

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

TSC Category	Rail Systems Maintenance					
TSC	Rolling Stock Brake Systems Maintenance					
TSC Description	Implement preventive and corrective maintenance activities of rolling stock brake systems					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	PTP-RSM-1029-1.1	PTP-RSM-2029-1.1	PTP-RSM-3029-1.1	PTP-RSM-4029-1.1		
	Carry out scheduled preventive maintenance work on rolling stock brake systems	Conduct corrective maintenance on rolling stock brake systems	Troubleshoot faulty rolling stock brake systems to locate faults and recommend rectification methods	Diagnose root causes of rolling stock brake systems failure and review maintenance plans to prevent fault recurrence		
Knowledge	<ul style="list-style-type: none"> Operating principles, functions and features of rolling stock brake systems and components Types of rolling stock brake and components that includes: <ul style="list-style-type: none"> Brake control equipment Friction brake equipment Wheel slip protection equipment Emergency brake equipment Procedures for servicing rolling stock brake systems and components in accordance to organisational maintenance procedures, Work Instructions (WI) and/or Original Equipment Manufacturer (OEM) technical manuals Types and usage of tools and equipment for carrying out preventive maintenance on rolling stock brake systems Safety guidelines on use of tools and equipment 	<ul style="list-style-type: none"> Operating principles, functions and features of rolling stock brake systems and components Types of rolling stock brake systems and components that includes: <ul style="list-style-type: none"> Brake control equipment Friction brake equipment Wheel slip protection equipment Emergency brake equipment Principles of dynamic and regenerative braking Electro-pneumatic, pneumatic and mechanical rail brake operating principles Common failures of rolling stock brake systems and components Procedures to identify rolling stock brake systems and components faults Procedures to dismantle repair, replace, and re- 	<ul style="list-style-type: none"> Operating principles, functions and features of rolling stock brake systems and components Principles of dynamic and regenerative braking Electro-pneumatic, pneumatic and mechanical rail brake operating principles Common fault symptoms in rolling stock brake systems and components Principles of collision and derailment Methods of locating and rectifying faults Types and usage of troubleshooting techniques, equipment and tools Safety guidelines for usage of tools and equipment in troubleshooting rolling stock brake systems 	<ul style="list-style-type: none"> Factors affecting rolling stock brake systems and components performance Principles of collision and derailment Failure investigation and prevention methods Methods and tools for diagnostic analysis Organisational maintenance procedures, Work Instructions (WI) and Original Equipment Manufacturer (OEM) technical recommendations Types and methods of functional tests on rolling stock brake systems and components Functional relationships between rolling stock brake systems, other rolling stock systems, plant equipment and the overall rail system 		

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	<p>for preventive maintenance on rolling stock brake systems</p> <ul style="list-style-type: none"> • Types and usage of Personal Protective Equipment (PPE) for rolling stock brake systems • Organisational maintenance documentation and fault reporting procedures 	<p>assemble rolling stock brake systems and components</p> <ul style="list-style-type: none"> • Procedures for conducting system performance and identifying faults on rolling stock brake systems and components • Types and usage of tools and equipment for carrying out corrective maintenance • Safety guidelines on use of tools and equipment for corrective maintenance 				
<p>Abilities</p>	<ul style="list-style-type: none"> • Perform preparation work to conduct maintenance on rolling stock brake systems • Follow organisational maintenance procedures, WI and/or OEM technical manuals to carry out preventive maintenance on rolling stock brake systems and components • Perform functionality checks on rolling stock brake systems and components • Adhere to safety guidelines and operating instructions for tools and equipment during maintenance work • Record rolling stock brake systems maintenance activities and report occurrences of potential faults identified 	<ul style="list-style-type: none"> • Interpret work orders and prepare for corrective maintenance • Apply fault identification procedures to determine causes of rolling stock brake systems and/or components faults • Dismantle rolling stock brake systems and components for corrective maintenance • Carry out rectification, repair and/or replacement of faulty components • Reassemble and reinstate rolling stock brake systems and components • Perform functional tests to determine operability of rolling stock brake systems and components • Apply operating and safety measures in operating tools and equipment during maintenance work 	<ul style="list-style-type: none"> • Use troubleshooting tools, equipment and methods to locate and analyse causes of rolling stock brake systems faults • Recommend corrective actions for identified faults on rolling stock brake systems • Implement procedures on safe usage of tools and equipment during maintenance work • Analyse maintenance work documented for rolling stock brake systems to identify possible workflow improvements to prevent fault recurrence 	<ul style="list-style-type: none"> • Establish structured failure investigation and specify functional testing requirements • Apply failure investigation methods to diagnose root cause failure of rolling stock brake systems and components • Review organisational rolling stock brake systems maintenance procedures • Propose new and/or enhanced maintenance procedures and/or WI in reference to OEM technical recommendations • Monitor overall maintenance progress of rolling stock brake systems to ascertain effectiveness of maintenance procedures • Develop solutions by analysing diagnostic data to prevent faults and failures recurrence 		

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		<ul style="list-style-type: none"> Record and collate documentation of rolling stock brake systems maintenance work 		<ul style="list-style-type: none"> Develop troubleshooting, rectification and fault analysis methods Coordinate rolling stock brake system maintenance with other rail systems maintenance needs 		
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