

<b>Title</b>	<b>Demonstrate knowledge of paint scales and mixing machines, and colour matching in the automotive refinishing industry</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>4</b>

<b>Purpose</b>	This theory-based unit standard is for people who work in the automotive refinishing industry. People credited with this unit standard are able to demonstrate knowledge of paint scales and mixing machines, paint formulas, and tinters and colour matching, in the automotive refinishing industry.
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<b>Classification</b>	Motor Industry > Automotive Refinishing
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 Legislation and references  
Performance of the outcome of this unit standard must comply with the following:  
Hazardous Substances and New Organisms Act 1996;  
Health and Safety at Work Act 2015;  
Spray Coating Regulations 1962.
- 2 Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.
- 3 Definitions  
*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.  
*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 may be accessed from the manufacturer.
- 4 Assessment  
Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable manufacturer's specifications, service information, company and legislative requirements.

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## Outcomes and performance criteria

### Outcome 1

Demonstrate knowledge of paint scales and mixing machines in the automotive refinishing industry.

#### Performance criteria

1.1 Types of paint scales and their operation are described.

Range weight, automatic recalibration/recalibration readings.

1.2 Paint mixing machines are described.

Range mixing bank, still bank (waterborne).

### Outcome 2

Demonstrate knowledge of paint formulas in the automotive refinishing industry.

Range includes but is not limited to – computer systems, colour variance chips.

#### Performance criteria

2.1 Locations of paint code tags for vehicles are identified.

Range three locations are identified, and two types of tags are identified.

2.2 Paint formulas for different kinds of paint are identified.

Range includes but is not limited to – solid colours, basecoats.

### Outcome 3

Demonstrate knowledge of tinters and colour matching in the automotive refinishing industry.

#### Performance criteria

3.1 Materials that make up paint are identified.

Range includes but is not limited to – binders, pigments, solvents, additives.

- 3.2 Tinters for the different kinds of paints are identified.
- Range tinters may include but is not limited to – solid colours, metallic colours, pearl finishes, tinted clearcoats, graphite finishes, clear finishes, special effect tinters;  
evidence of two is required.  
paint may include but is not limited to – waterborne, solvent borne, matt finishes.  
evidence of one is required.
- 3.3 How tinters function is described.
- Range full strength, reduced strength, metallic, pearl, special effect;  
colour wheel, colour tree, plotting colour.
- 3.4 The importance of using tinters in accordance with manufacturer specifications is identified.
- Range durability, colour match, warranty, tinter strengths, opacity, metamerism.
- 3.5 The effects of different coloured tinters on each other when adjusting colours are described.
- Range depth, cleanliness, cast, value, hue, chroma.
- 3.6 The effects of different coloured lights when adjusting colours are described.
- Range artificial lighting, natural lighting, light box, direct sunlight, shaded light; metameric colours.
- 3.7 The effects of reflection when matching colours are identified.
- Range coloured walls, floors, overalls, adjacent vehicles.
- 3.8 The techniques in matching the different kinds of paints are explained.
- Range solid, metallic, pearl; application.
- 3.9 The use of test panels when colour matching is explained.
- 3.10 Health and safety hazards when using paint materials are identified.
- Range fire, fumes, overspray, spray mist, toxic dust.

<b>Replacement information</b>	This unit standard and unit standard 24007 replaced unit standard 5709 and unit standard 5730.
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<b>Planned review date</b>	31 December 2027
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#### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	26 November 2007	31 December 2018
Review	2	21 April 2016	31 December 2027
Review	3	25 May 2023	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	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 Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council [qualifications@hangaarorau.nz](mailto:qualifications@hangaarorau.nz) if you wish to suggest changes to the content of this unit standard.