



Australian Government

Department of Education, Employment and Workplace Relations

RIISAM211B Remove, repair and refit tyres and tubes

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers the removal, repair and refitting of tyres and tubes in resources and infrastructure industries. It includes; planning and preparing for work; the controlling of risk; removal of tyres and or tubes from wheel/rim assembly; inspection of wheel and rim assembly components prior to assembly; fitting of tyre and or tube to wheel and rim assembly; inflation; inspecting tyres, tubes, wheels and rims; and carrying out a minor tube and tyre repair

Application of the Unit

This unit is applicable to heavy wheeled vehicles and is appropriate for those working in operational, service and maintenance roles, at worksites within:

- Civil construction
- Coal mining
- Drilling
- Extractive industries
- Metalliferous mining

Licensing/Regulatory Information

Refer to Unit Descriptor.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan for work	1.1. Access, interpret and apply compliance documentation relevant to the removal, repair and refitting of tyres and tubes 1.2. Obtain, interpret and clarify work requirement and safety information and procedures , in accordance with legislation and site procedures, before proceeding 1.3. Identify site and task hazards, and risks, including risk controls and equipment to be used 1.4. Set up maintenance schedules based on tyre usage, wear or condition in accordance with legislation, manufacturer and/or site procedures 1.5. Schedule work based on information provided
2. Prepare for work	2.1. Identify wheel assembly , and type of mounting system 2.2. Prepare, clean and inspect wheel assembly for damage, wear, corrosion, foreign material, cracks, and compatibility of components in accordance with legislation, manufacturer and/or site procedures 2.3. Select and check tools and equipment are fit for purpose in accordance with manufacturer and/or site procedures
3. Control of risk	3.1. Access and interpret correct information from appropriate manufacturer specifications and site documentation 3.2. Control or report any hazardous conditions of the work environment before proceeding. Note points where safety checks are required 3.3. Control or report any hazardous conditions of the assembly before proceeding. Note points where safety checks are required 3.4. Control or report any task hazards before proceeding, for example use of a deflation cage or lifting device to prevent manual handling injury. Note points where safety checks are required

	<p>3.5. Ensure that tyre and or tube is fully deflated before proceeding with the task</p> <p>3.6. This may include the identification and safe removal and purging of <i>toxic fill substances</i> according to OHS requirements and OEM specifications</p>
4. Remove tyre and or tube from wheel/rim assembly	<p>4.1. Identify <i>methods</i> for the removal of tyres and tubes in accordance with site procedures and OEM specifications. Access and interpret correct information from appropriate manufacturer specifications</p> <p>4.2. Carry out removal in accordance with site procedures and OEM specifications</p> <p>4.3. Clean and inspect <i>wheel/rim</i> assembly components and assign status of disposition</p> <p>4.4. Complete appropriate workplace documentation relevant to removal outcomes</p>
5. Inspect wheel/rim assembly components prior to assembly	<p>5.1. Ensure selected wheel/rim assembly components are compatible and suitable for application per OEM requirements</p> <p>5.2. Inspect the tyre for serviceability</p> <p>5.3. Inspect the wheel/rim and associated parts for serviceability</p> <p>5.4. Inspect the <i>fastening systems</i> for serviceability</p> <p>5.5. Where applicable, inspect the vehicle hub for serviceability</p>
6. Fit tyre and or tube to wheel/rim assembly	<p>6.1. Identify methods for the fitment of tyres and tubes in accordance with site procedures and OEM specifications. Access and interpret correct information from appropriate manufacturer specifications</p> <p>6.2. Where applicable, add tyre additive in accordance with site procedures and OEM specifications or recommendation</p> <p>6.3. Carry out refitting/replacement according to site procedures and OEM specifications</p> <p>6.4. Conduct integrity check of wheel assembly</p> <p>6.5. Complete appropriate workplace documentation</p>
7. Inflate assembly	<p>7.1. Inflate assembly for storage or use in accordance with site procedures and OEM</p>

	<p>specifications or recommendation</p> <p>7.2. Complete and deal with appropriate <i>workplace documentation</i></p>
8. Inspect, tyres, tubes and wheels/rims	<p>8.1. Inspect tyres, tubes and wheels/rims for serviceability, and or repairability</p> <p>8.2. Access and interpret correct information from appropriate manufacturer specifications</p> <p>8.3. Carry out inspections and tests according to site and OEM requirements</p> <p>8.4. Inspect tyres and tubes to identify those requiring minor repair</p> <p>8.5. Complete appropriate workplace documentation relevant to inspection outcomes</p>
9. Carry out a minor tube and tyre repair	<p>9.1. Identify task hazards and risks, and apply risk controls and equipment to be used</p> <p>9.2. Access and interpret correct information from appropriate manufacturer specifications</p> <p>9.3. Carry out minor repair of tubes and tyres according to site procedures</p> <p>9.4. Complete appropriate workplace documentation relevant to repair outcomes</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Specific skills are required to achieve the performance criteria in this unit, particularly for the application in the various circumstances in which this unit may be applied. This includes the ability to carry out the following as required to remove, repair and refit tyres and tubes:

- apply legislative, organisation and site requirements and procedures
- access, interpret and apply technical information
- use relevant tools and equipment safely
- apply manual handling procedures
- apply personal safety requirements
- apply repair tyre and/or tube procedures
- apply tyre and/or tube removal and replacement procedures
- apply tube and tyre reparability assessment procedures
- apply fill substance addition and removal procedures

Required knowledge

Specific knowledge is required to achieve the performance criteria of this unit, particularly its application in a variety of circumstances in which the unit may be used. This includes knowledge of the following as required to remove, repair and refit tyres and tubes:

- types of tubes and tyres and their construction
- inspection procedures to determine reparability
- company position in relation to tyre repair
- roadworthiness requirements relating to tyres and rims
- tyre and tube removal and refitting/replacement procedures, including rim types
- tyre and tube repair procedures
- ballast identification, types and application
- tyre fill identification, types and application
- tyre fill adding/removal methods and procedures
- safety precautions related to handling of tyre fill substances
- equipment safety requirements
- relevant manufacturer/company policies
- legislation where applicable
- manual handling procedures
- personal safety requirements

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following:</p> <ul style="list-style-type: none"> • knowledge of the requirements, procedures and instructions for removing, fitting and repairing tyres and tubes on a site • implementation of requirements, procedures and techniques for the safe, effective and efficient completion of the removal, fitting and repair tyres and tubes on a site • working with others to undertake and complete the removal, fitting and repair of tyres and tubes that meets all of the required outcomes • consistent timely completion of removal, fitting and repair of tyres and tubes that safely, effectively and efficiently meets the required outcomes
<p>Context of and specific resources for assessment</p>	<ul style="list-style-type: none"> • This unit must be assessed in the context of the work environment. Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills. • The assessment environment should not disadvantage the participant. For example, language, literacy and numeracy demands of assessment should not be greater than those required on the job. • Customisation of assessment and delivery environment to sensitively accommodate cultural diversity. • Aboriginal people and other people from a non

	<p>English speaking background may have second language issues.</p> <ul style="list-style-type: none"> • Assessment of this competency requires typical resources normally used in the work environment. Selection and use of resources for particular worksites may differ due to site circumstances. • Where applicable, physical resources should include equipment modified for people with disabilities. • Access must be provided to appropriate learning and/or assessment support when required.
<p>Method of assessment</p>	<p>This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods:</p> <ul style="list-style-type: none"> • written and/or oral assessment of the candidate's required knowledge • observed, documented and/or first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> • implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes • consistently achieving the required outcomes • first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> • working with others to undertake and complete the removal, fitting and repair of tyres and tubes
<p>Guidance information for assessment</p>	<p>Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Relevant compliance documentation may include:</p>	<ul style="list-style-type: none"> • legislative, organisation and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • code of practice • Employment and Workplace Relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
<p>Work requirement and safety information and procedures may include:</p>	<ul style="list-style-type: none"> • safe work procedures • site procedures • OEM specifications and recommendations • data recording • materials safety data sheets (MSDS)
<p>Information may include:</p>	<ul style="list-style-type: none"> • enterprise operating procedures • industry/workplace code of practice • product manufacturer specifications • customer requirements • materials safety data sheets (MSDS) • statutory requirements • tagging information • specifications for torque settings and tightening sequences • inflation pressure • tyre additive and ballast volumes
<p>Wheel assemblies may include:</p>	<ul style="list-style-type: none"> • tyre and rim • tyre and wheel mounted to a wheel
<p>Tools and equipment may include:</p>	<ul style="list-style-type: none"> • hand tools, power tools • wheel assemble lifting equipment • specialised equipment such as: <ul style="list-style-type: none"> • buffs • spreaders • tyre removal equipment • immersion tanks

	<ul style="list-style-type: none"> • lifting equipment • personal protective equipment
Hazardous conditions of the working environment may include:	<ul style="list-style-type: none"> • tyre defects: <ul style="list-style-type: none"> • distortion • structural damage • cuts and damage • potential internal fire/explosion • potential external fire/tyre burst • under inflated tyre • wheel and rim component defects: <ul style="list-style-type: none"> • cracks • distortion • wear • corrosion • dislodged components • leakage • mechanical damage • valve gear • blocked valve • expired scheduled testing date
Task hazards may include:	<ul style="list-style-type: none"> • less than adequate housekeeping • selection of incorrect tooling • manual handling • use of tooling • working in and around other machinery • compressed air • chemicals • oversight • fatigue • plant defects
Toxic fill substances may include:	<ul style="list-style-type: none"> • nitrogen gas • polyurethane resin (PUR) tyre fill • tyre additive
Methods may include:	<ul style="list-style-type: none"> • visual inspection • use of specific hand tools and equipment • types of tubes and tyres • various repair methods/material • ballast requirements • tyre fill substances
Methods should apply to the	<ul style="list-style-type: none"> • indoors or outdoors

following conditions and may include:	<ul style="list-style-type: none"> • level or uneven ground conditions • hard or soft ground conditions • workshop or mining area • surface or underground • wet or dry • night or day • standard or non standard heavy rims
Wheels/rims may include:	<ul style="list-style-type: none"> • safety lock rim • split 'industrial' rim (forklift or cranes) • rim or hub mounted multi piece rim • one piece wheel/rim
Fastening systems may include:	<ul style="list-style-type: none"> • wedges • nuts • bolts • washers • studs • cleats • wedge bands • spacer bands • reducers
Workplace documentation related to inflation may include records of:	<ul style="list-style-type: none"> • inflation pressure • gas used • ballast added

Unit Sector(s)

Service and Maintenance

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.