

Title	Describe driveline components, and check and rectify driveline faults on outdoor powered equipment		
Level	3	Credits	4

Purpose	This unit standard is for people in the outdoor power equipment repair industry. People credited with this unit standard are able to: demonstrate knowledge of driveline components used on outdoor powered equipment; check and rectify faults in driveline components fitted to outdoor powered equipment; and overhaul universal joints.
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Classification	Motor Industry > Automotive Transmission Systems
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Available grade	Achieved
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Explanatory notes

- 1 The following legislation and amendments are to be consulted and followed where applicable:
 - Health and Safety in Employment Act, 1992.
- 2 Reference to *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 to a professional and competent manner with due regard to safe working practices.
- 3 Because of the particular nature of this unit standard, it is essential that the practical assessment evidence is obtained from commercial jobs in the workplace under normal workplace conditions.

Outcomes and evidence requirements

Outcome 1

Demonstrate knowledge of driveline components used on outdoor powered equipment.

Evidence requirements

- 1.1 Functions of driveshafts are identified.

Range	transmitting power, allowing movement of driveline assembly, adjusting changes in driveline length.
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- 1.2 Types of driveshaft, types of drive axle, and their application are described according to equipment manufacturer's specifications.
- Range rear wheel drive, front wheel drive, one-piece, two-piece.
- 1.3 Types of driveshaft joints and bearings are described according to manufacturer's workshop manual description.
- Range cross and yoke universal joint, constant velocity joints, drive couplings, support bearings, dampers.
- 1.4 Procedure to check driveshafts and drive axles for serviceability are described according to manufacturer's workshop manual instructions.
- Range wear, damage, security, lubrication, balance, driveline angles, phasing.
- 1.5 Procedures for servicing and replacing universal joints are described according to manufacturer's workshop manual instructions.
- Range lubrication, replacement of parts.

Outcome 2

Check and rectify faults in driveline components fitted to outdoor powered equipment.

Evidence requirements

- 2.1 Safe working practices are observed throughout the task.
- Range personal safety, safety of others, equipment and machine safety.
- 2.2 Suitable tools and equipment are selected and used to enable drivelines to be checked and faults to be rectified.
- 2.3 The machine is operated to check driveline operation, and any faults found are noted.
- Range noticeable vibration, noise, take-up.
- 2.4 Driveline components are checked on the machine for wear and damage, and any faults are noted.
- Range shafts, joints, rubber gaiters and seals, support bearings.
- 2.5 All driveline components are checked to ensure that they are securely attached and in compliance with vehicle manufacturer's specifications.
- Range shafts, joints, support bearings, engine and transmission mounts, differential and driving hubs.

- 2.6 The driveshaft and its connecting flanges are checked for runout, and remedial action is taken where runout is outside the maximum allowed by the machine manufacturer.

Outcome 3

Overhaul universal joints.

Evidence requirements

- 3.1 Safe working practices are observed throughout the task.
 Range personal safety, safety of others, equipment and machine safety.
- 3.2 Suitable tools and equipment are selected and used to enable the joints to be overhauled.
- 3.3 The faulty shaft is removed from the machine in the manner prescribed by the manufacturer.
- 3.4 The joint is disassembled and cleaned to enable inspection of the parts for damage and wear.
- 3.5 The joint is assembled in accordance with manufacturer's instructions, and any faults are rectified to meet manufacturer's specifications.
- 3.6 The assembled shaft is installed in the machine according to manufacturer's instructions.

Replacement information	This unit standard has been replaced by unit standard 24328 and unit standard 24329.
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This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	23 February 1999	31 December 2016
Revision	2	16 April 2003	31 December 2016
Review	3	25 February 2008	31 December 2016
Rollover	4	19 November 2010	31 December 2016
Rollover	5	18 February 2016	31 December 2020

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>.

Please note

Providers must be granted consent to assess against standards (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 granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Consent requirements and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMR). The CMR 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.

This unit standard is expiring