# Skills Assessment- Shaft support

**Event 2 of 3**

## Criteria

### Unit code, name and release number

MEM09002 - Interpret technical drawing (1)

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

MEM30319 - Certificate III in Engineering - Fabrication Trade (1)

## Student details

### Student number

### Student name

## Assessment Declaration

* This assessment is my original work and no part of it has been copied from any other source except where due acknowledgement is made.
* No part of this assessment has been written for me by any other person except where such collaboration has been authorised by the assessor concerned.
* I understand that plagiarism is the presentation of the work, idea or creation of another person as though it is your own. Plagiarism occurs when the origin of the material used is not appropriately cited. No part of this assessment is plagiarised.

### Student signature and Date

Version: *1.0*

Date created: *3 July 2018*

Date modified: *07/11/2019*

For queries, please contact:

*SkillsPoint – IMRS*

*Location – Block B Level 1 Hamilton TAFE Newcastle*

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RTO Provider Number 90003 | CRICOS Provider Code: 00591E

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 |
| --- | --- |
| **Assessment overview** | The objective of this assessment is to assess your skills as would be required to interpret technical drawings. |
| **Assessment Event number** | 2 of 3 |
| **Instructions for this assessment** | This is a skill based assessment and will be assessing you on your ability to demonstrate skills required in the unit.  This assessment is in 3 parts:   1. Practical 2. Observation checklist 3. Assessment Feedback |
| **Submission instructions** | On completion of this assessment, you are required to upload it or hand it to your assessor for marking.  Ensure you have written your name at the bottom of each page of this assessment.  It is important that you keep a copy of all electronic and hardcopy assessments submitted to TAFE and complete the assessment declaration when submitting the assessment. |
| **What do I need to do to achieve a satisfactory result?** | To successfully complete this assessment the student will be available at the arranged time to complete all the assessment criteria as outlined in the assessment instructions.  All parts of the observable task must be performed to a satisfactory level as indicated in the criteria section of the Observation Checklist.  All oral questions must be answered correctly to be deemed satisfactory in this assessment task; however, Assessors may ask questions to clarify understanding. |
| **What do I need to provide?** | Calculator, pens, pencil, eraser, PPE. |
| **Due date/time allowed/venue** | 75 minutes duration  Venues can be either, TAFE classroom, TAFE workshop facility, or an agreed workplace. |
| **Assessment feedback, review or appeals** | Appeals are addressed in accordance with Every Students Guide to Assessment. |

## Part 1: Practical

To complete this part of the assessment, you will be required to participate in a practical demonstration of how to complete a task or activity.

These practicals will be observed by your assessor, or can be digitally recorded and submitted as evidence.

Your responses will be used as part of the overall evidence requirements of the unit.

You should refer to the list of criteria in the Observation Checklist to understand what you need to demonstrate in this section of the assessment. This Checklist outlines the assessment criteria used to assess your performance.

Once completed you will need to submit this assessment and the tasks and activities you are required to complete to your assessor for marking.

**Contingency Management:**

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

The assessor also has the opportunity in the observation checklist to record other relevant questions and responses in the table “Table 10.0 Additional Questions”

|  |  |  |
| --- | --- | --- |
| Scenario | Assessors question | Acceptable students response |
| Power failure in workshop | What is the correct action in the case of power failure? |  |
| Emergency evacuation | What do you do if an emergency evacuation drill happens during the assessment? |  |

## Specific task instructions

The instructions and the criteria in the tasks and activities below will be used by the assessor to determine whether the tasks and activities have been satisfactorily completed. Use these instructions and criteria to ensure you demonstrate the required skills and knowledge.

This assessment requires you to complete checklists, answer questions, and perform associated calculations within 4 (four) tasks summarised below:

* Task 1 - Check and validate Documentation
* Task 2 – Read Standard Operating Procedures (SOP)
* Task 3 – Interpret Technical Drawing
* Task 4 – Compile a Material List and Cutting List

Your assessor will provide you with access to the documentation required to carry out Tasks 1 to 4 listed above. It is part of the assessment requirement that you; source, check, then validate the documentation as being correct.

When completing Tasks 1 to 4:

* Ensure that you are referring to the correct document ‘(s). Some questions will require you to access multiple documents
* Answer all questions and show working in the spaces provided on this assessment document
* **Do not mark or change the reference documents.** They must be returned to your assessor at the assessment completion and will be used for further assessment events
* Follow the Standard Operating Procedure 1.1
* Follow any additional work instructions provided by your assessor

**Task 1: Check and validate Documentation**

You will be given access to the following documents:

* Standard Operating Procedure
* Technical Drawing
* Work Order Job Sheet
* Catalogue Extract
* Australian Standard Extract

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 3.0: Document validation checklist**

|  |  |  |  |
| --- | --- | --- | --- |
| *Document Type* | *Document Title/Description* | *Issue* | *Received/Validated* |
| Standard Operating Procedure (SOP) | Engineering Technical Drawing Issue and Interpretation | 1.1 |  |
| Drawing | Shaft Support  Drawing Number: IMRS-001 | B |  |
| Work Order Job Sheet | Manufacture and Deliver Shaft Supports | 1.0 |  |
| Catalogue | OneSteel Hot Rolled and Structural Steel Products Extract | August 2019 |  |
| Australian Standard | AS 3679.1 Extract | August 2019 |  |

**Refer to the Work Order Job Sheet 1.0 and answer the following questions:**

1. What is the Work Order Description?

|  |
| --- |
|  |

1. How many completed items are required?

|  |
| --- |
|  |

1. What are the Finish requirements for the completed items?

|  |
| --- |
|  |

**Refer to the Drawing IMRS-001**

1. Go to Table 4.0 Revisions and Amendments and complete the following:

|  |  |
| --- | --- |
| * Revision Date * Reviser Initials | * Revision Description * Checker (Initials) |

**Table 4.0: Revisions and Amendments.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Drawing Number* | *Drawing Issue* | *Revision Date* | *Revision Description (CHANGE)* | *Reviser (BY)* | *Checked*  *(CKD)* |
| IMRS-F001 | B |  |  |  |  |
| A |  |  |  |  |

**Task 2: Read Standard Operating Procedure (SOP) .**

**Refer to the Document: SOP Issue 1.1 Section 4.0**

a) In table 5.0 below list three (3) requirements for the safe storage of Technical Drawings:

**Table 5.0 Drawing Storage**

|  |  |
| --- | --- |
| *#* | Drawing Storage |
| *1* |  |
| *2* |  |
| *3* |  |

**Refer to the Document: SOP Issue 1.1 Section 2.0**

*b)* In table 6.0 below complete the statement regarding material types, sizes and quantities:

**Table 6.0 Drawing Interpretation**

|  |  |
| --- | --- |
| *#* | Drawing Interpretation Requirements |
| *1* | Identify material types and sizes. Ensure… |

**Refer to the Document: SOP Issue 1.1 Section 2.0**

c) In table 7.0 below list three (3) items the work area must be clear of when interpreting technical drawings:

**Table 7.0 Safe work practices**

|  |  |
| --- | --- |
| *#* | Drawing Interpretation Safe Work Practices |
| *1* |  |
| *2* |  |
| *3* |  |

**Task 3: Interpret Technical Drawing**

**Refer to Drawing IMRS-F001 and answer the following questions**

1. How many views are shown on the drawing?

|  |
| --- |
|  |

1. From the list below circle the correct names for the views shown on the drawing:

|  |  |
| --- | --- |
| Front View  Right Elevation  Right View | Right Side Elevations  Right Side View  Front Elevation |

1. What is the unit of measurement used on the Drawing?

|  |
| --- |
|  |

1. What are the overall (three (3) sizes of the completed Shaft Support prior to machining?

|  |
| --- |
| 185 mm, 240 mm, 163 mm |

1. After machining is complete to the tolerance specified in the general notes what is the maximum and minimum width of the Shaft Support?

|  |  |  |  |
| --- | --- | --- | --- |
| Minimum Width = | 179.50 | Maximum Width = | 180.50 |

1. How many items numbers are identified on the drawing?

|  |
| --- |
|  |

1. What are the dimensions of Item 1 prior to machining? (Length x Width x Thickness)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Length = |  | Width = |  | Thickness = |  |

1. What are the dimensions of Item 2? (Length x Width x Thickness)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Length = |  | Width = |  | Thickness = |  |

1. How many tapped holes are shown on the drawing?

|  |
| --- |
|  |

1. What is the machining allowance for the Item 1?

|  |
| --- |
|  |

1. How is the ∅54 recess cut into Item 1?

|  |
| --- |
|  |

1. Is the machining completed prior to welding or when welding has been completed?

|  |
| --- |
|  |

1. What is the reason for machining in the order stated above?

|  |
| --- |
|  |

1. Item 3 is drawn as a PFC, however dimensions of the section are not directly detailed. Using the dimensions that are given on the drawing calculate the size (depth) of the section and then refer to the associated extracts to answer the questions in Table 12.0 below.

**Table 8.0: Section Specifications**

|  |  |  |  |
| --- | --- | --- | --- |
| *Refer to* | *Question* | *Answer* | |
| Drawing IMRS-F001 | 1. What is the calculated size (depth) of the PFC? |  | |
| OneSteel Hot Rolled Product Extract | 1. What is the Designation? |  | |
| 1. What is the Depth (d) of the section? |  | |
| 1. What is the PFC Flange Width () |  | |
| AS 3679.1 Extract | 1. What is the Permissible variation for the Depth of section? (d) | Plus = |  |
| Minus = |  |
| 1. What is the Permissible variation for the Flange width () | Plus = |  |
| Minus = |  |

**Task 4: Compile a Material List**

Drawing IMRS-F001 provides the details required to fabricate the Shaft Assembly, however a Material List is not shown. The table below has a partially completed Material List (left) and a partially completed Cutting List (right).

1. On the left side of Table 9.0 complete the Material List by entering the required details into the blank spaces
2. On the right side of Table 9.0 complete the Cutting list by entering the required details into the blank spaces. **Note:** the cutting list is calculated **based on the number of Shaft Supports ordered by the customer** which is detailed on the Work Order Job Sheet.

**Table 9.0: Material List and Cutting List**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Material List | | | | | | Cutting List | | | |
| **Item** | **Description** | **Quantity** | **Material Grade** | **Material Type/Section** |  | **Length** | **Width** | **Thickness** | **Quantity** |
| Item 1 | Base Plate |  | AS3678: 250 | Plate | 240 |  | 25 | 4 |
| Item 2 | Top Plate | 1 | AS3678:250 |  | 163 |  |  | 4 |
| Item 3 | Support |  | AS3679:350 |  |  | NA | NA |  |
| Item 4 | Gusset |  | AS3678:250 | Flat Bar |  |  |  |  |
| Item 5 | Shaft Sleeve |  | SCHED 160 | 65 DN Pipe |  | NA | NA |  |

## Part 2: Observation Checklist

The Observation Checklist will be used by your assessor to mark your performance in any of the previous three event types. Use this Checklist to understand what skills you need to demonstrate in the *role play scenario, presentation or demonstration*. The Checklist lists the assessment criteria used to determine whether you have successfully completed this assessment event. All the criteria must be met. Your demonstration will be used as part of the overall evidence requirements of the unit. The assessor may ask questions while the demonstration is taking place or if appropriate directly after the task/activity has been completed.

Table 2 Observation Checklist

| Task # | Task/Activity Performed | S | U/S | Assessor Comments (Describe the student’s ability in demonstrating the required skills and knowledge) |
| --- | --- | --- | --- | --- |
| 1 | **Check and Validate Documentation**   * Select the five (5) documents listed in Table 3.0 from their location * Check and validate the document titles and issue * Complete Table 3.0 * Read the Work Order Job Sheet * Answer questions d) to f) * Check the Revisions and Amendments of Drawing IMRS-F001 * Complete Table 4.0 |  |  |  |
| 2 | **Read the Standard Operating Procedure (SOP)**   * Read SOP 1.1 * Complete Table 5.0 * Complete Table 6.0 * Complete Table 7.0 |  |  |  |
| 3 | **Interpret Technical Drawing**   * Follow SOP 1.1 and complies with WHS requirements * Answer questions a) to n) * Complete Table 8.0 |  |  |  |
| 4 | **Compile a Material List and Cutting List**  The Student   * Completes Table 9.0 |  |  |  |

Table 10.0 Additional Questions

|  |
| --- |
| 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.* |

## Part 3: Assessment Feedback

*NOTE: This section* ***must*** *have the assessor signature and student signature to complete the feedback.*

### Assessment outcome

Satisfactory

Unsatisfactory

### Assessor Feedback

Was the assessment event successfully completed?

If no, was the resubmission/re-assessment successfully completed?

Was reasonable adjustment in place for this assessment event?  
*If yes, ensure it is detailed on the assessment document.*

Comments:

### Assessor name, signature and date:

### Student acknowledgement of assessment outcome

Would you like to make any comments about this assessment?

### Student name, signature and date

***NOTE: Make sure you have written your name at the bottom of each page of your submission before attaching the cover sheet and submitting to your assessor for marking.***