# Skills Assessment

**Event 2 of 2**

# Trainer & Assessor Marking Guide

## Criteria

### Unit code, name and release number

MEM15024A - Apply quality procedures (1)

\*\*\*This unit sits in the qualifications below – This assessment is not to be amended\*\*

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

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

MEM30305 – Certificate III in Engineering – Fabrication trade (4)

\*\*\* Amend the qualification box before distributing to the student. The information here should only contain the qualification the student is enrolled in\*\*

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For queries, please contact:

IMRS SkillsPoint

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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 |
| --- | --- |
| **Instructions for the trainer and assessor** | This is a skill based assessment and will be assessing the student on their ability to demonstrate skills required in the unit  This assessment is in 2 parts:   1. Practical 2. Observation Checklist 3. Assessment Feedback   Pre Assessment  The student must have successfully completed the knowledge assessment for MEM15024A prior to attempting the practical skills assessment tasks.  Assessor is to ensure the workshop is set up with all the necessary hand tools, power tools and measurement equipment available for the completion of the tasks in the skills assessment.  Assessor is to ensure all material as is specified in the task procedure sheets is available to the student prior to the commencement of assessment.  The material being used for Task 1 is to have the students initials stamped on them as detailed in the task procedure sheets  Risk Assessment  The assessor is to provide the student with the appropriate TAKE 5 risk assessment template. The student is to complete the TAKE 5 prior to commencing the task. This TAKE 5 is used to identify potential hazards and environmental issues, and allow the student to implement control measures in line with workplace polices. The student is to submit the completed TAKE 5 to the assessor, prior to commencing the practical task. This requirement is not an assessable task within this assessment. |
|  | Practical Task  The purpose of this task is to gather the necessary evidence so the student can satisfactorily apply and establish quality procedures to the students own work.  The student must address all the requirements in the observation checklist and all times during the assessment comply with standard operating practices and recognised WHS practices whilst complying with any instructions or directions you give them as the assessor  Model answers, sample responses or a criteria for each task or activity is provided in the observation guide  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 provide 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 comments are to be structured so as to give the student advice on the steps and actions they need to take to reach a satisfactory result when re assessed  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. |
| **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** | Pens, pencils, eraser and PPE suitable for working in a workshop. |
| **Assessor must provide** | A workshop fitted with suitable workbenches and workspace. Pedestal or bench drill  A classroom or similar suitable for completing written reports  All necessary tools and measurement equipment to complete the skills task   * Marking out equipment/rule, scriber, dividers, hammer and centre punch * Vernier callipers * Vernier height gauge * Drills – Size range up to and including Ø16mm * Hacksaw * Files * Letter/number stamps * 25 x 12 x 135mm Mild Steel to complete task |
| **Due date/time allowed/venue** | Time allowed 4 Hours  *TBC* |

## 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.

If this assessment requires you to record information, your assessor will provide you with an appropriate document/template.

Simulated Environment Conditions

***Note: The assessor may direct the student to use different equipment in different spaces to ensure competency is applied in new and different situations.***

The assessment is to be carried out in the workshop complying with all WHS requirements and compliance with Standard Operating Procedures.

The assessment should take approximately 4 Hours.

## Part 1: Practical

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

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

The students’ responses will be used as part of the overall evidence requirements of the unit.

The student should refer to the list of criteria in the Observation Checklist to understand what the student needs to demonstrate in this section of the assessment. This Checklist outlines the assessment criteria used to assess the students’ performance.

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

**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 a table with examples of possible questions and acceptable responses.

The assessor has the opportunity in the observation checklist to record relevant questions and responses in the table ***“Part 2 Table 2 Additional Questions”***

Table 1 Unforeseen Circumstances

|  |  |  |
| --- | --- | --- |
| Scenario | Assessors question | Acceptable students response |
| Power failure in workshop | What is the correct action in the case of power failure? | *Determine the cause of the failure and rectify if possible. If not call in the appropriately qualified to rectify the problem* |
| Damage to measurement or marking out tools | What do you do if a measurement or marking out tool you are using breaks or sustains damage during the task? | *Try to repair tool, if not tag it out of service*  *Arrange for replacement tool* |
| Emergency evacuation | What do you do if an emergency evacuation drill happens during the assessment? | *Turn of any equipment and make the workplace safe. Exit in an orderly manner to the nearest Emergency Assembly Area*  *Do not leave TAFE site.* |

**Task: Establish Quality Procedures – Drill Plate**

The student is to produce a Drill Plate to specifications whilst applying quality procedures. Conformance to customer requirements and specifications (dimensions) is to be checked and verified at the marking out stage and at the completion of the task. All results are to be recorded and any non-conformance reported.

Refer to the Customer Request Document and Drill Plate drawing supplied on the following pages.

You will be observed manufacturing the item requested by the customer to the specifications provided on the drawing, by following the Work Instructions below, which contain quality procedures to be followed.

**Work Instructions**

1. Correct PPE to be worn before entering the workshop.
2. Measuring tools must be in good condition and be calibrated to zero.
3. Correct methods and techniques used when measuring, with datum established.
4. Marking out tools must be sharp to create clear lines and witness marking.
5. Mark out the job and scribe holes as per the drawing specifications.
6. Conformance to specification (dimensions) is to be checked and verified at the marking out stage by completing **Table 2 – Drill Plate Conformance**.
7. Safe operation and correct methods and techniques used when working with hand tools/power tools.
8. Stamp initials on the back of the material.
9. Twist drills and finishing tools to be correctly sharpened, to create accurate holes/finish.
10. Manufacture the Drill Plate as per the specifications provided:
    * Cut job to size
    * Centre drill all holes first.
    * Larger holes to be pilot drilled
    * File finish end of job
    * Chamfer holes
    * Deburr job and remove any sharp corners
11. Conformance to specification (dimensions and drilling) is to be checked during the task, and verified at the completion of the task by completing **Table 3 – Final Drill Plate Conformance**
12. A Drill Plate Template to be used when verifying conformance to specification of final product

**Customer Request Document**

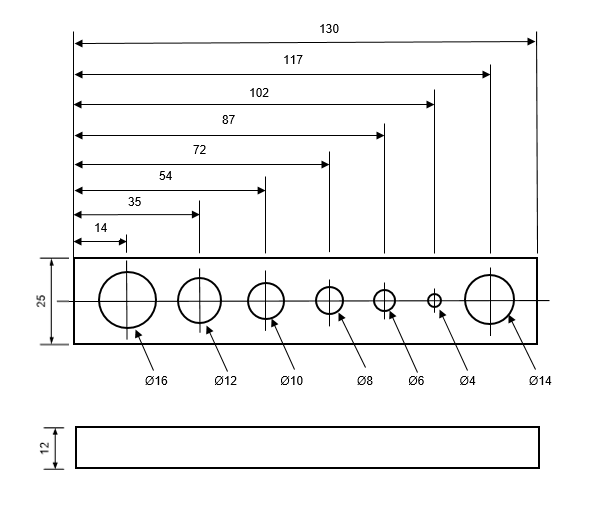
**Copy to be sent to customer**

**Drill Plate**

|  |  |
| --- | --- |
| Customer Information | |
| **Date** |  |
| **Customer Name** | **Precision Parts** |
| **Address** | **20 Sylvan Road Petersburg** |
| **Phone** |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Component Request | | Customer: | |
| **Component** | **Drill plate** | **Delivery Address:**  **20 Sylvan Road Petersburg** | |
| **Number Required** | **6** |
| **Date Required** | **20/10/2020** |
| **Manufacture Time (hours/days)** | **18 hours** | **Order Received/On time** | **Yes/no** |
| **Delivery Time (from receival of order)** | **18 + 24 Delivery of material + 6 Hours Delivery = 48 Hours** | **Items Conform to specification** | **Yes/no**  **Signed:** |
| **Tolerance** | **+/- 0.5mm** | **Damaged Items** | **Yes/no** |
| **Finish** | **Scale removed**  **Sharp edges removed** | **Components Checked**  **(Conform to Specification)** | **Signed:** |
| **Other Information** | | | |
| **Feedback or Remarks** | | | |

**Task: Drill Plate**

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|  |  |  |  |
| --- | --- | --- | --- |
| Quantity | Material | Finish | Tolerance |
| 1 | 25 x 12 x 135mm Mild Steel | All rust and scale to be removed with a file  All corners to be square at 90 degrees  Deburr holes and remove all sharp edges | All dimensions +/- 0.5mm |

**Table 2** below is to be completed under Step 6 of the Work Instructions.

Use this table to report on the marking out of the Drill Plate conformance to specification. Place a tick in each box to indicate if each dimension is Correct (conformance) and if not correct, comment on any non-conformance in the Defective/Redo column.

Verify all results when dimensions conform to specification.

Table 2: Drill Plate Conformance

|  |  |  |  |
| --- | --- | --- | --- |
| Dimension | Correct | Defective/Redo | Verification |
| Datum established and filed square (90⁰) |  |  |  |
| Centre line of material |  |  |  |
| Overall Length 130mm |  |  |  |
| Dimension 14mm |  |  |  |
| Dimension 35mm |  |  |  |
| Dimension 54mm |  |  |  |
| Dimension 72mm |  |  |  |
| Dimension 87mm |  |  |  |
| Dimension 102mm |  |  |  |
| Dimension 117mm |  |  |  |

**Are the dimensions correct Yes / No**

Report below on any additional conformance or non-conformance and indicate how you would correct the non-conformance.

Assessor to look for any non-conformance and how the student assesses and records the non-conformance. Assessor to look for how the student would correct the non-conformance

**Table 3** below is to be completed under Step 11 of the Work Instructions.

Use this table to report on the completed job. Place a tick in each box to indicate if each dimension is Correct (conformance) and if not correct, comment on any non-conformance in the Defective/Redo column.

Check and verify all dimensions and the quality finish of the job.

Table 3: Final Drill Plate Conformance

|  |  |  |  |
| --- | --- | --- | --- |
| Dimension | Correct | Defective/Redo | Verification |
| Datum established and filed square (90⁰) |  |  |  |
| Centre line of material |  |  |  |
| Overall Length 130mm |  |  |  |
| Dimension 14mm/ Hole Ø16 |  |  |  |
| Dimension 35mm/ Hole Ø12 |  |  |  |
| Dimension 54mm/ Hole Ø10 |  |  |  |
| Dimension 72mm/ Hole Ø8 |  |  |  |
| Dimension 87mm/ Hole Ø6 |  |  |  |
| Dimension 102mm/ Hole Ø4 |  |  |  |
| Dimension 117mm/ Hole Ø14 |  |  |  |
| All holes chamfered |  |  |  |
| Job deburred and sharp corners removed |  |  |  |

**Does the job conform to specification Yes / No**

Report below on any additional conformance or non-conformance after the Drill plate has been manufactured and indicate how you would correct the non-conformance.

Assessor to look for final checking and clarification on all dimensions and the student has recorded all findings and job conforms to specification

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## Part 2: Observation Checklist: Establish Quality Procedures – Drill Plate

The Observation Checklist will be used by the assessor to mark the students’ performance in the skills task. Use this Checklist to understand what skills the student needs to demonstrate in establishing a quality procedure to produce a Drill Plate. The Checklist lists the assessment criteria used to determine whether the student has 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 1 Observation Checklist

| Item | Task/Activity performed | S | U/S | Assessor Comments (Describe the student’s ability in demonstrating the required skills and knowledge) |
| --- | --- | --- | --- | --- |
| 1 | Follow Standard Operating Procedure (SOP) for the use of hand, power and measurement tools to mark out to specification a Drill Plate  Correct PPE, safe work practices and housekeeping |  |  | (RS2, RK3, RK4) Student referred to and followed SOP for the use of hand and measuring tools   * *Correct PPE worn when using hand/measurement tools* * *Correct PPE worn when using power tools* * *Checked condition of tools prior to use for damage, took appropriate action for damaged tools, tagged and placed out of service.* * *Safe & correct techniques used with hand/measurement tools and equipment* * *Kept work are clean and followed sound housekeeping practices.*   *Assessor’s comments/responses noting where student has not achieved a satisfactory result and what is needed to gain a satisfactory outcome* |
| 2 | Select appropriate measuring tools  Mark out item to dimensions specified on drawing  Use measuring tools correctly and carefully  Assess if the marking out conforms to specification |  |  | (RS2) (RK2)(PC1.2) Student to complete   * *Measuring equipment checked/ tagged if not fit for use* * *Correct measuring tools/techniques displayed in using marking out/measurement tools and equipment* * *Marking out* * *lines sharp and accurate* * *Marking out not within tolerance specified* * *Marking out completed*   *Assessor’s comments/responses noting where student has not achieved a satisfactory result and what is needed to gain a satisfactory outcome* |
| 3 | Complete table 2 report on the Drill Plate conformance after marking out |  |  | (RS1,RS3,RS4) (PC1.2,PC2.2) Student to complete   * *Table and report completed* * *Non-conformance is recorded*   *Assessor’s comments/responses noting where student has not achieved a satisfactory result and what is needed to gain a satisfactory outcome* |
| 4 | Witness mark all dimensions and  scribe hole diameters |  |  | (RS2, RS3) (RK2) Student to complete   * *Drill Plate centre line and hole centres are lightly witness marked (accurately)* * *Hole dimensions set on dividers and scribed*   *Assessor’s comments/responses noting where student has not achieved a satisfactory result and what is needed to gain a satisfactory outcome* |
| 5 | Hand and power tools used correctly and carefully  Cut job to size and finish  Holes centred, drilled and deburred  Stamp initials on the back of the drill plate |  |  | (RS2, RS3) (RK2, RK3)Student completes  *Student manufactures the Drill plate as per the specifications provided.*   * *Handheld power tools used safely and correctly* * *Job correctly cut to size and end of job file finished* * *Centre drill all holes* * *Ø16mm holes were pilot drilled & finish Diameter drilled on pedestal/bench drill* * *All holes chamfered* * *Job is deburred and any sharp corners removed* * *Correct techniques displayed in using hand and power tools and equipment* * *Student stamps initials on back of job*   *Assessor’s comments/responses noting where student has not achieved a satisfactory result and what is needed to gain a satisfactory outcome* |
| 6 | Check and clarify all dimensions and complete Table 3  Report any non-compliance |  |  | (RS1,RS2,RS3,RS4) (RK1) (PC2.1, 2.2) Student completes   * *Dimensions and finish clarified* * *Report completed and any non-compliance noted.*   *The following items may be addressed as non-compliant but not limited to these answers only*   * *Drilled holes not in tolerance* * *Length of plate not in tolerance* * *Chamfered holes not satisfactory* * *Deburred unsatifacstory*   *Assessor’s comments/responses noting where student has not achieved a satisfactory result and what is needed to gain a satisfactory outcome* |

Table 2: 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.* |