

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

TSC Category	Rail Systems Maintenance					
TSC	Wagon Maintenance					
TSC Description	Implement preventive and corrective maintenance activities of wagons					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	PTP-RSM-1046-1.1	PTP-RSM-2046-1.1	PTP-RSM-3046-1.1	PTP-RSM-4046-1.1		
	Carry out scheduled preventive maintenance on wagons	Conduct corrective maintenance on wagons	Troubleshoot and locate faults on wagons to recommend rectification methods	Diagnose root causes of wagon failure and review maintenance plans to prevent fault recurrence		
Knowledge	<ul style="list-style-type: none"> Operating principles and functions of different types of wagons, on-board equipment and components Types of wagons that includes: <ul style="list-style-type: none"> Flat wagons Well wagons Specialised wagons Procedures for servicing wagons and on-board equipment in accordance to organisational maintenance procedures, Work Instructions (WI) or Original Equipment Manufacturer (OEM) technical manuals Types of tools and equipment for carrying out preventive maintenance on wagon and on-board equipment Safety guidelines on use of tools and equipment for preventive maintenance on wagons Types and usage of Personal Protective Equipment (PPE) for wagon maintenance 	<ul style="list-style-type: none"> Operating principles and functions of different types of wagon systems, on-board equipment and components Types of wagons that includes: <ul style="list-style-type: none"> Flat wagons Well wagons Specialised wagons Common failures and symptoms of wagon systems, on-board equipment and components Procedures to identify faults on wagon systems, on-board equipment and components Procedures to dismantle, rectify, repair, replace, and re-assemble wagon systems and on-board equipment Procedures to reinstate wagon systems and on-board equipment Types of tools and equipment for carrying out corrective maintenance on wagons 	<ul style="list-style-type: none"> Engineering principles of wagon systems Common fault symptoms of wagon systems and on board equipment Methods of locating and rectifying faults Types of troubleshooting techniques, equipment, and tools Safety guidelines for usage of tools and equipment to execute wagon troubleshooting 	<ul style="list-style-type: none"> Engineering principles of wagon systems Factors affecting wagon and on-board equipment performance Failure investigation and prevention methods Methods and tools for diagnostic analysis Organisational maintenance procedures, Work Instructions (WI) and Original Equipment Manufacturer (OEM) technical recommendations Kinematic and dynamic features of wagon Principles of collision and derailment Types and methods of functional tests on wagon and on-board equipment Functional relationships between wagons, engineering trains, plant equipment and the overall rail system 		

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

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				<ul style="list-style-type: none">• Develop test procedures and WI for wagon functional checks• Coordinate wagon maintenance tasks in conjunction with other rail systems maintenance activities		
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