Title | Design a wiring harness for a particular automotive application
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Level | 4
Credits | 4

Purpose | This theory-based unit standard is for people in the automotive electrical repair industry. People credited with this unit standard are able to produce a specification for a vehicle wiring harness for a given application, and produce a wiring circuit diagram for the installation.

Classification | Motor Industry > Automotive Electrical and Electronics

Available grade | Achieved

Guidance Information

1  Legislation relevant to this unit standard includes but is not limited to – Land Transport Rules: Vehicle Equipment 2004, Rule 32017; Vehicle Lighting 2004, Rule 32005; Vehicle Lighting Amendment 2005, Rule 32005/1; Vehicle Lighting Amendment 2007, Rule 32005/2; Vehicle Repair 1998, Rule 34001.

2  Land Transport Rules are produced for the Minister of Transport by Land Transport New Zealand. These rules are available online at http://www.landtransport.govt.nz/rules/.

3  Definition
   Company requirements refer to instructions to staff on policy and procedures which are documented in memo or manual format and are available in the workplace. These requirements include but are not limited to – company specifications and procedures, work instructions, manufacturer specifications, product quality specifications, and legislative requirements.

Outcomes and performance criteria

Outcome 1

Produce a specification for a vehicle wiring harness for a given application.

Range may include but is not limited to – caravan, trailer requiring direction indicators and forward facing side lamps, interior lighting for a passenger coach, accessory fitment.
Performance criteria

1.1 The details of the particular vehicle are researched and recorded in accordance with company requirements.

Range vehicle type and dimensions, specification and positioning of electrical hardware to be wired and connected, operating environment (heat, wet, dusty, chemical).

1.2 Customer requirements and lighting regulations related to the type of wiring and method of connection are determined in accordance with company requirements.

1.3 Specifications of the components required to design a harness that will comply with legislative and vehicle requirements are determined and noted in accordance with company requirements.

Range wire sizes and lengths, drip loop, colour coding, grouping of wires within the harness, routing of harness, type of harness insulation, type and size of terminals and connectors, circuit protection.

1.4 The harness specification and sketch plan of the proposed installation are produced so that the harness can be made and installed in the vehicle or trailer in accordance with company requirements.

Outcome 2

Produce a wiring circuit diagram for the installation.

Performance criteria

2.1 A detailed wiring diagram is drawn that shows all of the wiring, connectors, terminal boards, and electrical or electronic components of the circuit in accordance with company requirements.

2.2 The diagram identifies the wires by wire numbers or colour coding.

Replacement information

This unit standard was replaced by unit standard 31126.

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

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### Consent and Moderation Requirements (CMR) reference

0014