

Title	Demonstrate knowledge of machine track gear and undercarriage systems and their repair procedures		
Level	4	Credits	5

Purpose	People credited with this unit standard are able to demonstrate knowledge of: tracked machine undercarriage misalignment; repair procedures for misalignment faults in undercarriage components; procedures to measure wear in track components to identify repair methods; and track gear repair procedures.
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Classification	Motor Industry > Vehicle Steering and Suspension
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Available grade	Achieved
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Guidance Information

Definitions

Service information may include but is not limited to – technical information of a vehicle, machine, or product detailing operation; installation and servicing procedures; manufacturer instructions and specifications; technical terms and descriptions; and detailed illustrations. This can be accessed in hard copy or electronic format and is normally sourced from the manufacturer.

Suitable tools and equipment means industry approved tools and equipment that are recognised within the industry as being the most suited to complete the task in a professional and competent manner with due regard to safe working practices.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of tracked machine undercarriage misalignment.

Performance criteria

- 1.1 Safe working practices when inspecting machine undercarriage for misalignment are identified in accordance with legislative requirements.

Range personal safety, safety of others, machine safety, workshop safety, environmental safety, tools and equipment safety.
- 1.2 Suitable tools and equipment used to determine undercarriage misalignment are identified in accordance with service information.
- 1.3 Types of undercarriages are described in accordance with service information.

1.4 Misalignment faults in roller frames are identified, their causes noted, and their effects explained in accordance with service information.

Range toe-in, toe-out, tilt, bow, twist.

1.5 Misalignment faults in idler mountings and sprockets are identified, their causes noted, and their effects explained in accordance with service information.

Range toe-in, toe-out, lateral displacement, twist, tilt.

Outcome 2

Demonstrate knowledge of repair procedures for misalignment faults in undercarriage components.

Performance criteria

2.1 Safe working practices when repairing machine undercarriage misalignment faults are identified in accordance with legislative requirements.

Range personal safety, safety of others, machine safety, workshop safety, environmental safety, tools and equipment safety.

2.2 Suitable tools and equipment used to repair undercarriage misalignment are identified in accordance with service information.

2.3 Straightening procedures to repair misaligned roller frames are described in accordance with service information.

2.4 Procedures to repair misaligned idler mountings are described in accordance with service information.

Range straightening, shimming, welding.

2.5 Procedures to repair sprocket misalignment are described in accordance with service information.

Range straightening, repositioning, shimming.

Outcome 3

Demonstrate knowledge of procedures to measure wear in track components to identify repair methods.

Range links, pins, bushes, shoes, rollers, idler, sprocket.

Performance criteria

- 3.1 Safe working practices when measuring track components are identified in accordance with legislative requirements.
- Range personal safety, safety of others, machine safety, workshop safety, environmental safety, tools and equipment safety.
- 3.2 Suitable tools and equipment used to measure track components are identified in accordance with service information.
- 3.3 Procedures to measure wear in track components are described in accordance with service information.
- Range direct measurement, ultrasonic.
- 3.4 Repair methods for track components are identified in accordance with service information.
- Range manufacturer wear range limits; rebuilding, replacing, repositioning.

Outcome 4

Demonstrate knowledge of track gear repair procedures.

Performance criteria

- 4.1 Safe working practices when repairing track gear are identified in accordance with legislative requirements.
- Range personal safety, safety of others, machine safety, workshop safety, environmental safety, tools and equipment safety.
- 4.2 Suitable tools and equipment used to repair tracks are identified in accordance with service information.
- 4.3 Track gear dismantling procedures are described in accordance with service information.
- 4.4 Track component repairs are described in accordance with service information.
- Range rebuilding, replacing, repositioning.
- 4.5 Track gear reassembling and repositioning procedures are described in accordance with service information.
- 4.6 Track tensioning and alignment procedures are described in accordance with service information.
- 4.7 Track gear lubrication is described in accordance with service information.

Planned review date	31 December 2023
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	23 February 1999	31 December 2020
Revision	2	16 April 2003	31 December 2020
Review	3	25 January 2008	31 December 2020
Review	4	30 August 2018	N/A

Consent and Moderation Requirements (CMR) reference	0014
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact MITO New Zealand Incorporated info@mito.org.nz if you wish to suggest changes to the content of this unit standard.