

AURKTJXX2 Remove, inspect and fit earthmoving and off-the-road wheel and rim assemblies

AURKTJX12 Remove, inspect and fit earthmoving and off-the-road wheel and rim assemblies

Modification History

Release	Comment
Release 2	Updates to Application, Range of Conditions, Performance Evidence, Knowledge Evidence, and Assessment Conditions
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to remove, inspect and fit earthmoving and off-the-road (OTR) wheel and rim assemblies and fasteners for fitment. It involves assessing and controlling risks, preparing for the task, removing, inspecting and refitting wheel and rim assemblies, inflating the tyre and completing workplace processes and documentation.

It applies to those who fit wheel assemblies and rim assemblies of not less than 600 mm (24 inches) nominal diameter and classified as off-the-road or earthmover tyres.

Licensing, legislative, regulatory, Australian standards or certification requirements may apply to this unit in some jurisdictions. Users are advised to check with the relevant regulatory authority.

Unit Sector

Technical - Wheels and Tyres

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Assess and control risk	1.1 Identify and control hazardous conditions in work environment 1.2 Identify and control hazardous wheel and rim assembly conditions, noting points where safety checks are required 1.3 Obtain and interpret emergency procedures and be prepared for fires, accidents and emergencies 1.4 Identify hazards and environmental issues, assess potential risks, and implement control measures in line with workplace policies

<p>2. Prepare to remove wheel and rim assembly from vehicle</p>	<p>2.1 Obtain and interpret manufacturer instructions, original equipment manufacturer (OEM) specifications, workplace procedures safety information and applicable standards for earthmoving and off-the-road tyres</p> <p>2.2 Obtain, interpret, clarify and confirm work requirements</p> <p>2.3 Plan sequence of work, noting points where safety checks are required</p> <p>2.4 Select and wear personal protective equipment appropriate for work activities</p> <p>2.5 Coordinate and communicate planned activities with others at the site prior to commencement of work activity</p> <p>2.6 Select and inspect tools and equipment according to manufacturer instructions and workplace procedures</p> <p>2.7 Identify wheel and rim assembly type, fastening system and handling equipment required to complete work activity</p> <p>2.8 Clean wheel and rim assembly, and inspect visually for damage, wear, corrosion, foreign material, cracks and compatibility of components to assess potential health and safety threats according to workplace procedures</p>
<p>3. Remove wheel and rim assembly from vehicle</p>	<p>3.1 Isolate, jack, raise and support vehicle according to workplace procedures, including vertical mounting procedures</p> <p>3.2 Deflate tyre before removal from vehicle according to workplace procedures</p> <p>3.3 Verify appropriate deflation of tyre in line with workplace procedures and OEM requirements</p> <p>3.4 Remove tyre, wheel and rim assembly according to workplace procedures and without causing component damage or injury</p> <p>3.5 Apply workplace procedures for transport and storage of wheel and rim assembly</p>
<p>4. Inspect mounting surfaces and fasteners</p>	<p>4.1 Visually inspect mounting components, fasteners and surfaces for damage, wear, corrosion, foreign material and cracks according to manufacturer instructions and workplace procedures, and discard damaged fasteners</p> <p>4.2 Record and report findings according to workplace procedures</p>
<p>5. Fit wheel and rim assembly</p>	<p>5.1 Compare condition of wheel and rim assembly against manufacturer specifications and ensure it is suitable for application, managing non-conformance as per workplace procedures</p> <p>5.2 Assess cleanliness of mating surfaces, and clean where required</p>

	<p>5.3 Fit wheel and rim assembly using handling equipment according to workplace procedures</p> <p>5.4 Check positioning and alignment of wheel and rim assembly prior to fastening</p> <p>5.5 Vertically mount wheel and rim assembly in accordance with workplace procedures</p> <p>5.6 Apply wheel and rim assembly tightening sequence and torque settings according to manufacturer specifications and workplace procedures</p>
6. Inflate tyre	<p>6.1 Identify and apply tyre inflation safety procedures prior to inflating tyre</p> <p>6.2 Inflate tyre according to workplace procedures and manufacturer recommendations</p> <p>6.3 Monitor tyre, wheel and rim assembly during inflation according to workplace procedures</p>
7. Complete work processes	<p>7.1 Lower vehicle according to workplace procedures</p> <p>7.2 Re-check wheel and rim fastener torque settings according to workplace procedures and manufacturer specifications</p> <p>7.3 Check wheel and rim assembly clearances according to manufacturer specifications</p> <p>7.4 Perform final inspection to ensure work meets workplace requirements</p> <p>7.5 Inspect and store tools and equipment according to workplace procedures, tagging or reporting where necessary</p> <p>7.6 Complete and process workplace documentation according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and not explicit in the performance criteria.

Skills	Description
Reading skills to:	<ul style="list-style-type: none"> read and interpret: <ul style="list-style-type: none"> written information in workplace procedures, manufacturer instructions, and work health and safety (WHS) requirements relating to removing, inspecting and fitting earthmoving and off-the-road (OTR) wheel and rim assemblies charts, lists, drawings and other applicable documents.

Skills	Description
Writing skills to:	<ul style="list-style-type: none"> document inspection findings and recommended repair actions. engage with workplace documents.
Oral communication skills to:	<ul style="list-style-type: none"> follow oral instructions ask questions to clarify observations, instructions and procedures report inspection results brief team and customers.
Numeracy skills to:	<ul style="list-style-type: none"> read and interpret metric and imperial systems of measurement use specialist tools and measuring equipment, including: <ul style="list-style-type: none"> gauges pressure testing tools read and interpret mathematical information, including charts and drawings.
Digital literacy skills to:	<ul style="list-style-type: none"> use workplace computerised technology and tools relating to removing and refitting earthmoving and OTR wheel and rim assemblies.
Planning and organising skills to:	<ul style="list-style-type: none"> plan and prioritise own work to achieve required outcomes plan appropriate risk controls to minimise risks before, during and after the tyre fitting process.
Self-management skills to:	<ul style="list-style-type: none"> select and use appropriate equipment, materials, processes and procedures recognise own limitations when selecting and using tools and equipment and seek timely advice.
Problem-solving skills to:	<ul style="list-style-type: none"> seek information and assistance as required to solve problems identify tyre condition and performance match wheel and rim assemblies to tyres and vehicle type.
Teamwork skills to:	<ul style="list-style-type: none"> work alongside other team members in a work environment, including those fulfilling other roles, such as riggers, dogmen, mechanics, tyre fitters, drivers and site operators.

Range of Conditions

This section specifies work environments and conditions that may affect performance.

Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Safety requirements must include:	<ul style="list-style-type: none"> those prescribed under applicable standards, workplace health and safety regulations, and workplace policies and procedures isolation procedures
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	<ul style="list-style-type: none"> • hazard control • manual-handling techniques • personal protective clothing and equipment • use of tools and equipment • working with dangerous or toxic substances: <ul style="list-style-type: none"> • chemicals • compressed air • nitrogen gas • polyurethane resin (PUR) tyre fill • tyre additive.
Wheel and rim assembly must include:	<ul style="list-style-type: none"> • demountable type or disk type wheel assemblies • split wheel or multi-piece wheel • tyre and rim assembly • tyre and rim mounted to a hub.
Tools and equipment must include:	<ul style="list-style-type: none"> • tyre handling equipment. • bead breakers • hand tools • inflation and deflation tools and pressure gauges • jacks • mufflers • pneumatic tools • hydraulic tools • power tools • soft face hammers • support stands • torque tools • tyre levers • wire brushes • inflation pressure gauges.
Hazardous conditions must include:	<ul style="list-style-type: none"> • changing and unstable ground conditions • dust • hard, soft or uneven ground conditions • line of fire for tyre components • noise • vehicles/pedestrians/machinery/other personnel within the workplace.
Hazardous wheel and rim assembly conditions must include:	<ul style="list-style-type: none"> • wheel and rim component defects • tyre defects • other conditions may include: <ul style="list-style-type: none"> • blocked or damaged valves • cracks

	<ul style="list-style-type: none"> • corrosion • cuts and damage • distortion • dislodged components • heat damage • leakage • mechanical damage • structural damage • under- or over-inflated tyre • valve gear • wear.
Mounting components and fasteners must include:	<ul style="list-style-type: none"> • bolts • cleats • diffuser discs • lockrings • nuts • O-rings • reducers • spacer bands • studs • valves, valve stems, valve extensions • washers • wedge or cleat retaining systems.

Unit Mapping Information

Supersedes and is equivalent to AURKTJ012 Remove, inspect and fit earthmoving and off-the-road wheel and rim assemblies

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1>

Assessment Requirements for AURKTJX12 Remove, inspect and fit earthmoving and off-the-road wheel and rim assemblies

Modification History

Release	Comment
Release 2	Updates to Application, Range of Conditions, Performance Evidence, Knowledge Evidence, and Assessment Conditions
Release 1	New unit of competency.

Performance Evidence

The candidate must demonstrate they can perform the following according to the standards defined in the elements, performance criteria and foundation skills of this unit.

The candidate must follow safe workplace procedures to demonstrate removing, inspecting, and refitting industrial earthmoving and off-the-road (OTR) wheel and rim assemblies

- locate and interpret required documentation, policies and procedures
- apply appropriate control measures to mitigate hazardous conditions in work environment and hazardous tyre, wheel and rim assembly conditions
- use raising and supporting equipment to raise vehicle in accordance with workplace procedures
- deflate tyre safely and in accordance with workplace procedures
- remove wheel and rim assembly in accordance with workplace procedures
- inflate tyre safely and in accordance with workplace procedures
- monitor tyre, wheel and rim assembly throughout inflation of tyre
- fit tyre, wheel and rim assembly including using the correct:
 - isolation procedures
 - tightening sequence
 - torque settings
 - inflation process and pressure
 - alignment
- check and confirm the following prior to fastening:
 - component compatibility
 - tyre, wheel and rim component serviceability
 - correct assembly of wheel and rim assembly
- safely lower vehicle
- undertake post-work inspection and complete work processes, including storage of tools and equipment
- transport and store tyre, wheel and rim assembly
- complete workplace documentation, including:

- relevant risk assessments
- tyre, wheel and rim assembly change documentation.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- methods to locate and interpret information required to remove, inspect and fit earthmoving and OTR tyres, including:
 - manufacturer specifications
 - applicable standards
 - workplace policies and procedures
 - tyre placards and markings
- applicable standards for removing, inspecting and fitting earthmoving and OTR wheel and rim assemblies
 - AS 4457.1 Earth-moving machinery - Off-the-road wheels, rims and tyres - Maintenance and repair Part 1: Wheel assemblies and rim assemblies
 - AS 4457.2 Earth-moving machinery - Off-the-road wheels, rims and tyres - Maintenance and repair Part 2: Tyres
- work health and safety (WHS) requirements, including statutory regulations, codes and standards relevant to removing, inspecting and fitting earthmoving and OTR tyres, wheels and rim assemblies
 - inflation and deflation of tyres
 - cold inflation tyre pressure
 - gauge pressure
 - overinflation and underinflation
 - managing risks and hazards associated with working with stored energy, including:
 - air pressure
 - mechanical release of stored energy
 - projectiles, flying debris or components
 - explosions, blasts and ruptures
 - tyre coming off the rim
 - crushing
 - noise
 - establishing exclusion zones
 - manual handling
 - using a Mechanical Interference Device (MID)
 - using a Mechanical Retention Device (MRD)
 - wearing the correct personal protective equipment (PPE)
- workplace procedures required for removing, inspecting and fitting earthmoving and off-the-road wheel and rim assemblies, including:
 - documentation procedures

- establishing serviceability of tools and equipment
- hazard identification and risk control methods, including:
 - hydraulic tooling
 - pneumatic tooling
 - falling or dropped objects
 - moving mobile plant
 - operating indoors, outdoors, underground, and at nighttime
 - working on unstable ground
 - overhead obstructions
- inflation and deflation of tyres
- torque measurement when tightening wheel or rim fasteners
- pre-removal inspection
- raising, supporting and lowering procedures for mining and construction vehicles that include soft ground support procedures and systems
- removal procedures of earthmoving and OTR wheel and rim assemblies:
 - methods for undoing wheel or rim fasteners
 - disk or demountable multi-piece rims
 - pre-removal inspection of multi-piece rims for damage
 - handling methods
- fitting procedures of earthmoving and OTR wheel and rim assemblies:
 - post-fitting inspection
 - manufacturer tolerance checks
- earthmoving and OTR vehicle tyres, wheels and rim assembly information including:
 - types and classifications of earthmoving and OTR tyres, wheels and rim assemblies
 - types of mounting systems for earthmoving and OTR wheel and rim assemblies.

Assessment Conditions

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the earthmoving and off-the-road tyres that they have worked on, e.g. repair orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- a workplace or simulated workplace that reflects workplace conditions - where simulation is used, it must reflect real working conditions by modelling industry operating conditions and contingencies, as well as, using suitable facilities, equipment and resources

- repair orders and workplace instructions relating to removing, inspecting and fitting earthmoving and OTR wheel and rim assemblies
- WHS requirements, including statutory regulations, codes and standards relevant to removing, inspecting and fitting earthmoving and OTR wheel and rim assemblies
- manufacturer specifications and procedures or equivalent documentation to remove, inspect and fit earthmoving and OTR wheel and rim assemblies
- applicable standards, including Australian standards relevant to removing, inspecting and fitting earthmoving and OTR tyres, wheels and rim assemblies:
 - AS 4457.1 Earth-moving machinery - Off-the-road wheels, rims and tyres - Maintenance and repair Part 1: Wheel assemblies and rim assemblies
 - AS 4457.2 Earth-moving machinery - Off-the-road wheels, rims and tyres - Maintenance and repair Part 2: Tyres
- tyre handling equipment, including two of the following:
 - crane
 - earthmoving and OTR tyre handle
 - forklift-mounted tyre handler
 - grab truck
 - loader-mounted tyre handler
- earthmoving and OTR wheel and rim assemblies
- WHS requirements relevant to removing, inspecting and fitting earthmoving and OTR wheel and rim assemblies
- tools and equipment appropriate for removing and fitting earthmoving and OTR wheel and rim assemblies
- tyre, wheel and rim assembly specifications and workplace instructions
- operational vehicles with earthmoving and OTR wheel and rim assemblies
- personal protective clothing and equipment required for the activities described in the performance evidence

The assessment must:

- be demonstrated in the workplace or in a simulated environment that reflects workplace conditions
- be conducted in a safe environment
- be assessed in compliance with relevant policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Assessor requirements

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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