

Repair track gear systems on machines

Level 4

Credits 5

Purpose This unit standard is for people in the automotive heavy repair industry. People credited with this unit standard are able to: identify misalignment in a tracked machine undercarriage; repair misalignment faults in undercarriage components; measure wear in track components and determine repair procedures; and repair track gear.

Subfield Motor Industry

Domain Vehicle Steering and Suspension

Status Registered

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Entry information Recommended: Unit 15483, *Demonstrate knowledge of machine track gear and undercarriage systems and their repair procedures*; Unit 21671, *Carry out general engineering tasks in the motor industry*; Unit 21685, *Use an oxy-acetylene welding plant in the motor industry*; and Unit 24375, *Hard face automotive components using an electric or oxy-acetylene welding process*; or demonstrate equivalent knowledge and skills.

Accreditation Evaluation of documentation and visit by NZQA and industry.

Standard setting body (SSB) NZ Motor Industry Training Organisation (Incorporated)

Accreditation and Moderation Action Plan (AMAP) reference 0014

This AMAP can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Special notes

- 1 Legislation relevant to this unit standard includes but is not limited to – Health and Safety in Employment Act 1992.
- 2 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.
- 3 For this unit standard, it is essential that the practical assessment evidence is obtained in the workplace under normal workplace conditions.

Elements and performance criteria

Element 1

Identify misalignment in a tracked machine undercarriage.

Performance criteria

- 1.1 Safe working practices are observed throughout the task 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 are selected and used to enable undercarriage misalignment to be identified in accordance with service information.
- 1.3 The type of undercarriage is determined from service information.
- 1.4 Misalignment faults in the roller frame are identified, their cause noted, and their effects explained in accordance with service information.

Range includes but is not limited to – toe-in and toe-out, tilt, bow, twist.
- 1.5 Misalignment faults in the idler mounting and sprocket are identified, their cause noted, and their effects explained in accordance with service information.

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

Element 2

Repair misalignment faults in undercarriage components.

Performance criteria

- 2.1 Safe working practices are observed throughout the task 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 are selected and used to enable undercarriage misalignment to be identified in accordance with service information.
- 2.3 A misaligned roller frame is repaired using the straightening procedures in accordance with service information.
- 2.4 Misalignment in idler mountings is repaired using procedures in accordance with service information.
- Range includes but is not limited to – straightening, shimming, welding.
- 2.5 Sprocket misalignment is repaired using procedures in accordance with service information.
- Range includes but is not limited to – straightening, repositioning, shimming.

Element 3

Measure wear in track components and determine repair procedures.

Range includes but is not limited to – links, pins, bushes, shoes, rollers, idler, sprocket.

Performance criteria

- 3.1 Safe working practices are observed throughout the task in accordance with legislative requirements.
- Range personal safety, safety of others, machine safety, workshop safety, environmental safety, tools and equipment safety.
- 3.2 Suitable equipment is selected and used to enable the components to be measured and repairs determined in accordance with service information.
- 3.3 Wear in track components is measured in accordance with service information.
- Range one of – direct measurement, ultrasonic.

3.4 The repair method for each track component is determined from the extent of the wear in accordance with service information.

Range manufacturer wear range limits;
rebuilding, replacing, repositioning.

Element 4

Repair track gear.

Performance criteria

4.1 Safe working practices are observed throughout the task 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 are selected and used to enable the track gear to be repaired in accordance with service information.

4.3 The track gear is dismantled in accordance with service information.

4.4 Faulty components are repaired in accordance with service information.

Range includes but is not limited to – rebuilding, replacing, repositioning.

4.5 The track gear is reassembled, and components requiring repositioning are positioned, in accordance with service information.

4.6 Track tension is adjusted, and track alignment checked in accordance with service information.

4.7 The track gear is lubricated in accordance with service information.

Please note

Providers must be accredited by NZQA, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by NZQA before they can register credits from assessment against unit standards.

Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

Accreditation requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

Comments on this unit standard

Please contact the NZ Motor Industry Training Organisation (Incorporated) info@mito.org.nz if you wish to suggest changes to the content of this unit standard.