Qualification at a glance

<table>
<thead>
<tr>
<th>Subject area</th>
<th>Vehicle Fitting</th>
</tr>
</thead>
<tbody>
<tr>
<td>City &amp; Guilds number</td>
<td>4290</td>
</tr>
<tr>
<td>Age group approved</td>
<td>16+</td>
</tr>
<tr>
<td>Entry requirements</td>
<td>There are no entry requirements</td>
</tr>
<tr>
<td>Assessment</td>
<td>Online multiple choice tests (graded Pass, Merit, Distinction) and assignments (graded Pass)</td>
</tr>
<tr>
<td>Fast track</td>
<td>Not available; automatic approval applies in some cases</td>
</tr>
<tr>
<td>Support materials</td>
<td>Centre handbook Practical assessment workbook</td>
</tr>
<tr>
<td>Registration and certification</td>
<td>See online catalogue/Walled Garden for last dates.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Title and level</th>
<th>City &amp; Guilds number</th>
<th>Accreditation number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1 Certificate in Tyre Fitting Principles</td>
<td>4290-51</td>
<td>501/0130/4</td>
</tr>
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<table>
<thead>
<tr>
<th>Version and date</th>
<th>Change detail</th>
<th>Section</th>
</tr>
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<tr>
<td>1.1 Feb 2013</td>
<td>Amend range unit 501</td>
<td>Units</td>
</tr>
<tr>
<td></td>
<td>Correct general typographical errors</td>
<td>All</td>
</tr>
<tr>
<td>1.2 Oct 2013</td>
<td>Unit supporting information updated with introductory text</td>
<td>Units</td>
</tr>
</tbody>
</table>
## Contents

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<td>Support materials</td>
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<td>Assessment</td>
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<td>5</td>
<td>Units</td>
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<td>Unit 001</td>
<td>Skills in health, safety and good housekeeping in the automotive environment</td>
<td>12</td>
</tr>
<tr>
<td>Unit 031</td>
<td>Skills to support working relationships in the automotive work environment</td>
<td>14</td>
</tr>
<tr>
<td>Unit 051</td>
<td>Knowledge of health, safety and good housekeeping in the automotive environment</td>
<td>16</td>
</tr>
<tr>
<td>Unit 081</td>
<td>Knowledge to support working relationships in the automotive work environment</td>
<td>25</td>
</tr>
<tr>
<td>Unit 501</td>
<td>Skills in inspection, repair and replacement of standard light vehicle tyres</td>
<td>29</td>
</tr>
<tr>
<td>Unit 503</td>
<td>Skills in inspection repair and replacement of commercial vehicle tyres</td>
<td>31</td>
</tr>
<tr>
<td>Unit 544</td>
<td>Skills in receiving and storing stock</td>
<td>33</td>
</tr>
<tr>
<td>Unit 551</td>
<td>Knowledge in inspection, repair and replacement of standard light vehicle tyres</td>
<td>35</td>
</tr>
<tr>
<td>Unit 553</td>
<td>Knowledge of inspection, repair and replacement of commercial vehicle tyres</td>
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<tr>
<td>Unit 594</td>
<td>Knowledge of receiving and storing stock</td>
<td>45</td>
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<tr>
<td>Appendix 1</td>
<td>Sources of general information</td>
<td>48</td>
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</table>
1 Introduction

This document tells you what you need to do to deliver the qualification:

<table>
<thead>
<tr>
<th>Area</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who is the qualification for?</td>
<td>This Level 1 Certificate in tyre fitting principles is for anyone developing a career in the motor industry who wants to develop practical skills in and broaden their understanding of motor vehicle systems. Successful candidates will have the skills needed to apply for an automotive Advanced Apprenticeship or similar engineering pathway.</td>
</tr>
<tr>
<td>What does the qualification cover?</td>
<td>It allows candidates to learn, develop and practise the skills required for employment and/or career progression in the automotive industry.</td>
</tr>
<tr>
<td>Is the qualification part of a framework or initiative?</td>
<td>This qualification is part of the Automotive Maintenance and Repair Advanced Apprenticeship Framework (framework 1) which will replace current framework 4 from April 2011.</td>
</tr>
<tr>
<td>Who did we develop the qualification with?</td>
<td>This qualification was developed in collaboration with the Institute of the Motor Industry (IMI) the sector skills council for the automotive retail industry and other awarding organisations.</td>
</tr>
<tr>
<td>What opportunities for progression are there?</td>
<td>It allows candidates to progress into employment or to the following City &amp; Guilds qualifications:</td>
</tr>
<tr>
<td></td>
<td>• 4290-52 City &amp; Guilds Level 2 Diploma in Vehicle Fitting Principles</td>
</tr>
<tr>
<td></td>
<td>• 4290–53 City &amp; Guilds Level 3 Diploma in Vehicle Fitting Supervisory</td>
</tr>
<tr>
<td></td>
<td>• ILM management and leadership qualifications.</td>
</tr>
</tbody>
</table>

Structure

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Total credits</th>
<th>Credits from mandatory units</th>
<th>Credits from optional units</th>
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</thead>
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<td>Level 1 Certificate in Tyre Fitting Principles</td>
<td>32</td>
<td>24</td>
<td>8 (min)</td>
</tr>
<tr>
<td>(4290-51)</td>
<td></td>
<td>001, 031, 051, 081, 544, 594</td>
<td>Group 1: 501 and 551 or Group 2: 503 and 553</td>
</tr>
<tr>
<td>Unit accreditation number</td>
<td>City &amp; Guilds unit</td>
<td>Unit title</td>
<td>Credit value</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td><strong>Mandatory</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y/601/7254</td>
<td>001</td>
<td>Skills in health, safety and good housekeeping in the automotive environment</td>
<td>7</td>
</tr>
<tr>
<td>Y/601/6265</td>
<td>031</td>
<td>Skills to support working relationships in the automotive work environment</td>
<td>3</td>
</tr>
<tr>
<td>D/601/6171</td>
<td>051</td>
<td>Knowledge of health, safety and good housekeeping in the automotive environment</td>
<td>3</td>
</tr>
<tr>
<td>F/601/6180</td>
<td>081</td>
<td>Knowledge to support working relationships in the automotive work environment</td>
<td>3</td>
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<tr>
<td>T/601/6872</td>
<td>544</td>
<td>Skills in receiving and storing stock</td>
<td>4</td>
</tr>
<tr>
<td>Y/601/6086</td>
<td>594</td>
<td>Knowledge of receiving and storing stock</td>
<td>4</td>
</tr>
<tr>
<td><strong>Optional</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Group 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H/601/6091</td>
<td>501</td>
<td>Skills in inspection, repair and replacement of standard light vehicle tyres</td>
<td>5</td>
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<tr>
<td>D/601/6025</td>
<td>551</td>
<td>Knowledge in inspection, repair and replacement of standard light vehicle tyres</td>
<td>3</td>
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<tr>
<td><strong>Optional</strong></td>
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<td></td>
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</tr>
<tr>
<td><strong>Group 2</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>M/601/6093</td>
<td>503</td>
<td>Skills in inspection repair and replacement of commercial vehicle tyres</td>
<td>5</td>
</tr>
<tr>
<td>L/601/6036</td>
<td>553</td>
<td>Knowledge of inspection, repair and replacement of commercial vehicle tyres</td>
<td>3</td>
</tr>
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</table>
2 Centre requirements

Approval
Centres already approved to offer the Level 1 Certificate/Diploma in Vehicle Fitting – Tyre Fitting (4101-64) will be automatically approved to register and certificate candidates on the 4290-51 (unless the centre is already subject to sanctions).

For all other cases, centres will need to gain both centre and qualification approval. Please refer to the Centre Manual - Supporting Customer Excellence for further information. Centre staff should familiarise themselves with the structure, content and assessment requirements of the qualifications before designing a course programme.

Resource requirements

Physical resources and site agreements
Centres must have access to sufficient equipment in the college, training centre or workplace to ensure candidates have the opportunity to cover all of the practical activities.

Centre staffing
Staff delivering these qualifications must be able to demonstrate that they meet the following occupational expertise requirements. They should:

- be occupationally competent or technically knowledgeable in the area(s) for which they are delivering training and/or have experience of providing training. This knowledge must be to the same level as the training being delivered
- have recent relevant experience in the specific area they will be assessing
- have credible experience of providing training.

Centre staff may undertake more than one role, eg tutor and assessor or internal verifier, but cannot internally verify their own assessments.

Assessor and verifiers
While the Assessor/Verifier (A/V) units are valued as qualifications for centre staff, they are not currently a requirement for this qualification.

Continuing professional development (CPD)
Centres must support their staff to ensure that they have current knowledge of the occupational area, that delivery, mentoring, training, assessment and verification is in line with best practice, and that it takes account of any national or legislative developments.
Candidate entry requirements
City & Guilds does not set entry requirements for these qualifications. However, centres must ensure that candidates have the potential and opportunity to gain the qualifications successfully.

Please note that for funding purposes, candidates should not be entered for a qualification of the same type, content and level as that of a qualification they already hold.

Age restrictions
This qualification is accredited for candidates aged 16 years or older.
3 Delivering the qualification

Initial assessment and induction
An initial assessment of each candidate should be made before the start of their programme to identify:

- if the candidate has any specific training needs,
- support and guidance they may need when working towards their qualification.
- any units they have already completed, or credit they have accumulated which is relevant to the qualification.
- the appropriate type and level of qualification.

We recommend that centres provide an induction programme so the candidate fully understands the requirements of the qualification, their responsibilities as a candidate, and the responsibilities of the centre. This information can be recorded on a learning contract.

Support materials
The following resources are available for these qualifications:

<table>
<thead>
<tr>
<th>Description</th>
<th>How to access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centre handbook</td>
<td><a href="http://www.cityandguilds.com/automotive">www.cityandguilds.com/automotive</a></td>
</tr>
<tr>
<td>Practical assessment workbook</td>
<td><a href="http://www.cityandguilds.com/automotive">www.cityandguilds.com/automotive</a></td>
</tr>
</tbody>
</table>
4 Assessment

Assessment of the qualification
City & Guilds has written the following assessments to use with this qualification:

- Assignments (practical assessment workbooks) comprising of practical tasks and knowledge based questions to cover all learning outcomes graded Pass only. Assignments can be downloaded from www.cityandguilds.com/automotive. These assessments are carried out in centres and must be completed to current industry standards and practice. It is important to note that although the units within these qualifications bear a close relationship to the VCQ units, they do not imply occupational competence
- Multiple choice tests
- Short answer questions

Assessment requirements for all skills units are shown in full in our assessment documentation.

Full details of the assessment requirements relating to these qualifications can be obtained directly from the Institute of the Motor Industry (IMI) http://www.motor.org.uk

Time constraints
The following must be applied to the assessment of this qualification:

- Candidates must complete their assessments within their registration period.

Test specifications
Summary test specifications for all 4290 online tests can be found in the Automotive online test specifications document, downloadable from the 4290 website.

Recognition of prior learning (RPL)
Proxy units / credit transfer
Learners transferring from City & Guilds 4101 NQF qualifications or from another awarding organisation may be exempt from taking the 4290/4270/4291/4271 online multiple choice tests, on production of a valid certificate of equivalent units achieved. Proxy units are available in these circumstances. Please note that a certificate of unit credit (CUC) is not available when claiming a proxy unit. For more information on credit transfer please refer to our 9420 Automotive Apprenticeship Framework centre guide available from www.cityandguilds.com
<table>
<thead>
<tr>
<th>Unit</th>
<th>Level</th>
<th>Unit title</th>
<th>Credit value</th>
<th>Assessment method</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>2</td>
<td>Skills in health, safety and good housekeeping in the automotive environment</td>
<td>7</td>
<td>Assignment</td>
</tr>
<tr>
<td>031</td>
<td>1</td>
<td>Skills to support working relationships in the automotive work environment</td>
<td>3</td>
<td>Assignment</td>
</tr>
<tr>
<td>051</td>
<td>2</td>
<td>Knowledge of health, safety and good housekeeping in the automotive environment</td>
<td>3</td>
<td>Multiple Choice</td>
</tr>
<tr>
<td>081</td>
<td>1</td>
<td>Knowledge to support working relationships in the automotive work environment</td>
<td>3</td>
<td>Short answer questions</td>
</tr>
<tr>
<td>501</td>
<td>1</td>
<td>Skills in inspection, repair and replacement of standard light vehicle tyres</td>
<td>5</td>
<td>Assignment</td>
</tr>
<tr>
<td>503</td>
<td>1</td>
<td>Skills in inspection repair and replacement of commercial vehicle tyres</td>
<td>5</td>
<td>Assignment</td>
</tr>
<tr>
<td>544</td>
<td>1</td>
<td>Skills in receiving and storing stock</td>
<td>4</td>
<td>Assignment</td>
</tr>
<tr>
<td>551</td>
<td>1</td>
<td>Knowledge in inspection, repair and replacement of standard light vehicle tyres</td>
<td>3</td>
<td>Multiple Choice</td>
</tr>
<tr>
<td>553</td>
<td>1</td>
<td>Knowledge of inspection, repair and replacement of commercial vehicle tyres</td>
<td>3</td>
<td>Multiple Choice</td>
</tr>
<tr>
<td>594</td>
<td>1</td>
<td>Knowledge of receiving and storing stock</td>
<td>4</td>
<td>Multiple Choice</td>
</tr>
</tbody>
</table>
5 Units

Structure of units

These units each have the following:
- City & Guilds reference number
- unit accreditation number (UAN)
- title
- level
- credit value
- unit aim
- relationship to NOS
- learning outcomes which are comprised of a number of assessment criteria
- unit range.
Unit 001  
Skills in health, safety and good housekeeping in the automotive environment

UAN: Y/601/7254
Level: 2
Credit value: 7
GLH: 60

Relationship to NOS: This unit is linked to G1 Contribute to Housekeeping in Motor Vehicle Environment and G2 Reduce Risks to Health and Safety in the Motor Vehicle Environment.

Assessment requirements specified by a sector or regulatory body: This unit was developed by the IMI, the sector skills council for the automotive retail industry. All assessments have been developed in accordance with the IMI Assessment Requirements for VRQs.

Aim: This unit will enable the learner to develop the skills required to:

- carry out day to day work area cleaning, clearing away, dealing with spillages and disposal of waste, used materials and debris.
- identify hazards and risks in the automotive environment and complying with relevant legislation and good practice.
- work safely at all times within the automotive environment, both as an individual and with others.

Learning outcome | The learner will:
--- | ---
1 | be able to use correct personal and vehicle protection within the automotive environment

Assessment criteria

The learner can:

1.1 select and use personal protective equipment throughout activities. To include appropriate protection of:
    a. eyes
    b. ears
    c. head
    d. skin
    e. feet
    f. hands
Learning outcome | The learner will:
--- | ---
2. be able to carry out effective housekeeping practices in the automotive environment

**Assessment criteria**

The learner can:
2.1 select and use cleaning equipment which is of the right type and suitable for the task
2.2 use utilities and appropriate consumables, avoiding waste
2.3 use materials and equipment to carry out cleaning and maintenance duties in allocated work areas, following automotive work environment policies, schedules and manufacturers’ instructions
2.4 perform housekeeping activities safely and in a way which minimizes inconvenience to customers and staff
2.5 keep the work area clean and free from debris and waste materials
2.6 keep tools and equipment fit for purpose by regular cleaning and keeping tidy
2.7 dispose of used cleaning agents, waste materials and debris to comply with legal and workplace requirements.

Learning outcome | The learner will:
--- | ---
3. be able to recognise and deal with dangers in order to work safely within the automotive workplace

**Assessment criteria**

The learner can:
3.1 name and locate the responsible persons for health and safety in their relevant workplace
3.2 identify and report working practices and hazards which could be harmful to themselves or others
3.3 carry out safe working practices whilst working with equipment, materials and products in the automotive environment
3.4 rectify health and safety risks encountered at work, within the scope and capability of their job role.

Learning outcome | The learner will:
--- | ---
4. be able to conduct themselves responsibly

**Assessment criteria**

The learner can:
4.1 show personal conduct in the workplace which does not endanger the health and safety of themselves or others
4.2 display suitable personal presentation at work which ensures the health and safety of themselves and others at work.
Unit 031  
Skills to support working relationships in the automotive work environment

<table>
<thead>
<tr>
<th>UAN:</th>
<th>Y/601/6265</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level:</td>
<td>1</td>
</tr>
<tr>
<td>Credit value:</td>
<td>3</td>
</tr>
<tr>
<td>GLH:</td>
<td>27</td>
</tr>
<tr>
<td>Relationship to NOS:</td>
<td>This unit is linked to G3 Maintain Working Relationships in the Motor Vehicle Environment.</td>
</tr>
<tr>
<td>Assessment requirements specified by a sector or regulatory body:</td>
<td>This unit was developed by the IMI, the sector skills council for the automotive retail industry. All assessments have been developed in accordance with the IMI Assessment Requirements for VRQs.</td>
</tr>
</tbody>
</table>

**Aim:**
This unit will help the learner develop the skills required to keep good working relationships with all colleagues and customers in the automotive work environment by using effective communication and support.

### Learning outcome
The learner will:

1. be able to work effectively within the organisational structure of the automotive work environment

**Assessment criteria**

The learner can

1.1 show a prompt and willing response to requests from customers and colleagues in the work environment

1.2 refer customers and colleagues to the correct person should requests fall outside their responsibility and capability.

### Learning outcome
The learner will:

2. be able to obtain and use information in order to support their job role within the automotive work environment

**Assessment criteria**

The learner can

2.1 identify, locate and use relevant information, in an automotive work environment.
<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>The learner will:</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td>be able to communicate with and support colleagues and customers within the automotive work environment</td>
</tr>
</tbody>
</table>

**Assessment criteria**

The learner can
3.1 use methods of communication with customers and colleagues which meet their needs
3.2 give customers and colleagues accurate information
3.3 communicate with customers and colleagues clearly and courteously.

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>The learner will:</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.</td>
<td>be able to demonstrate good working relationships in the automotive work environment</td>
</tr>
</tbody>
</table>

**Assessment criteria**

The learner can
4.1 demonstrate positive team work within an automotive environment
4.2 treat customers and colleagues in a way which shows respect for their views and opinions
4.3 make and keep achievable commitments to customers and colleagues
4.4 identify and inform colleagues promptly of anything likely to affect their own work.
Unit 051  Knowledge of health, safety and good housekeeping in the automotive environment

UAN: D/601/6171
Level: 2
Credit value: 3
GLH: 30
Relationship to NOS: This unit is linked to G1 Contribute to Housekeeping in Motor Vehicle Environment and G2 Reduce Risks to Health and Safety in the Motor Vehicle Environment.
Assessment requirements specified by a sector or regulatory body: This unit was developed by the IMI, the sector skills council for the automotive retail industry. All assessments have been developed in accordance with the IMI Assessment Requirements for VRQs.

Aim: This unit enables the learner to develop an understanding of:

- routine maintenance and cleaning of the automotive environment and using resources economically
- health and safety legislation and duties of everyone in the motor vehicle environment. It will provide an appreciation of significant risks in the automotive environment and how to identify and deal with them. Once completed the learner will be able to identify hazards and evaluate and reduce risk.

Learning outcome The learner will:

| 1. understand the correct personal and vehicle protective equipment to be used within the automotive environment |

Assessment criteria

The learner can

1.1 explain the importance of wearing the types of PPE required for a range of automotive repair activities
1.2 identify vehicle protective equipment for a range of repair activities
1.3 describe vehicle and personal safety considerations when working at the roadside.
<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>The learner will:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>understand effective housekeeping practices in the automotive environment</td>
</tr>
</tbody>
</table>

**Assessment criteria**

<table>
<thead>
<tr>
<th>The learner can</th>
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</thead>
<tbody>
<tr>
<td>2.1</td>
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<td>2.2</td>
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<td>2.3</td>
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<td>2.4</td>
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<td>2.5</td>
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<td>2.6</td>
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<tr>
<td>2.7</td>
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</table>

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>The learner will:</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td>understand key health and safety requirements relevant to the automotive environment</td>
</tr>
</tbody>
</table>

**Assessment criteria**

<table>
<thead>
<tr>
<th>The learner can</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
</tr>
<tr>
<td>3.2</td>
</tr>
<tr>
<td>3.3</td>
</tr>
<tr>
<td>3.4</td>
</tr>
<tr>
<td>Learning outcome</td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td>4.</td>
</tr>
</tbody>
</table>

**Assessment criteria**

The learner can

<table>
<thead>
<tr>
<th>Assessment criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
</tr>
<tr>
<td>4.2</td>
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<tr>
<td>4.3</td>
</tr>
<tr>
<td>4.4</td>
</tr>
<tr>
<td>4.5</td>
</tr>
<tr>
<td>4.6</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>The learner will:</th>
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<tbody>
<tr>
<td>5.</td>
<td>understand personal responsibilities</td>
</tr>
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</table>

**Assessment criteria**

The learner can

<table>
<thead>
<tr>
<th>Assessment criteria</th>
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<tr>
<td>5.1</td>
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<td>5.2</td>
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</table>
Candidates will be assessed on the assessment criteria as specified within the unit. The following information has been provided by IMI SSC and is included to support centres in terms of teaching and delivery.

**Economic use of resources**
- Consumable materials eg grease, oils, split pins, locking and fastening devices.

**Requirement to maintain work area effectively**
- Cleaning tools and equipment to maximise workplace efficiency.
- Requirement to carry out the housekeeping activities safely and in a way that minimises inconvenience to customers and staff.
- Risks involved when using solvents and detergents.
- Advantages of good housekeeping.

**Spillages, leaks and waste materials**
- Relevance of safe systems of work to the storage and disposal of waste materials.
- Requirement to store and dispose of waste, used materials and debris correctly.
- Safe disposal of special / hazardous waste materials.
- Advantages of recycling waste materials.
- Dealing with spillages and leaks.

**Basic legislative requirements**
- Electricity at Work Regulations 1989.
- Noise at Work Regulations 1989.
- Abrasive Wheel Regulations.
- Safe Working Loads.
- Working at Height Regulations.

**Routine maintenance of the workplace**
- Trainee’s personal responsibilities and limits of their authority with regard to work equipment.
b. Risk assessment of the workplace activities and work equipment.
c. Workplace person responsible for training and maintenance of workplace equipment.
d. When and why safety equipment must be used.
e. Location of safety equipment.
f. Particular hazards associated with their work area and equipment.
g. Prohibited areas.
h. Plant and machinery that trainees must not use or operate.
i. Why and how faults on unsafe equipment should be reported.
j. Storing tools, equipment and products safely and appropriately.
k. Using the correct PPE.
l. Following manufacturers’ recommendations.
m. Location of routine maintenance information e.g. electrical safety check log.

**Legislation relevant to Health and Safety**

a. HASAWA.
b. COSHH.
c. EPA.
e. PPE Regulations 1992.

**General regulations** to include an awareness of:

b. Health and Safety (First Aid) Regulations 1981.
d. Health and Safety (Consultation with Employees) Regulations 1996.
g. Noise at Work Regulations 1989.
h. Electricity at Work Regulations 1989.
i. Electricity (Safety) Regulations 1994.
o. Control of Asbestos at Work Regulations 2002.

**Legislative duties**

a. The purpose of a Health and Safety Policy.
b. The relevance of the Health and Safety Executive.
c. The relevance of an initial induction to Health and Safety requirements at your workplace.
d. General employee responsibilities under the HASAWA and the consequences of non-compliance.
e. General employer responsibilities under the HASAWA and the consequences of non-compliance.
f. The limits of authority with regard to Health and Safety within a personal job role.
g. Workplace procedure to be followed to report Health and Safety matters.

**Precautions to be taken when working with vehicles, workshop materials, tools and equipment including electrical safety, pneumatics and hydraulics**

a. Accessing and interpreting safety information.
b. Seeking advice when needed.
c. Seeking assistance when required.
d. Reporting of unsafe equipment.
e. Storing tools, equipment and products safely and appropriately.
f. Using the correct PPE.
g. Following manufacturers’ recommendations.
h. Following application procedures e.g. hazardous substances.
i. The correct selection and use of extraction equipment.

**PPE to include:**

a. Typical maintenance procedures for PPE equipment to include:
   i. typical maintenance log
   ii. cleaning procedures
   iii. filter maintenance
   iv. variation in glove types
   v. air quality checks.
b. Choice and fitting procedures for masks and air breathing equipment
c. Typical workplace processes which would require the use of PPE to include:
   i. welding
   ii. sanding and grinding
   iii. filling
   iv. panel removal and replacement
   v. drilling
   vi. cutting
   vii. chiselling
   viii. removal of broken glass
   ix. removal of rubber seals from fire damaged vehicles
   x. removal of hypodermic needles
   xi. servicing activities
   xii. roadside recovery.
d. Unserviceable PPE.
e. PPE required for a range automotive repair activities. To include appropriate protection of:
   i. eyes
   ii. ears
   iii. head
   iv. skin
   v. feet
   vi. hands
   vii. lungs.

**Fire and extinguishers**
a. Classification of fire types.
b. Using a fire extinguisher effectively.
c. Types of extinguishers:
   i. foam
   ii. dry powder
   iii. CO2
   iv. water
   v. fire blanket.

**Action to be taken in the event of a fire** to include:

a. the procedure as:
   i. raise the alarm
   ii. fight fire only if appropriate
   iii. evacuate building
   iv. call for assistance.

**Product warning labels** to include:

a. reasons for placing warning labels on containers.
b. warning labels in common use:
   i. toxic
   ii. corrosive
   iii. poisonous
   iv. harmful
   v. irritant
   vi. flammable
   vii. explosive.

**Warning signs and notices**

a. Colours used for warning signs:
   i. red
   ii. blue
   iii. green.

b. Shapes and meaning of warning signs:
   i. round
   ii. triangular
   iii. square.

c. The meaning of prohibitive warning signs in common use.

d. The meaning of mandatory warning signs in common use.

e. The meaning of warning notices in common use.

f. General design of safe place warning signs.

**Hazards and risks** to include:

a. The difference between a risk and a hazard.

b. Potential risks resulting from:
   i. the use and maintenance of machinery or equipment
   ii. the use of materials or substances
   iii. accidental breakages and spillages
   iv. unsafe behaviour
   v. working practices that do not conform to laid down policies
   vi. environmental factors
vii. personal presentation
viii. unauthorised personnel, customers, contractors etc entering the work premises
ix. working by the roadside
x. vehicle recovery.

c. The employee’s responsibilities in identifying and reporting risks within their working environment.
d. The method of reporting risks that is outside own limits of authority.
e. Potential causes of:
   i. fire
   ii. explosion
   iii. noise
   iv. harmful fumes
   v. slips
   vi. trips
   vii. falling objects
   viii. accidents whilst dealing with broken down vehicles.

Personal responsibilities
a. The purpose of workplace policies and procedures on:
   i. the use of safe working methods and equipment
   ii. the safe use of hazardous substances
   iii. smoking, eating, drinking and drugs
   iv. emergency procedures
   v. personal appearance.
b. The importance of personal appearance in the control of health and safety.

Action to be taken in the event of colleagues suffering accidents
a. Typical sequence of events following the discovery of an accident such as:
   i. make the area safe
   ii. remove hazards if appropriate i.e. switch off power
   iii. administer minor first aid
   iv. take appropriate action to re-assure the injured party
   v. raise the alarm
   vi. get help
   vii. report on the accident.
b. Typical examples of first aid which can be administered by persons at the scene of an accident:
   i. check for consciousness
   ii. stem bleeding
   iii. keep the injured person’s airways free
   iv. place in the recovery position if injured person is unconscious
   v. issue plasters for minor cuts
   vi. action to prevent shock i.e. keep the injured party warm
   vii. administer water for minor burns or chemical injuries
   viii. wash eyes with water to remove dust or ingress of chemicals (battery acid)
   ix. need to seek professional help for serious injuries.
c. Examples of bad practice which may result in further injury such as:
   i. moving the injured party
ii. removing foreign objects from wounds or eyes  
iii. inducing vomiting  
iv. straightening deformed limbs.
## Unit 081
### Knowledge to support working relationships in the automotive work environment

<table>
<thead>
<tr>
<th>UAN:</th>
<th>F/601/6180</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level:</td>
<td>1</td>
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<tr>
<td>Credit value:</td>
<td>3</td>
</tr>
<tr>
<td>GLH:</td>
<td>28</td>
</tr>
<tr>
<td>Relationship to NOS:</td>
<td>This unit is linked to G3 Maintain Working Relationships in the Motor Vehicle Environment.</td>
</tr>
</tbody>
</table>

### Assessment requirements specified by a sector or regulatory body:
This unit was developed by the IMI, the sector skills council for the automotive retail industry. All assessments have been developed in accordance with the IMI Assessment Requirements for VRQs.

### Aim:
This unit enables the learner to develop an understanding of how to keep good working relationships with all colleagues in the automotive work environment by using effective communication and support skills.

### Learning outcome
The learner will:

1. know key organisational structures, functions and roles within the automotive work environment

### Assessment criteria
The learner can:

1.1 list the main sections which may be found within a typical automotive work environment

1.2 outline typical organisational structures and lines of communication within an automotive work environment. To include:
   - non franchised dealer
   - franchised dealer

1.3 state typical levels of responsibility within specific job roles in an automotive work environment. To include a:
   - trainee
   - skilled technician
   - supervisor.
<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>The learner will:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>know the importance of obtaining, interpreting and using information in order to support their job role within the automotive work environment</td>
</tr>
</tbody>
</table>

**Assessment criteria**

The learner can:

2.1 give examples of different sources of information and when they would be used within the automotive environment
2.2 give examples of the legal requirements relating to the use of a vehicle on the road, including safety requirements
2.3 state the importance of obtaining correct information and working to recognised procedures and processes
2.4 give examples of when replacement units and components must meet the original equipment specification
2.5 give examples of identification codes and how they are used.

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>The learner will:</th>
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<tbody>
<tr>
<td>3.</td>
<td>know where different types of communication within the automotive work environment can be used</td>
</tr>
</tbody>
</table>

**Assessment criteria**

The learner can:

3.1 give examples of alternative methods of communication and where they could be used within the automotive environment.

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>The learner will:</th>
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<tbody>
<tr>
<td>4.</td>
<td>know communication requirements when carrying out vehicle repairs in the automotive work environment</td>
</tr>
</tbody>
</table>

**Assessment criteria**

The learner can:

4.1 give examples of when it is important to communicate with a supervisor whilst carrying out repairs in the automotive environment
4.2 state the importance of keeping records of vehicle repair information
4.3 state why it is important to work to agreed timescales.

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>The learner will:</th>
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<tbody>
<tr>
<td>5.</td>
<td>know how to develop good working relationships with colleagues and customers in the automotive workplace</td>
</tr>
</tbody>
</table>

**Assessment criteria**

The learner can:

5.1 outline how to develop positive working relationships with colleagues and customers
5.2 give examples of why it is important to accept other peoples’ views and opinions within the workplace
5.3 state why it is important to make and honour realistic commitments to colleagues and customers.
Unit 081  
Knowledge to support working relationships in the automotive work environment

Supporting information

Candidates will be assessed on the assessment criteria as specified within the unit. The following information has been provided by IMI SSC and is included to support centres in terms of teaching and delivery.

Sections within a typical vehicle repair business
a. Reception.
b. Body shop.
c. Service repair workshop.
d. Valeting.
e. Parts.
f. Sales.
g. Administration.

Different sources of information in an automotive work environment.
a. Other staff.
b. Manuals.
c. Parts list.
e. Manufacturer.
f. Diagnostic equipment.

Locating and using correct documentation and information for:
a. Recording vehicle maintenance and repairs.
b. Vehicle specifications.
c. Component specifications.
d. Oil and fluid specifications.
e. Equipment and tools.
f. Identification codes.

Alternative methods of communication
a. Verbal.
b. Signs and notices.
c. Memos.
d. Telephone.
e. Electronic mail.
f. Vehicle job card.
g. Notice boards.
h. SMS text messaging.
Communication with a supervisor
a. Referral of problems.
b. Reporting delays.
c. Additional work identified during repair or maintenance.
d. Keep others informed of progress.

Agreed timescales
a. Relationship between time and cost.
b. Customer expectation.
Unit 501  
Skills in inspection, repair and replacement of standard light vehicle tyres

<table>
<thead>
<tr>
<th>UAN:</th>
<th>H/601/6091</th>
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</thead>
<tbody>
<tr>
<td>Level:</td>
<td>1</td>
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<tr>
<td>Credit value:</td>
<td>5</td>
</tr>
<tr>
<td>GLH:</td>
<td>46</td>
</tr>
<tr>
<td>Relationship to NOS:</td>
<td>This unit is linked to VF01S Demonstrating Skills in Inspection, Repair and Replacement of Standard Light Vehicle Tyres.</td>
</tr>
<tr>
<td>Assessment requirements specified by a sector or regulatory body:</td>
<td>This unit was developed by the IMI, the sector skills council for the automotive retail industry. All assessments have been developed in accordance with the IMI Assessment Requirements for VRQs.</td>
</tr>
</tbody>
</table>
| Aim:          | The learner will:  
 1. be able to work safely when carrying out removal and replacement activities  

  **Assessment criteria**  
The learner can:  
1.1 use suitable personal protective equipment and vehicle coverings when working on vehicles  
1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment.

  **Learning outcome**  
The learner will:  
2. be able to use light vehicle tyre inspection techniques  

  **Assessment criteria**  
The learner can:  
2.1 carry out inspection of wheels and tyres using appropriate techniques, suitable tools, equipment and manufacturers instructions where relevant. To include:  
  a. visual inspection  
  b. measurement of tread depth  
  c. tyre pressures  
  d. balance.
<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>The learner will:</th>
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<tbody>
<tr>
<td>3.</td>
<td>be able to carry out the repair and replacement of standard light vehicle tyres</td>
</tr>
</tbody>
</table>

**Assessment criteria**

The learner can:

3.1 carry out tyre repair activities within appropriate timescales, using:
   a. suitable tools and equipment
   b. correct repair and replacement techniques
   c. correct type and size of replacement components
   d. correct materials

3.2 carry out tyre replacement activities within appropriate timescales.

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>The learner will:</th>
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<tbody>
<tr>
<td>4.</td>
<td>be able to balance wheels and carry out final checks on the vehicle</td>
</tr>
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</table>

**Assessment criteria**

The learner can:

4.1 carry out wheel balancing to within acceptable limits

4.2 carry out final vehicle safety checks in the workshop, prior to releasing the vehicle to the customer.

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<tr>
<th>Learning outcome</th>
<th>The learner will:</th>
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<tbody>
<tr>
<td>5.</td>
<td>be able to record information and make suitable recommendations</td>
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</table>

**Assessment criteria**

The learner can:

5.1 produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required

5.2 make suitable and justifiable recommendations for cost effective repairs

5.3 record and report any additional faults noticed during the course of their work promptly in the format required.
# Unit 503 Skills in inspection repair and replacement of commercial vehicle tyres

**UAN:** M/601/6093  
**Level:** 1  
**Credit value:** 5  
**GLH:** 44  
**Relationship to NOS:** This unit is linked to VF03S Demonstrating Skills in Inspection, Repair and Replacement of Commercial Vehicle Tyres  
**Assessment requirements specified by a sector or regulatory body:** This unit was developed by the IMI, the sector skills council for the automotive retail industry. All assessments have been developed in accordance with the IMI Assessment Requirements for VRQs.

**Aim:** This unit will help the learner to develop the skills required to inspect, fit, repair and maintain tyres on medium and large commercial vehicles (3500kg gross vehicle mass and above).

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>The learner will:</th>
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<tbody>
<tr>
<td>1.</td>
<td>be able to work safely when carrying out removal and replacement activities</td>
</tr>
</tbody>
</table>

**Assessment criteria**  
The learner can:  
1.1 use suitable personal protective equipment and vehicle coverings when working on vehicles  
1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment.

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<tr>
<th>Learning outcome</th>
<th>The learner will:</th>
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<tbody>
<tr>
<td>2.</td>
<td>be able to inspect commercial vehicle wheels and tyres</td>
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</table>

**Assessment criteria**  
The learner can:  
2.1 inspect commercial vehicle wheels and tyres using appropriate techniques, suitable tools, equipment, technical information and manufacturers instructions where relevant. To include:  
a. visual inspection  
b. measurement of tread depth  
c. tyre pressures.
<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>The learner will:</th>
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<tbody>
<tr>
<td>3.</td>
<td>be able to carry out the repair and replacement of commercial vehicle tyres, wheels and tubes</td>
</tr>
</tbody>
</table>

**Assessment criteria**

<table>
<thead>
<tr>
<th>The learner can:</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 carry out tyre repair activities within appropriate timescales using:</td>
</tr>
<tr>
<td>a. suitable tools and equipment</td>
</tr>
<tr>
<td>b. correct repair techniques</td>
</tr>
<tr>
<td>c. correct type and size of replacement components</td>
</tr>
<tr>
<td>d. correct materials</td>
</tr>
<tr>
<td>3.2 carry out tyre replacement activities within appropriate timescales</td>
</tr>
<tr>
<td>3.3 carry out final checks to ensure that replaced and refitted tyres and valves are correctly fitted and conform to legal requirements prior to releasing the vehicle to the customer.</td>
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<thead>
<tr>
<th>Learning outcome</th>
<th>The learner will:</th>
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<tbody>
<tr>
<td>4.</td>
<td>be able to carry out tread regrooving on commercial vehicle tyres</td>
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</table>

**Assessment criteria**

<table>
<thead>
<tr>
<th>The learner can:</th>
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<tbody>
<tr>
<td>4.1 carry out tread re-grooving on suitable tyres, complying with legal requirements using:</td>
</tr>
<tr>
<td>a. suitable tools and equipment</td>
</tr>
<tr>
<td>b. correct re-grooving techniques</td>
</tr>
<tr>
<td>c. suitable personal protection</td>
</tr>
<tr>
<td>4.2 carry out final checks to ensure that re-grooved tyres meet manufacturer’s and legal requirements prior to release to the customer.</td>
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</table>

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>The learner will:</th>
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<tbody>
<tr>
<td>5.</td>
<td>be able to record information and make suitable recommendations</td>
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**Assessment criteria**

<table>
<thead>
<tr>
<th>The learner can:</th>
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<tr>
<td>5.1 produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required</td>
</tr>
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<td>5.2 make suitable and justifiable recommendations for cost effective repairs</td>
</tr>
<tr>
<td>5.3 record and report any additional faults noticed during the course of their work promptly in the format required.</td>
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</tbody>
</table>
Unit 544 **Skills in receiving and storing stock**

**Aim:** This unit will help the learner to develop the skills required to:
- receive parts into storage
- put them into the required location
- update stock control systems
- complete documentation in a dealership, fast fit centre, parts distribution centre or similar situation

**Learning outcome** | **The learner will:**
---|---
1. | be able to accept parts deliveries

**Assessment criteria**

The learner can:

1.1 ensure that parts delivered conform to the type, quality and quantity expected

1.2 report any discrepancies in deliveries and storage to the relevant person promptly

1.3 identify and use location systems and place parts in the appropriate location for storage

1.4 store parts in a way that makes the best use of the space available and conforms to relevant regulations and practice and conforms with stock rotation requirements

1.5 follow relevant safe working practices associated with receiving of parts and the storage of parts.
<table>
<thead>
<tr>
<th><strong>Learning outcome</strong></th>
<th><strong>The learner will:</strong></th>
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<tbody>
<tr>
<td>2.</td>
<td>be able to deal with stock control systems and documentation</td>
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</table>

**Assessment criteria**

<table>
<thead>
<tr>
<th>The learner can:</th>
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<td>2.1</td>
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<td>2.2</td>
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## Unit 551

**Knowledge in inspection, repair and replacement of standard light vehicle tyres**

<table>
<thead>
<tr>
<th>UAN:</th>
<th>D/601/6025</th>
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<tbody>
<tr>
<td>Level:</td>
<td>1</td>
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<td>Credit value:</td>
<td>3</td>
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<tr>
<td>GLH:</td>
<td>24</td>
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<tr>
<td>Relationship to NOS:</td>
<td>This unit is linked to VF02K Knowledge of Inspection, Repair and Replacement of High Performance Light Vehicle Tyres.</td>
</tr>
</tbody>
</table>

**Assessment requirements specified by a sector or regulatory body:**
This unit was developed by the IMI, the sector skills council for the automotive retail industry. All assessments have been developed in accordance with the IMI Assessment Requirements for VRQs.

**Aim:**
This unit will help the learner to develop an understanding of inspecting, fitting, repairing and maintaining standard light vehicle tyres and wheels.

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>The learner will:</th>
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<tbody>
<tr>
<td>1.</td>
<td>know about light vehicle standard tyre’s legislation and special workplace procedures</td>
</tr>
</tbody>
</table>

**Assessment criteria**
The learner can:

1.1 state the main purpose of tyres
1.2 identify the different types of standard light vehicle wheel and rim construction
1.3 identify the types and application of light vehicle tyre construction
1.4 state the legal requirements for light vehicle tyres
1.5 state the relevant parts of the British and European Standard for the repair of light vehicle tyres
1.6 give examples of how to deal with specialist waste materials in their workplace.
### Learning outcome
2. Know about materials used in the repair of light vehicle tyres

### Assessment criteria
The learner can:
2.1 List and name the tools and equipment used when working with light vehicle tyres. To include:
   - a. Lifting and supporting equipment
   - b. Tyre fitting and removal tools and machinery
   - c. Hand tools
   - d. Tyre repair tools
   - e. Measuring equipment
   - f. Wheel balancing equipment
   - g. Tyre inflation equipment
2.2 Give examples of how to select, prepare and use the equipment. To include the need for accurate calibration
2.3 State specialist maintenance requirements of wheel balancing and tyre removal and refitting machinery

### Learning outcome
3. Know about the inspection, removal and replacement of light vehicle tyres

### Assessment criteria
The learner can:
3.1 State the types of repair materials available. To include:
   - a. Rubber only plug patch
   - b. Rubber only patch and filler material
   - c. Solutions and chemicals.
3.2 Give examples of when and how repair materials should be used

### Learning outcome
4. Know about the tools and equipment used when working with light vehicle tyres

### Assessment criteria
The learner can:
4.1 List the tools and equipment used when working with standard light vehicle tyres
4.2 State specialist maintenance requirements of wheel balancing and tyre removal and refitting machinery.
Unit 551 Knowledge in inspection, repair and replacement of standard light vehicle tyres

Supporting information

Candidates will be assessed on the assessment criteria as specified within the unit. The following information has been provided by IMI SSC and is included to support centres in terms of teaching and delivery.

Types of tyre construction to include:
- Directional tread
- Asymmetric tread
- Composite tread
- High speed ratings (V, W, Y or ZR ratings)
- An aspect ratio of 55% or below
- Run flat capability

Main purpose of tyres
- Interaction between tyres, other components and vehicle handling.
- Steering, drive and suspension.
- Passenger comfort.

Types of standard light vehicle wheel and rim construction
- Light alloy, pressed steel and wire wheels.
- Standard and safety rims.
- Asymmetric rims
- Space saver rims

Markings on standard light vehicle tyres
- Speed rating.
- Size Markings.
- Aspect ratio.
- Load handling.
- Ply rating.
- Tread wear indicators.
- EC markings and specialist application markings e.g. ‘M&S’.

Inspection and fault identification methods and procedures
- Inspection:
  i. on the rim visual (external)
  ii. removed from wheel (internal).
- Use of tread depth indicators, tyre probes and pressure gauges.
- Information sources including tyre and vehicle manufacturers’ technical data.

Limits of standard light vehicle tyre wear and serviceability
a. Tread depth and tyre damage.
b. Limitations under BS159 and Construction & Use Regulations.
c. Tyre pressure and maintenance requirements.
d. Suitability for minor repairs.

Common faults associated with standard light vehicle tyres and wheels
a. Excessive tyre wear and abnormal tread wear patterns (centre, outer edges, worn patches).
b. Damage to tread or side walls.
c. Bulging, separation of tread, carcass distortion.
d. Impact damage, wheels running out of true, buckled wheels.
e. Incorrect tyre pressure.
f. Wrong tyre for vehicle or run flat.

Methods and materials used in the repair of standard light vehicle tyres
a. Tyre inspection.
b. Damage limitation.
c. Accurate measurement.
d. Repair techniques and methods:
   i. preparation of tyre
   ii. mechanical and chemical buffing.
e. Repair materials:
   i. plug patch
   ii. patch and filler
   iii. solutions and chemicals.
f. Economic use of materials.
g. Correct storage of materials (including shelf life).
h. Repair Materials:
   i. rubber only plug patch
   ii. rubber only patch and filler material
   iii. solutions and chemicals.

Tools and equipment used to include:
a. Lifting and supporting equipment.
b. Tyre fitting and removal tools and machinery.
c. Hand tools.
d. Tyre repair tools.
e. Measuring equipment.
f. Wheel balancing equipment.
g. Tyre inflation equipment.

Principles of interchanging tyres/wheels
a. Over sizing tyre/wheel fitment.
b. Longitudinal and diagonal mixing radial, cross-ply and bias-belted
   Tyres on same axle or different axles.

Removal and fitting methods to include:
a. Tyre sidewall fitting instructions.
b. Vehicle protection.
c. Use of hand and impact tools.
d. Correct tyre inflation.
e. Final inspection.

**Dealing with waste materials** including:
- Scrapped tyres.
- Repair materials.
- Wheel weights.

**Legal Requirements** to include:
- Tread depth.
- Tyre wall and casing damage.
- Tyre pressure.
- Mixing of tyre types.
- Correct fitting.
# Unit 553

**Knowledge of inspection, repair and replacement of commercial vehicle tyres**

<table>
<thead>
<tr>
<th>UAN:</th>
<th>L/601/6036</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level:</td>
<td>1</td>
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<tr>
<td>Credit value:</td>
<td>3</td>
</tr>
<tr>
<td>GLH:</td>
<td>26</td>
</tr>
<tr>
<td>Relationship to NOS:</td>
<td>This unit is linked to VF03 Knowledge of Inspection, Repair and Replacement of Commercial Vehicle Tyres.</td>
</tr>
</tbody>
</table>

**Assessment requirements specified by a sector or regulatory body:**
This unit was developed by the IMI, the sector skills council for the automotive retail industry. All assessments have been developed in accordance with the IMI Assessment Requirements for VRQs.

**Aim:**
This unit enables the learner to develop and understanding of inspecting, fitting, repairing and maintaining tyres on medium and large commercial vehicles (3500kg gross vehicle mass and above).

## Learning outcome

<table>
<thead>
<tr>
<th>The learner will:</th>
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<tbody>
<tr>
<td>1. understand commercial vehicle wheel and tyre construction, legislation and special workplace procedures</td>
</tr>
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</table>

## Assessment criteria

<table>
<thead>
<tr>
<th>The learner can:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 state the purpose, function and construction of commercial vehicle wheels and tyres</td>
</tr>
<tr>
<td>1.2 state the current legal requirements for commercial vehicle tyres</td>
</tr>
<tr>
<td>1.3 state the relevant parts of the prevailing British and European Standard for the repair of commercial vehicle tyres</td>
</tr>
<tr>
<td>1.4 give examples of how to deal with specialist waste materials in their workplace</td>
</tr>
<tr>
<td>1.5 outline manufacturers' recommendations on the 'repairability' of their tyres.</td>
</tr>
<tr>
<td>Learning outcome</td>
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<td>------------------</td>
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<tr>
<td>2.</td>
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</table>

**Assessment criteria**

The learner can:

2.1 give examples of how to select, prepare and use tools and equipment appropriate to working with commercial vehicle tyres

2.2 state specialist maintenance requirements of commercial vehicle wheel and tyre removal and refitting machinery.

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>The learner will:</th>
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<tbody>
<tr>
<td>3.</td>
<td>understand the construction of, and the materials used in the manufacture and repair of commercial vehicle tyres</td>
</tr>
</tbody>
</table>

**Assessment criteria**

The learner can:

3.1 state the types of repair materials available and when they should be used

3.2 state the difference between a ‘remould’ and a ‘recut’ when applied to commercial vehicle tyre.

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>The learner will:</th>
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<tbody>
<tr>
<td>4.</td>
<td>understand how to inspect, remove, repair and replace of commercial vehicle tyres</td>
</tr>
</tbody>
</table>

**Assessment criteria**

The learner can:

4.1 state the different types of commercial vehicle tyre valve and their installation techniques

4.2 state the meaning of markings on commercial vehicle tyres and where these can be found

4.3 state the inspection and fault identification methods and procedures associated with commercial vehicle tyres

4.4 give examples of the common faults associated with commercial vehicle tyres and wheels

4.5 describe commercial vehicle tyre, tube and wheel and rim removal and refitting methods and procedures

4.6 outline the principles of wheel balancing. To include:
   a static balancing
   b dynamic balancing

4.7 state the process to re-groove a commercial vehicle tyre.
Unit 553 Knowledge of inspection, repair and replacement of commercial vehicle tyres

Supporting information

Candidates will be assessed on the assessment criteria as specified within the unit. The following information has been provided by IMI SSC and is included to support centres in terms of teaching and delivery.

Tyre construction
a. Radial.
b. Diagonal (cross) ply.
c. Tube type.
d. Tubeless.
e. Tread designs (e.g. traction, steer, universal).

Types of commercial vehicle wheel and rim construction
a. 15° Drop centre rims with diameter codes of 17.5, 19.5, 22.5.
b. 15° EVA/EVH Drop centre rims.
c. 15° Wide single drop centre rims.
d. Wide base or semi drop centre split rims.
e. British Standard conical, DIN spherical and ISO Metric wheel fixings.
f. Heavy commercial valves.

Tools and equipment used to identify faults or serviceability
a. Tyre safety inflation equipment (e.g. safety cages, portable ‘H’ cages and ‘bag-it’ type devices).
b. Tyre tread depth gauges.
c. Tyre probes.
d. Bead spreaders.
e. Tyre pressure gauges.
f. Hand lamps or torches.
g. Stud hole gauges.

Re-fitting and removal methods and procedures for commercial tyres, tubes, wheels and rims
a. Fitting instructions.
b. Vehicle protection.
c. Use of impact tools.
d. Correct tyre safety inflation.
e. Final inspection.

Tools, equipment and information used for removal and replacement of commercial wheels, tyres and tubes
a. Technical information relating to safe jacking points and wheel torque/tyre pressure data.
b. Equipment for securing the vehicle and making the area safe (e.g. wheel chocks, traffic cones, ‘Do Not Move’ signs).
c. Jacks, axle/chassis stands, loading boards.
e. Bead unseating tools inc specialist tools for EVA/EVH rims, tyre levers, lock-ring levers, bead lubricant, and tyre stands.
f. Tyre inflation equipment, safety inflation equipment (e.g. safety cages, portable ‘H’ cages and ‘bag-it’ type devices).

Tools and equipment used:
a. Tyre re-grooving equipment.
b. Tyre safety inflation equipment.
c. Specialist bead and unseating tools for external valve aperture (EVA) and hole (EVH).

Inspection and fault identification methods and procedures
a. Fault identification coverage.
b. Accurate measurement.
c. Adjustments to acceptable tolerances for the vehicle.
d. Inspection:
   i. on the rim visual (external)
   ii. removed from wheel (internal).
e. Use of tread depth indicators, tyre probes and pressure gauges.
f. Information sources including tyre and vehicle manufacturers’ technical data.

Common faults associated with commercial vehicle tyres and wheels
a. Worn tread through normal use.
b. Abnormal wear (e.g. camber, wheel misalignment, incorrect twinning, worn dampers, braking flatspots, over/under-inflation).
c. Carcass damage (e.g. lumps/bulges, cuts, exposed cords, run-flat damage, penetrations, chemical damage).
d. Incorrect fitment (e.g. load rating, speed rating, size, construction).
e. Worn or damaged wheels and components (e.g. cracks, elongated or worn stud holes, deformations).
f. Worn, damaged or incorrect wheel fixings.
g. Worn or damaged valves.
h. Worn, damaged or incorrect tubes and flaps.

Tools, equipment and information used for minor repairs to tyres and tubes
a. Technical information relating to minor repair areas, repair unit application instructions and injury limitations.
b. Suitable personal protective equipment for tyre and inner tube repairing.
c. Measuring equipment for determining repairable areas.
d. Reamers, buffers and tyre bead spreaders.
e. Plug patch applicators, tyre probes, cover scrapers, roller stitchers, pliers and side cutters.
f. Liquid buffing solutions, chemical vulcanising fluids, liner seal solutions and tyre talc (French Chalk).
g. Combination plug/patches, patch and filler materials, inner tube patches.

Methods and materials used in the repair of commercial vehicle tyres
a. Internal inspection of tyre for secondary damage.
b. Preparation of the tyre for application of repair materials.
c. Preparation of inner tube for application of repair materials.
d. Inspection of tyre and tube after repair.
e. Correct storage of materials (including shelf life).
f. Inflation of tyre and tube to check for leaks.
g. Repair Materials:
   i. rubber only plug patch
   ii. rubber only patch and filler material
   iii. solutions and chemicals.

Tools and equipment used for regrooving of heavy commercial tyres
a. Technical information relating to heavy commercial vehicle tyre regrooving.
b. Suitable personal protective equipment for regrooving.
c. Measuring equipment for determining tread depths and blade settings.
d. Tyre probes, regrooving equipment, tyre regrooving stand.
e. Cutting blades.

Methods used to carry out regrooving to heavy commercial tyres
a. Inspection of tyre for damage and suitability for regrooving.
b. Tread measurement to determine blade depth setting.
c. Preparation of tyre for regrooving.
d. Regrooving following manufacturer’s instructions and legal requirements.
e. Inspection of tyre following regrooving.

Dealing with waste materials including:
a. Scrapped tyres.
b. Repair materials.
c. Wheel weights.

Legal Requirements to include:
a. Tread depth.
b. Tyre wall and casing damage.
c. Tyre pressure.
d. Mixing of tyre types.
e. Re-grooving legislation.
## Unit 594 Knowledge of receiving and storing stock

<table>
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<tr>
<th>UAN:</th>
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<tr>
<td>Level:</td>
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<td>Credit value:</td>
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<td>GLH:</td>
<td>28</td>
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</table>

**Relationship to NOS:** This unit is linked to VF44 Knowledge of Receiving and Storing Stock.

**Assessment requirements specified by a sector or regulatory body:** This unit was developed by the IMI, the sector skills council for the automotive retail industry. All assessments have been developed in accordance with the IMI Assessment Requirements for VRQs.

**Aim:** This unit enables the learner to develop an understanding of:
- receiving parts into storage,
- putting parts into the required location,
- updating stock control systems
- completing documentation in a dealership, fast fit centre, parts distribution centre or similar situation.

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>The learner will:</th>
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<tbody>
<tr>
<td>1.</td>
<td>know about parts management systems and procedures</td>
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</tbody>
</table>

**Assessment criteria**

The learner can:

1.1 state systems and procedures for:
   a. the receipt and storage of goods, including ‘special order’ parts
   b. parts storage, rotation and management
   c. update of stock records
   d. completion of parts receipt and storage documentation
   e. reporting damage or incomplete deliveries

1.2 describe to whom discrepancies and storage problems should be reported

1.3 give examples of the differing security, safety (COSHH) and environmental conditions required for parts storage

1.4 state the requirements for and the importance of, wearing personal protective equipment when handling and moving parts

1.5 state the costs associated with damaged parts and why it is important that damaged parts are reported promptly.
<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>The learner will:</th>
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<tbody>
<tr>
<td>2.</td>
<td>know about parts handling and storage</td>
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</table>

**Assessment criteria**

<table>
<thead>
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<th>The learner can:</th>
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</table>
Supporting information

Candidates will be assessed on the assessment criteria as specified within the unit. The following information has been provided by IMI SSC and is included to support centres in terms of teaching and delivery.

Different types of storage equipment available in a Fast Fit Centre, to include:

- Adjustable storage racking.
- Tyre racking.
- Exhaust racking.
- Drawers.
- Wall bins.
- Battery storage.
- Lockable cabinets.

The types of stock can be stored with each type of storage equipment.

Reasons for stock rotation; methods of identifying stock location

Storage of:

- Tyres.
- Exhaust Components.
- Batteries.
- Brake Parts.
- Oil.

Workplace procedures for receipt of parts

- Routine deliveries.
- Shortages.
- Damage.
- Heavy or Bulky items.

Administrative procedures

- Updating stock records.
- Reporting damage or incomplete deliveries.
- Special order parts.
Appendix 1  Sources of general information

The following documents contain essential information for centres delivering City & Guilds qualifications. They should be referred to in conjunction with this handbook. To download the documents and to find other useful documents, go to the **Centres and Training Providers homepage** on [www.cityandguilds.com](http://www.cityandguilds.com).

**Centre Manual - Supporting Customer Excellence** contains detailed information about the processes which must be followed and requirements which must be met for a centre to achieve ‘approved centre’ status, or to offer a particular qualification, as well as updates and good practice exemplars for City & Guilds assessment and policy issues. Specifically, the document includes sections on:

- The centre and qualification approval process
- Assessment, internal quality assurance and examination roles at the centre
- Registration and certification of candidates
- Non-compliance
- Complaints and appeals
- Equal opportunities
- Data protection
- Management systems
- Maintaining records
- Assessment
- Internal quality assurance
- External quality assurance.

**Access to Assessment & Qualifications** provides full details of the arrangements that may be made to facilitate access to assessments and qualifications for candidates who are eligible for adjustments in assessment.

The **centre homepage** section of the City & Guilds website also contains useful information such on such things as:

- **Walled Garden**: how to register and certificate candidates on line
- **Qualifications and Credit Framework (QCF)**: general guidance about the QCF and how qualifications will change, as well as information on the IT systems needed and FAQs
- **Events**: dates and information on the latest Centre events
- **Online assessment**: information on how to register for GOLA/e-volve assessments.
Useful contacts

UK learners
General qualification information
T: +44 (0)844 543 0033
E: learnersupport@cityandguilds.com

International learners
General qualification information
T: +44 (0)844 543 0033
F: +44 (0)20 7294 2413
E: intcg@cityandguilds.com

Centres
Exam entries, Certificates, Registrations/enrolment, Invoices, Missing or late exam materials, Nominal roll reports, Results
T: +44 (0)844 543 0000
F: +44 (0)20 7294 2413
E: centresupport@cityandguilds.com

Single subject qualifications
Exam entries, Results, Certification, Missing or late exam materials, Incorrect exam papers, Forms request (BB, results entry), Exam date and time change
T: +44 (0)844 543 0000
F: +44 (0)20 7294 2404 (BB forms)
E: singlesubjects@cityandguilds.com

International awards
Results, Entries, Enrolments, Invoices, Missing or late exam materials, Nominal roll reports
T: +44 (0)844 543 0000
F: +44 (0)20 7294 2413
E: intops@cityandguilds.com

Walled Garden
Re-issue of password or username, Technical problems, Entries, Results, GOLA, Navigation, User/menu option, Problems
T: +44 (0)844 543 0000
F: +44 (0)20 7294 2413
E: walledgarden@cityandguilds.com

Employer
Employer solutions, Mapping, Accreditation, Development Skills, Consultancy
T: +44 (0)121 503 8993
E: business@cityandguilds.com

Publications
Logbooks, Centre documents, Forms, Free literature
T: +44 (0)844 543 0000
F: +44 (0)20 7294 2413

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City & Guilds
1 Giltspur Street
London EC1A 9DD
T +44 (0)844 543 0000
F +44 (0)20 7294 2413
www.cityandguilds.com

WW-06-4290