

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

<b>TSC Category</b>	Aerospace and Engineering Fundamentals					
<b>TSC</b>	Electronics Fundamentals Application					
<b>TSC Description</b>	Apply and use principles of electronics for maintenance, repair, overhaul or manufacturing of aircraft electronics and related systems					
<b>TSC Proficiency Description</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>	<b>Level 6</b>
			<b>AER-ACO-3016-1.1</b>	<b>AER-ACO-4016-1.1</b>		
			Apply principles of electronics to aircraft electronics and related systems in an appropriate and safe manner in accordance with organisational procedures	Apply principles of electronics towards maintenance, repair, overhaul or manufacturing of aircraft electronics and related systems in accordance with applicable technical manuals and organisational procedures		
<b>Knowledge</b>			<ul style="list-style-type: none"> <li>Types and properties of semiconductor diodes</li> <li>Characteristics and properties of transistors</li> <li>Functions of integrated circuits</li> <li>Terminology and functions of printed circuit boards</li> <li>Concepts and principles of servomechanisms</li> </ul>	<ul style="list-style-type: none"> <li>Operation, function and testing of semiconductor diodes</li> <li>Construction and applications of transistors</li> <li>Advanced concepts of integrated circuits</li> <li>Applications of printed circuit boards in aircraft systems</li> <li>Construction, operation and uses of servomechanisms</li> </ul>		
<b>Abilities</b>			<ul style="list-style-type: none"> <li>Analyse characteristics and properties of semiconductor diodes</li> <li>Assess transistor characteristics and properties</li> <li>Describe the operation of logic circuits, linear circuits and operational amplifiers</li> <li>Identify the various components on printed circuit board assembly used in avionics system</li> </ul>	<ul style="list-style-type: none"> <li>Review the operation, functions and functional testing of semiconductor diodes</li> <li>Evaluate construction and operation of PNP and NPN transistors</li> <li>Explain the operating principles and applications of integrated circuits including logic circuits, linear circuits and operational amplifiers</li> <li>Evaluate advantages and disadvantages of positive</li> </ul>		

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			<ul style="list-style-type: none"> <li>Outline the application of servomechanism used on aircraft systems</li> </ul>	<p>and negative feedback in integrated circuits</p> <ul style="list-style-type: none"> <li>Explain the functions of components on printed circuit board assembly used in avionics system</li> <li>Evaluate different types of circuit boards and their fabrication, including additive process, subtractive process and printed circuit board (PCB) applications</li> <li>Provide expertise to guide the application of servomechanism on aircraft systems</li> </ul>		
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