

SKILLS FRAMEWORK FOR AEROSPACE				
SKILLS MAP - Senior Repair Engineer/Senior Process Engineer				
Sector	Aerospace			
Track	Aircraft Engine / Component Maintenance			
Occupation	Engineer			
Job Role	Senior Repair Engineer/Senior Process Engineer			
Job Role Description	<p>The Senior Repair Engineer/Senior Process Engineer leads reliable maintenance programmes and manages the maintenance organisation structure in accordance with regulatory requirements. He/She reviews procedures and specifications for fabrication, rework and repairs, and adherence of maintenance works to customer requirements and project schedules. He leads resource planning, delegates technical personnel, and reviews conformance of maintenance works to technical specifications. He also leads root cause analysis and failure investigations, and provides expert advice for maintenance and repair functions.</p> <p>He reviews compliance of maintenance works with airworthiness and legislative requirements, while proposing enhancements to the organisation's standard operating procedures (SOPs), and safety, health and quality systems. He proactively contributes to the development of lean and sustainability practices, and conducts research and digital innovation in targeted areas for continuous process improvements. As a team leader, he appraises staff performance and conducts coaching and mentoring for technical personnel.</p> <p>He is required to work cross-functionally and exercise strong problem-solving, decision-making and stakeholder management skills to ensure smooth workshop operations for desired organisational outcomes.</p>			
Critical Work Functions and Key Tasks / Performance Expectations	Critical Work Functions	Key Tasks	Performance Expectations (For legislated / regulated occupations)*	
	Manage engine and component maintenance programmes	Lead implementation of condition-based maintenance programmes for aircraft engines and components	In accordance with: <ul style="list-style-type: none"> International Civil Aviation Organisation (ICAO) legislation Air Navigation Order (ANO) Singapore Airworthiness Requirements (SAR) Workplace Safety and Health (WSH) Act Environmental standards Aerospace quality management system standards ISO, AN, MS, NAS and MIL standards Air Transport Association of America (ATA) standards Special process standards *Performance Expectations are non-exhaustive and subject to prevailing regulations	
		Review procedures and specifications for fabrication, rework and repairs		
		Delegate technical personnel to accomplish maintenance functions		
		Manage maintenance organisation structure in accordance with legislative requirements		
		Ensure adherence of maintenance works to project timelines and goals		
	Conduct engine and component maintenance, repair and overhaul (MRO)	Recommend improvements to engine and component maintenance and repair capabilities		
		Review conformance of engine and component MRO activities to technical specifications and airworthiness directives		
		Lead maintenance activities in accordance with appropriate aerospace maintenance practices		
		Lead root cause analysis and failure investigations		
		Review repair schemes and design modifications for engines and components		
		Plan failure analysis and repair techniques for composite structures		
	Conform to management system requirements	Lead implementation of special process control plans		
		Review documentation for compliance with regulatory and organisational requirements		
		Propose enhancements to standard operating procedures (SOPs) for repair operations		
		Review compliance with corporate governance policies and legislative requirements		
		Recommend improvements to environment, safety and health systems, policies and procedures		
	Contribute to continuous improvement	Contribute to the development of organisational quality and risk management systems		
		Contribute to the development of sustainability practices for engine and component maintenance		
		Evaluate opportunities for continuous improvement projects		
Contribute to the development of lean practices for engine and component maintenance				
Manage people and organisational development	Conduct research on market trends and technology applications to drive innovation			
	Liaise with other teams and customers to ensure smooth operations			
	Leverage data analytics to enhance operational and business decision-making			
Technical Skills and Competencies	Generic Skills and Competencies			
	Aerodynamics Principles Application	Level 4	Problem Solving	Intermediate
	Aerospace Heat Treatment Process	Level 4	Sense-Making	Advanced
	Aerospace Maintenance Practices Application	Level 3	Service Orientation	Intermediate
	Aerospace Materials and Hardware Selection	Level 4	Decision Making	Intermediate
	Artificial Intelligence Application	Level 3	Leadership	Intermediate
	Augmented Reality Application	Level 3		
	Aviation Legislation Compliance	Level 3		

Skills & Competencies	Big Data Analytics	Level 3		
	Business Continuity Planning	Level 3		
	Business Negotiation	Level 4		
	Business Opportunities Development	Level 3		
	Business Performance Management	Level 3		
	Carbon Footprint Management	Level 4		
	Change Management	Level 3		
	Chemical Processing	Level 3		
	Coating	Level 3		
	Composite Structures Design and Maintenance	Level 4		
	Condition-based Assets Monitoring Management	Level 4		
	Continuous Process Improvement	Level 3		
	Digital Techniques Application	Level 4		
	Elastomer Seals Application	Level 3		
	Electrical Fundamentals Application	Level 4		
	Electronic Fundamentals Application	Level 4		
	Engineering Drawing Interpretation and Management	Level 4		
	Engineering Problem Solving	Level 4		
	Gas Turbine Engine Principles Application	Level 4		
	Green Manufacturing Design and Implementation	Level 3		
	Helicopter Aerodynamics, Structures and Systems Principles Application	Level 4		
	Human Factors Application and Error Management	Level 3		
	Innovation Management	Level 3		
	Internet of Things Implementation	Level 3		
	Knowledge Management	Level 3		
	Lean Manufacturing	Level 3		
	Maintenance Organisation Structure Management	Level 4		
	Maintenance Coordination	Level 4		
	Mathematical Concepts Application	Level 3		
	Non-metallic Materials Testing	Level 3		
	Physics Concepts Application	Level 3		
	Piston Aeroplane Aerodynamics, Structures and Systems Principles Application	Level 4		
	Piston Engine Principles Application	Level 4		
	Predictive Maintenance	Level 4		
	Project Management	Level 3		
	Propeller Principles Application	Level 4		
	Propulsion Principles Application	Level 4		
	Quality System Management	Level 3		
	Robotics and Automation Application	Level 3		
	Sealants Process	Level 3		
Stakeholder Management	Level 3			
Surface Enhancement	Level 3			

	Surface Preparation and Protection for Aerospace Manufacturing	Level 3		
	Turbine Aeroplane Aerodynamics, Structures and Systems Principles Application	Level 4		
	Welding Process	Level 3		
	Workplace Safety and Health Framework Development and Implementation	Level 3		
Programme Listing	For a list of training programmes available for the Aerospace sector, please visit < https://www.skillsfuture.sg/skills-framework/aero >			

The information
is not available