

**SKILLS FRAMEWORK FOR PRECISION ENGINEERING
TECHNICAL SKILLS AND COMPETENCIES (TSC) REFERENCE DOCUMENT**

TSC Category	Maintenance					
TSC	Equipment Maintenance					
TSC Description	Maintain tools and equipment to meet operation requirements as well as propose strategies for tools and equipment performance improvement					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	PRE-MAI-1014-1.1-1	PRE-MAI-2014-1.1	PRE-MAI-3014-1.1	PRE-MAI-4014-1.1	PRE-MAI-5014-1.1	
	Upkeep common tools and workshop equipment	Interpret possible equipment failures based on fault indicators and take measures to recover tools and equipment	Implement tools and equipment maintenance operations to maintain the performance of the tools and equipment	Manage tools and major equipment maintenance, troubleshooting and tool recovery	Formulate strategies for tools and equipment performance improvement by analysing the performance metrics	
Knowledge	<ul style="list-style-type: none"> Awareness of work safety and possible danger Types and function of common tools and workshop equipment Proper methods of handling common tools and workshop equipment Correct ergonomic postures and handling of the tools and equipment Possible causes of tools, components and equipment damage Proper maintenance of tools and equipment 	<ul style="list-style-type: none"> Types of electrical controls and warning devices Equipment functions and operating principles Fault diagnostic procedures Testing procedures 	<ul style="list-style-type: none"> Tools and equipment operation and safety requirements Functionality of tools and equipment Concept and application of maintenance procedures on tools and equipment 	<ul style="list-style-type: none"> Concept and application of major maintenance on tools and equipment Troubleshooting of tools and equipment 	<ul style="list-style-type: none"> Problem solving techniques Tools and equipment performance metrics 	
Abilities	<ul style="list-style-type: none"> Plan the maintenance of common tools and workshop equipment Operate the various tools and equipment to check for functionality Check common tools and workshop equipment for non-conformance Repair or replace faulty tools and equipment Replenish oil and/or lubricant supplies 	<ul style="list-style-type: none"> Conduct pre-operational checks and inspections to verify working conditions of tools and equipment Apply appropriate techniques to determine the faults Determine fault codes from test equipment Rectify fault(s) using correct techniques, procedures, tools and equipment Verify performance of tools and equipment 	<ul style="list-style-type: none"> Identify tools and equipment functions in the manufacturing process Prepare tools and equipment for basic maintenance Perform tools and equipment maintenance Verify performance of tools and equipment Set up the tools and equipment for operational readiness 	<ul style="list-style-type: none"> Prepare tools and equipment for major maintenance Perform tools and equipment major maintenance Verify performance of tools and equipment Troubleshoot any abnormalities detected Resume tools and equipment to operational readiness 	<ul style="list-style-type: none"> Analyse tools and equipment performance metrics in accordance with equipment specifications Select appropriate project that will improve tools and equipment performance Define project scope of work and the number of hours based on business requirements Execute project in accordance with project plan 	

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	<ul style="list-style-type: none"> • Create ideas to fool-proof possible selection of wrong tools • Establish orderly storage and differentiation of similar tools for ease of retrieval • Report damaged or dysfunctional tools and equipment for rectification, repair or replacement 	<ul style="list-style-type: none"> • Set up the tools and equipment for operational readiness 			<ul style="list-style-type: none"> • Evaluate project effectiveness in accordance with project objectives • Recommend follow up actions 	
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