undertaking this task a number of unforeseen circumstances may arise. The assessor will have the opportunity to question each learner to gather an understanding of how the student will respond to these events. Below is table with examples of possible questions.

Table 2: Possible questions

|  |  |  |
| --- | --- | --- |
| Scenario | Assessors question | Acceptable students response |
| Power failure in workshop | What is the correct action in the case of power failure? | Power failure may or may not affect this assessment as it only involves interpreting drawing, answering questions and doing calculations. Lights going out may mean that drawing cannot be read due to lack of light. Would need to talk to assessor about alternative lighting or moving to another area. Would need to re-schedule assessment if lights went out and another alternative could not be found |
| Emergency evacuation | What do you do if an emergency evacuation drill happens during the assessment? | Would be required to follow the emergency evacuation procedure that was explained duration induction. Which should include:   * Leave work area in a safe manner * Follow instructions of warden * Assemble in emergency evacuation area * Return to work as directed by warden * Resume assessment with time allowance adjustment |

## Part 1: Validation Report

**To complete this part of the assessment, you will be required to check and validate drawings**

Referring to attached drawings, the document types, title and issue number required for this assessment are listed in Table 3.0 Document validation checklist below.

You are required to:

1. Source the documents from their location
2. Check and validate the document title and issue
3. Confirm this information is correct by responding Yes or No in the “Received/Validated” column of the Table 3.0 Documents validation checklist below.

**Table 3 Document validation checklist**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Document Type* | *Document Title* | *Issue* | *Date of latest Issued* | *Received/Validated* |
| Drawing | STAIR ASSY ISO ARRANGEMENT  09204-T5-1 | B | 9/03/2018 | Yes |
| Drawing | STAIR ASSY ORTHOGONAL ARRANGEMENT  09204-T5-2 | B | 10/03/2018 | Yes |
| Drawing | STAIRS ASSY FRAME DETAILS  09204-T5-3 | C | 1/05/2018 | Yes |
| Drawing | COMPONENTS HYDRAULIC PUNCH  DETAILS  5210 – 1A | B | 18/12/1997 | Yes |

## Part 2: Standard Operating Procedures

To complete this part of the assessment, you will be required to interpret a Standard Operating Procedures (SOP)

**Refer to the attached document: Standard Operating Procedure – Engineering Technical Drawing Interpretation**

1. List three (3) potential safety hazards associated with drawing interpretation in a workshop area:

Possible answers can include, but not limited to:

Rotating machinery/equipment, hot work pieces, Sharp edges and burrs, hot shavings, Electric shock, Burns, Fumes, Sparks & spatter

**Refer to the Document: SOP Section 1.0**

*b)* List three (3) requirements that must be checked when a drawing is issued:

Possible answers can include, but not limited to:

* Check the drawing issued matches the job sheet instructions
* Check the drawing has printed properly and ensure all information can be clearly read.
* Check the borders on the drawing are visible
* Ensure dimensions and text is printed large enough to be clearly understood.
* Ensure the date and issue of the drawing are the current version
* Confirm drawings issued in part contain all the relevant details required for item manufacture

**Refer to the Document: SOP Section 2.0**

c) List two (2) safe work practices to follow when interpreting drawings

Possible answers can include, but not limited to:

* Eye protection must be worn in workshop
* Long and loose hair must be contained.
* Covered footwear with rubber soles must be worn.
* Close fitting/protective clothing to cover arms and legs must be worn

1. Now that you have checked the document pack contents and read the SOP for Technical Drawing Issue and Interpretation, select from the two (2) options below.

Table 7 Task Clarification

|  |  |
| --- | --- |
| ***Circle your Response*** | |
| ***Yes****I understand what is required of me to complete the assessment task* | ***No****I don’t understand what is required for me to complete the assessment task and I will clarify with my assessor.* |

## Part 3: Print Reading and Interpretation

To complete this part of the assessment, you will be required to interpret Workshop drawings

**Refer to ‘Drawing No. 5210 – 1A’ in the Appendix and answer the following questions**

1. What is the latest issue of this drawing, and what date was it issued?

Issue B. 18/12/97

1. Who owns this drawing?

Manufacturing and Engineering Educational services Division

1. What is the scale of the drawing?

1:2

1. What material is item 9 made from?

Moulded Nitrile

1. What is the first issue date of the drawing?

12/12/97

1. What is the Australian standard is followed for this drawing?

AS1100

1. What is the name of the component at zone A6?

Cylinder Head

1. Is the drawing first angle or third angle projection?

Third Angle Projection

1. Refer to the piston in zone 3/4; the major diameter of the piston has a tolerance. Complete table 1 below.

Table 1 Short answer

|  |  |
| --- | --- |
| Size | Measurement |
| Upper limit | 74.99mm |
| Lower limit | 74.97mm |
| Tolerance | 0.02mm |

## Part 4: Assessment Checklist

The following checklist will be used by the assessor to mark the students’ performance against the assessment criteria they have submitted/presented project. This checklist is to understand what skills and/or knowledge the student needs to demonstrate in their submission/presentation. All the criteria described in the Assessment Checklist must be met. The assessor may ask questions while the submission/presentation is taking place or if appropriate directly after the task/activity has been submitted/completed.

| TASK # | Instructions | S | U/S | Assessor Comments |
| --- | --- | --- | --- | --- |
| **1** | **Check and Validate Drawings**  The  Student Completes:   * Table 3.0 Document validation checklist |  |  | *Date of Observation:*     * *Students located and checked contents of document pack supplied* * *Student validated drawings* * *Student completed; Table 3: Document Validation Checklist* |
| **2** | **Read the Standard Operating Procedure (SOP)**  The  Student Completes:   * Table 4.0 Hazard Identification * Table 5.0 Drawing Issue * Table 6.0 Safe Work Practices * Table 7.0 Task Clarification |  |  | * *Student completed three (3) responses in Table 4.0* * *Student completed three (3) responses in Table 5.0* * *Student completed two (2) responses in Table 6.0* * *Student recorded selection in Table 7.0 of  “Yes and proceeds with assessment (or) No and discussed problems and issues with assessor* |
| **3** | **Print reading & interpretation**  The  Student Correctly:   * Answers Q1 –Q8 * Identifies the piston tolerances |  |  | * *Student completed eight (8) responses in Task 3* * *Student answered question 39* |

## Table 6 Additional Questions

|  |
| --- |
|  |
| Assessors may ask additional questions to clarify student understanding. List here any additional questions that were asked during this assessment event.  *Record all additional questions that were asked of the student during the assessment event.* |
| **Student Reponses to Additional Questions** |
| List here the student responses to any additional questions that were asked during this assessment event.  *Record the student responses to any additional questions that were asked during this assessment event.* |