

**Prerequisites:** All personnel undertaking this assessment must have previously completed the following;

- Read Electric & Pneumatic Rotary Tools Risk Assessment, **Task ID. 2259** and associated Standard Operating Procedure, **SP-035**,
- Complete local Workshop Induction.

**Competency:** Utilize Electric & Pneumatic Rotary Tools within a workshop in accordance with occupational health and safety standards.

**Operations:** This assessment should take place in any EAIT Faculty Workshop equipped with Electric & Pneumatic Rotary Tools. The assessor is required to assess all aspects of the competency regarding the following operations;

1. Pre-operational checks,
2. Operation\Startup of equipment and cut material,
3. Housekeeping.

**Instructions:** Each intended user of the equipment is required to complete an individual competency assessment, detailed in Section 1 below. Each element is to be assessed and the results recorded below. The actions used and evidence gained to assess competency (listed in Appendix A) are recorded against each criteria. Users are then required to answer the questions in Section 2 and then sign and date this document.

**Notes:**

Evidence of competency allows the user access to the equipment only for the tasks assessed. Proof of competency does not permit the assessment of untrained personnel's competency using this equipment. Only authorised persons are permitted to assess the competence of others in this process. Competent users will be required to be re-assessed on any related changes to the operating procedures of this equipment.

### 1. Operational Assessment

| Element of competency  | Performance criteria   | Operation /Scenario | Self-assessment |                   | Assessor review |                   | Action/evidence<br>(Refer to Appendix A) |
|------------------------|--|---------------------|-----------------|-------------------|-----------------|-------------------|--|
|                        |  |                     | Competent       | Not yet competent | Competent       | Not yet competent |  |
| Pre Operational Checks | Locate electrical safety test tag on electrical equipment and ensure the tag is not out of date.   | 1                   |                 |                   |                 |                   |  |
|                        | Check airline hose for cuts, bulges and abrasions. Make sure that hose connections fit properly.   | 1                   |                 |                   |                 |                   |  |
|                        | The individual must be able to correctly identify, describe and set/adjust:<br><br>Collet nut or chuck:  | 1                   |                 |                   |                 |                   |  |
|                        | Type of cutters:<br>High Speed<br>Engraving<br>Diamond<br>Tungsten Carbide<br>Aluminum Oxide Grinding Stones (red/brown)<br>Silicon Carbide Grinding Stones (blue/green) | 1                   |                 |                   |                 |                   |  |
|                        | Start and stop controls:   | 1                   |                 |                   |                 |                   |  |
|                        | Selects and fits appropriate PPE.  | 1                   |                 |                   |                 |                   |  |
|                        |  |                     |                 |                   |                 |                   |  |

COMPETENCY ASSESSMENT: Electric & Pneumatic Rotary Tools

| Element of competency                          | Performance criteria   | Operation /Scenario | Self-assessment |                   | Assessor review |                   | Action/evidence (Refer to Appendix A) |
|--|--|---------------------|-----------------|-------------------|-----------------|-------------------|---------------------------------------|
|  |  |                     | Competent       | Not yet competent | Competent       | Not yet competent |                                       |
| Operation of Electric & Pneumatic Rotary Tools | Select piece of stock flat mild steel or timber and demonstrate the following process:   | 2                   |                 |                   |                 |                   |                                       |
|  | Secure the work piece by clamping it to the table or holding it in a vise.   | 2                   |                 |                   |                 |                   |                                       |
|  | Place the correct tool bit in collet/chuck and tighten.  | 2                   |                 |                   |                 |                   |                                       |
|  | Set correct spindle speed and direction (Forward or reverse)   | 2                   |                 |                   |                 |                   |                                       |
|  | Drill or grind (as appropriate) a section of the material showing the correct posture and applying the correct pressure and grinding motion (when grinding). | 2                   |                 |                   |                 |                   |                                       |
| Shut down Machine                              | Follows correct shut down and correct clean up procedure of stock, sawdust or metal swarf.   | 3                   |                 |                   |                 |                   |                                       |

## 2. Review Questions

Answer the following questions in the spaces provided. If you have any questions please ask the assessor. You may refer to the Risk Assessment, Standard Operating Procedure (SOP) or your notes if required. Once complete, insert your name and details in the space provided and return the completed form to the assessor.

2.1 Always secure the work piece by clamping it to the table or holding it in a vice. True or False?

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2.2 Which cutter can run at a higher speed? (*Circle the correct answer*)

A. Tungsten carbide cutter.

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B. High speed steel cutter

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2.3 Increasing the pressure on the tool is not the answer when it is not cutting as you think it should. Perhaps you should be using a different cutter, and perhaps an adjustment in speed would solve the problem. True or False?

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2.3 Name three potential hazards associated with using a rotary tool.

A.

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B.

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C.

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2.5 The direction of feed of the bit into the material when carving, routing or cutting is very important. Always feed the bit into the material in the same direction as the cutting edge is exiting from the material (the same direction as chips are thrown). Feeding the tool in the wrong direction, causes the cutting edge of the bit to climb out of the work and pull the tool in the direction of this feed. True or False?

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| Authorisation         |                            |      |      |               |                    |
|-----------------------|----------------------------|------|------|---------------|--------------------|
| Employee\Student name | Employee\Student signature | Date | Unit | Assessor name | Assessor signature |
|                       |                            |      |      |               |                    |

### Appendix A

| Possibilities for Action items |   | Possibilities for evidence |   |
|--------------------------------|---|----------------------------|---|
| <b>A</b>                       | Watch video                             | <b>1</b>                   | Direct observation of performance during work       |
| <b>B</b>                       | Review procedures                       | <b>2</b>                   | Direct observation of performance during simulation |
| <b>C</b>                       | Attend central training                 | <b>3</b>                   | Return demonstration during training                |
| <b>D</b>                       | Observe other staff                     | <b>4</b>                   | Completed end product, form or document             |
| <b>E</b>                       | On the job training                     | <b>5</b>                   | Verbal assessment                                   |
| <b>F</b>                       | Be mentored by person with these skills | <b>6</b>                   | Written assessment                                  |
| <b>G</b>                       | Role play with other staff              | <b>7</b>                   | >1 year Post-training trade experience              |
| <b>H</b>                       | Online course                           | <b>8</b>                   | Other – Provide details                             |
| <b>I</b>                       | Technical trade training                |                            |   |
| <b>J</b>                       | Other – Provide details                 |                            |   |