

# Specification

**Edexcel BTEC Level 2 and Level 3 Diploma in  
Body Building Principles (QCF)**

**Edexcel Level 2 and Level 3 Diploma in  
Body Building Competence (QCF)**

First registration November 2011



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## Qualification titles covered by this specification

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This specification gives you the information you need to offer the Edexcel Principles and Competence qualifications in Body Building (QCF) at Levels 2 and 3.

| <b>Qualification title</b>                                     | <b>Qualification Number (QN)</b> | <b>Operational start date</b> |
|--|----------------------------------|-------------------------------|
| Edexcel BTEC Level 2 Diploma in Body Building Principles (QCF) | 600/3580/8                       | 01/11/2011                    |
| Edexcel Level 2 Diploma in Body Building Competence (QCF)      | 600/3552/3                       | 01/11/2011                    |
| Edexcel BTEC Level 3 Diploma in Body Building Principles (QCF) | 600/3553/5                       | 01/11/2011                    |
| Edexcel Level 3 Diploma in Body Building Competence (QCF)      | 600/3555/9                       | 01/11/2011                    |

These qualifications have been accredited within the Qualifications and Credit Framework (QCF) and are eligible for public funding as determined by the Department for Education (DfE) under Section 96 of the Learning and Skills Act 2000.

The qualification titles listed above feature in the funding lists published annually by the DfE and the regularly updated website. They will also appear on the Learning Aim Reference Application (LARA), where relevant.

You should use the QCF Qualification Number (QN), when you wish to seek public funding for your learners. Each unit within a qualification will also have a unique QCF unit reference number, which is listed in this specification.

The QCF qualification title and unit reference numbers will appear on the learners' final certification document. Learners need to be made aware of this when they are recruited by the centre and registered with Edexcel.

# Key features of the Edexcel Principles and Competence qualifications in Body Building (QCF) at Level 2 and Level 3

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These qualifications:

- are nationally recognised
- are based on the Body Building National Occupational Standards (NOS). The NOS, assessment strategy and qualification structure(s) are owned by the Sector Skills Council The Institute of the Motor Industry (IMI).

The Edexcel BTEC Level 2 Diploma in Body Building Principles (QCF) and the Edexcel Level 2 Diploma in Body Building Competence (QCF) have been approved as components of the Intermediate Apprenticeship in Vehicle Body and Paint – Pathway 2 Body Building.

The Edexcel BTEC Level 3 Diploma in Body Building Principles (QCF) and the Edexcel Level 3 Diploma in Body Building Competence (QCF) have been approved as components of the Advanced Apprenticeship in Vehicle Body and Paint – Pathway 2 Body Building.

## What is the purpose and benefits of these qualifications?

These qualifications give learners flexible access to industry supported Level 2 and 3 skills programmes, which act as a real alternative to academic qualifications for those who prefer this style of learning and achievement. As part of apprenticeship frameworks, the qualification supports learners in providing a career pathway into jobs and training at technician level and higher.

Learners will have the opportunity to learn and demonstrate their skills, knowledge and competence in assessing and repairing the damage, restoring body and paintwork on a range of light and heavy vehicles.

## Who are these qualifications for?

These qualifications are for all learners aged 16 and above who are capable of reaching the required standards.

Edexcel's policy is that the qualifications should:

- be free from any barriers that restrict access and progression
- ensure equality of opportunity for all wishing to access the qualifications.

Centres should be aware that within the Level 2 qualifications in this specification, learners will be required to meet the demands of units at Level 3. Centres are advised to consider the support, guidance and opportunities they give to learners to meet the demands of the higher level units during delivery and assessment of the qualification.



**What are the potential job roles for those working towards these qualifications?**

- Body Building Technician
- Senior Body Building Technician

**What progression opportunities are available to learners who achieve these qualifications?**

Learners can progress on to other Edexcel automotive apprenticeship programmes and/or related qualifications detailed in *Annexe A*. Other progression routes include: further work or work experience, academic qualification(s) such as one or more GCSEs, higher education programmes and/or Foundation Degree, or employment in a range of jobs at Level 2 and 3.

# What is the qualification structure for the Edexcel BTEC Level 2 Diploma in Body Building Principles (QCF)?

A minimum of 50 credits is required to achieve this qualification. 18 credits from the mandatory generic units in Group A, 28 credits from the mandatory specialist units in Group B and a minimum of 4 credits from one of the 4 option groups in Group C.

Individual units can be found in the *Units* section.

| Unit No.  | Unit Reference No. | Unit Title   | Credit | Level |
|---|--------------------|--|--------|-------|
| <b>Group A – Mandatory generic units</b>          |                    |  |        |       |
| Learners must achieve 18 credits from this group. |                    |  |        |       |
| 1   | D/601/6171         | Knowledge of Health, Safety and Good Housekeeping in the Automotive Environment                                    | 3      | 2     |
| 2   | Y/601/7254         | Skills in Health, Safety and Good Housekeeping in the Automotive Environment                                       | 7      | 2     |
| 3   | J/601/6262         | Skills in Supporting Job Roles in the Automotive Work Environment  | 5      | 3     |
| 4   | T/601/6175         | Knowledge of Support for Job Roles in the Automotive Work Environment  | 3      | 3     |
| <b>Group B – Mandatory specialist units</b>       |                    |  |        |       |
| Learners must achieve 28 credits from this group. |                    |  |        |       |
| 5   | T/502/6596         | Skills in Removing and Fitting Non-permanently Fixed Commercial Vehicle Body Panels, Chassis and Cab Components    | 2      | 2     |
| 6   | T/502/6615         | Knowledge of Removing and Fitting Non-Permanently Fixed Commercial Vehicle Body Panels, Chassis and Cab Components | 2      | 2     |
| 7   | M/502/6595         | Skills in Assembling Commercial Vehicle Body Components or Parts   | 7      | 2     |
| 8   | Y/502/6610         | Knowledge of Assembling Commercial Vehicle Body Components or Parts  | 6      | 2     |
| 9   | A/601/5478         | Skills in Motor Vehicle Body Mechanical Fastening Operations   | 2      | 3     |
| 10  | T/601/5446         | Knowledge of Motor Vehicle Body Mechanical Fastening Operations  | 2      | 3     |

| Unit No.   | Unit Reference No. | Unit Title  | Credit | Level |
|--|--------------------|---|--------|-------|
| <b>Group B – Mandatory specialist units continued</b>  |                    |   |        |       |
| 13   | D/502/6818         | Knowledge in Commercial Vehicle Body Building Construction and Materials                            | 3      | 2     |
| 11   | K/502/6627         | Knowledge of Removing and Replacing Electrical Units and Components on Commercial Vehicles          | 2      | 2     |
| 12   | M/502/6628         | Skills in Removing and Replacing Electrical Units and Components On Commercial Vehicles             | 2      | 2     |
| <b>Group C – Optional groups</b>   |                    |   |        |       |
| Learners must achieve a minimum of 4 credits from one of the Option Groups. All subcomponents of the chosen group must be completed. |                    |   |        |       |
| <b>Group C1 – Option group 1</b>   |                    |   |        |       |
| If this group is chosen, learners must achieve 4 credits from this group.  |                    |   |        |       |
| 14   | T/502/6601         | Skills in Removing and Fitting Commercial Vehicle Mechanical, Electrical and Trim MET Components    | 2      | 2     |
| 15   | Y/502/6607         | Knowledge of Removing and Fitting Commercial Vehicle Mechanical, Electrical and Trim MET Components | 2      | 2     |
| <b>Group C2 – Option group 2</b>   |                    |   |        |       |
| If this group is chosen, learners must achieve 15 credits from this group.   |                    |   |        |       |
| 16   | A/502/6602         | Knowledge of Fabricating of Commercial Vehicle Body Panels and Components                           | 6      | 3     |
| 17   | F/502/6603         | Skills in Fabricating of Commercial Vehicle Body Panels and Components                              | 9      | 3     |
| <b>Group C3 – Option group 3</b>   |                    |   |        |       |
| If this group is chosen, learners must achieve 10 credits from this group.   |                    |   |        |       |
| 18   | R/601/5468         | Skills in Motor Vehicle Body Metal Active Gas (MAG) Welding Techniques                              | 5      | 2     |
| 19   | T/601/5432         | Knowledge of Motor Vehicle Body Metal Active Gas (MAG) Welding Techniques                           | 5      | 2     |
| <b>Group C4 – Option group 4</b>   |                    |   |        |       |
| If this group is chosen, learners must achieve 4 credits from this group.  |                    |   |        |       |
| 20   | J/601/5449         | Knowledge of Motor Vehicle Body Adhesive Bonding Operations   | 2      | 3     |
| 21   | T/601/5480         | Skills in A Motor Vehicle Body Adhesive Bonding Operations  | 2      | 3     |

# What is the qualification structure for the Edexcel Level 2 Diploma in Body Building Competence (QCF)?

A minimum of 58 credits is required to achieve this qualification. 18 credits from the mandatory generic units in Group A, 35 credits from the mandatory specialist units in Group B and a minimum of 5 credits from one of the 4 option groups in Group C.

Individual units can be found in the *Units* section.

| Unit No.  | Unit Reference No. | Unit Title  | Credit | Level |
|---|--------------------|---|--------|-------|
| <b>Group A – Mandatory generic units</b>          |                    |   |        |       |
| Learners must achieve 18 credits from this group. |                    |   |        |       |
| 1   | D/601/6171         | Knowledge of Health, Safety and Good Housekeeping in the Automotive Environment                                     | 3      | 2     |
| 4   | T/601/6175         | Knowledge of Support for Job Roles in the Automotive Work Environment   | 3      | 3     |
| 22  | A/601/6338         | Competency in Health, Safety and Good Housekeeping in the Automotive Environment                                    | 7      | 2     |
| 23  | K/601/6366         | Competency in Supporting Job Roles in the Automotive Work Environment   | 5      | 3     |
| <b>Group B – Mandatory specialist units</b>       |                    |   |        |       |
| Learners must achieve 35 credits from this group. |                    |   |        |       |
| 6   | T/502/6615         | Knowledge of Removing and Fitting Non-Permanently Fixed Commercial Vehicle Body Panels, Chassis and Cab Components  | 2      | 2     |
| 8   | Y/502/6610         | Knowledge of Assembling Commercial Vehicle Body Components or Parts   | 6      | 2     |
| 10  | T/601/5446         | Knowledge of Motor Vehicle Body Mechanical Fastening Operations   | 2      | 3     |
| 11  | K/502/6627         | Knowledge of Removing and Replacing Electrical Units and Components on Commercial Vehicles                          | 2      | 2     |
| 24  | F/502/6598         | Competency in Removing and Fitting Non-permanently Fixed Commercial Vehicle Body Panels, Chassis and Cab Components | 3      | 2     |
| 25  | J/502/6599         | Competency in Assembling Commercial Vehicle Body Components or Parts  | 10     | 2     |

| Unit No.   | Unit Reference No. | Unit Title   | Credit | Level |
|--|--------------------|--|--------|-------|
| <b>Group B – Mandatory specialist units continued</b>  |                    |  |        |       |
| 26   | R/601/5406         | Competency in Motor Vehicle Body Mechanical Fastening Operations                                     | 4      | 3     |
| 27   | T/502/6629         | Competency in Removing and Replacing Electrical Units and Components On Commercial Vehicles          | 3      | 2     |
| 13   | D/502/6818         | Knowledge in Commercial Vehicle Body Building Construction and Materials                             | 3      | 2     |
| <b>Group C – Optional groups</b>   |                    |  |        |       |
| Learners must achieve a minimum of 5 credits from one of the Option Groups. All subcomponents of the chosen group must be completed. |                    |  |        |       |
| <b>Group C1 – Option group 1</b>   |                    |  |        |       |
| If this group is chosen, learners must achieve 5 credits from this group.  |                    |  |        |       |
| 15   | Y/502/6607         | Knowledge of Removing and Fitting Commercial Vehicle Mechanical, Electrical and Trim MET Components  | 2      | 2     |
| 28   | A/502/6597         | Competency in Removing and Fitting Commercial Vehicle Mechanical, Electrical and Trim MET Components | 3      | 2     |
| <b>Group C2 – Option group 2</b>   |                    |  |        |       |
| If this group is chosen, learners must achieve 16 credits from this group.   |                    |  |        |       |
| 16   | A/502/6602         | Knowledge of Fabricating of Commercial Vehicle Body Panels and Components                            | 6      | 3     |
| 29   | R/502/6606         | Competency in Fabricating of Commercial Vehicle Body Panels and Components                           | 10     | 3     |
| <b>Group C3 – Option group 3</b>   |                    |  |        |       |
| If this group is chosen, learners must achieve 14 credits from this group.   |                    |  |        |       |
| 19   | T/601/5432         | Knowledge of Motor Vehicle Body Metal Active Gas (MAG) Welding Techniques                            | 5      | 2     |
| 30   | D/601/5392         | Competency in Motor Vehicle Body Metal Active Gas (MAG) Welding Techniques                           | 9      | 2     |
| <b>Group C4 – Option group 4</b>   |                    |  |        |       |
| If this group is chosen, learners must achieve 6 credits from this group.  |                    |  |        |       |
| 20   | J/601/5449         | Knowledge of Motor Vehicle Body Adhesive Bonding Operations  | 2      | 3     |
| 31   | Y/601/5407         | Competency in a motor Vehicle Body Adhesive Bonding Operations                                       | 4      | 3     |

# What is the qualification structure for the Edexcel BTEC Level 3 Diploma in Body Building Principles (QCF)?

A minimum of 73 credits is required to achieve this qualification. 18 credits from the mandatory generic units in Group A, 50 credits from the mandatory specialist units in Group B, and a minimum of 5 credits from one of the 7 option groups in Group C.

Individual units can be found in the *Units* section.

| Unit No.  | Unit Reference No. | Unit Title  | Credit | Level |
|---|--------------------|---|--------|-------|
| <b>Group A – Mandatory generic units</b>          |                    |   |        |       |
| Learners must achieve 18 credits from this group. |                    |   |        |       |
| 1   | D/601/6171         | Knowledge of Health, Safety and Good Housekeeping in the Automotive Environment     | 3      | 2     |
| 2   | Y/601/7254         | Skills in Health, Safety and Good Housekeeping in the Automotive Environment        | 7      | 2     |
| 3   | J/601/6262         | Skills in Supporting Job Roles in the Automotive Work Environment                   | 5      | 3     |
| 4   | T/601/6175         | Knowledge of Support for Job Roles in the Automotive Work Environment               | 3      | 3     |
| <b>Group B – Mandatory specialist units</b>       |                    |   |        |       |
| Learners must achieve 50 credits from this group. |                    |   |        |       |
| 16  | A/502/6602         | Knowledge of Fabricating of Commercial Vehicle Body Panels and Components           | 6      | 3     |
| 17  | F/502/6603         | Skills in Fabricating of Commercial Vehicle Body Panels and Components              | 9      | 3     |
| 32  | K/502/6594         | Skills in Setting out and Assembling Commercial Vehicle Body Components or Parts    | 7      | 3     |
| 33  | L/502/6605         | Knowledge of Setting out and Assembling Commercial Vehicle Body Components or Parts | 5      | 3     |
| 18  | R/601/5468         | Skills in Motor Vehicle Body Metal Active Gas (MAG) Welding Techniques              | 5      | 2     |
| 19  | T/601/5432         | Knowledge of Motor Vehicle Body Metal Active Gas (MAG) Welding Techniques           | 5      | 2     |

| Unit No.   | Unit Reference No. | Unit Title   | Credit | Level |
|--|--------------------|--|--------|-------|
| <b>Group B – Mandatory specialist units continued</b>  |                    |  |        |       |
| Learners must achieve 50 credits from this group.  |                    |  |        |       |
| 34   | H/502/6593         | Skills in Conducting Pre and Post Work Vehicle Inspections on Commercial Vehicles    | 8      | 3     |
| 35   | K/502/6613         | Knowledge of Conducting Pre and Post Work Vehicle Inspections on Commercial Vehicles | 5      | 3     |
| <b>Group C – Optional groups</b>   |                    |  |        |       |
| Learners must achieve a minimum of 5 credits from one of the Option Groups. All subcomponents of the chosen group must be completed. |                    |  |        |       |
| <b>Group C1 – Option group 1</b>   |                    |  |        |       |
| If this group is chosen, learners must achieve 10 credits from this group.   |                    |  |        |       |
| 36   | T/601/6242         | Knowledge of how to Make Learning Possible through Demonstrations and Instruction    | 5      | 3     |
| 37   | Y/601/6282         | Skills in how to Make Learning Possible through Demonstrations and Instruction       | 5      | 3     |
| <b>Group C2 – Option group 2</b>   |                    |  |        |       |
| If this group is chosen, learners must achieve 10 credits from this group.   |                    |  |        |       |
| 38   | M/601/6286         | Skills to Identify and Agree Motor Vehicle Customer Service Needs                    | 5      | 3     |
| 39   | R/601/6247         | Knowledge of how to Identify and Agree Motor Vehicle Customer Service Needs          | 5      | 3     |
| <b>Group C3 – Option group 3</b>   |                    |  |        |       |
| If this group is chosen, learners must achieve 10 credits from this group.   |                    |  |        |       |
| 40   | D/502/6382         | Knowledge in Supervisory Skills Within the Automotive Sector                         | 5      | 3     |
| 41   | K/502/6384         | Skills in Supervising in the Automotive Sector                                       | 5      | 3     |
| <b>Group C4 – Option group 4</b>   |                    |  |        |       |
| If this group is chosen, learners must achieve 5 credits from this group.  |                    |  |        |       |
| 42   | L/601/0933         | Give customers a positive impression of yourself and your organisation               | 5      | 2     |

| Unit No.   | Unit Reference No. | Unit Title   | Credit | Level |
|--|--------------------|--|--------|-------|
| <b>Group C – Optional groups continued</b>                                 |                    |  |        |       |
| <b>Group C5 – Option group 5</b>   |                    |  |        |       |
| If this group is chosen, learners must achieve 12 credits from this group. |                    |  |        |       |
| 43   | J/502/6604         | Knowledge of Installing Ancillary Units and Components to Commercial Vehicles      | 5      | 3     |
| 44   | M/502/6614         | Skills in Installing Ancillary Units and Components to Commercial Vehicles         | 7      | 3     |
| <b>Group C6 – Option group 6</b>   |                    |  |        |       |
| If this group is chosen, learners must achieve 10 credits from this group. |                    |  |        |       |
| 45   | K/601/5475         | Skills in Motor Vehicle Body Aluminium Metal Inert Gas (MIG) Welding Operations    | 5      | 3     |
| 46   | L/601/5436         | Knowledge of Motor Vehicle Body Aluminium Metal Inert Gas (MIG) Welding Operations | 5      | 3     |
| <b>Group C7 – Option group 7</b>   |                    |  |        |       |
| If this group is chosen, learners must achieve 10 credits from this group. |                    |  |        |       |
| 47   | T/601/5477         | Skills in Motor Vehicle Body Tungsten Inert Gas (TIG) Welding Operations           | 5      | 3     |
| 48   | Y/601/5438         | Knowledge of Motor Vehicle Body Tungsten Inert Gas (TIG) Welding Operations        | 5      | 3     |



# What is the qualification structure for the Edexcel Level 3 Diploma in Body Building Competence (QCF)?

A minimum of 84 credits is required to achieve this qualification. 18 credits from the mandatory generic units in Group A, 61 credits from the mandatory specialist units in Group B and a minimum of 5 credits from one of the 7 option groups in Group C.

Individual units can be found in the *Units* section.

| Unit No.  | Unit Reference No. | Unit Title   | Credit | Level |
|---|--------------------|--|--------|-------|
| <b>Group A – Mandatory generic units</b>          |                    |  |        |       |
| Learners must achieve 18 credits from this group. |                    |  |        |       |
| 1   | D/601/6171         | Knowledge of Health, Safety and Good Housekeeping in the Automotive Environment      | 3      | 2     |
| 4   | T/601/6175         | Knowledge of Support for Job Roles in the Automotive Work Environment                | 3      | 3     |
| 22  | A/601/6338         | Competency in Health, Safety and Good Housekeeping in the Automotive Environment     | 7      | 2     |
| 23  | K/601/6366         | Competency in Supporting Job Roles in the Automotive Work Environment                | 5      | 3     |
| <b>Group B – Mandatory specialist units</b>       |                    |  |        |       |
| Learners must achieve 61 credits from this group. |                    |  |        |       |
| 16  | A/502/6602         | Knowledge of Fabricating of Commercial Vehicle Body Panels and Components            | 6      | 3     |
| 33  | L/502/6605         | Knowledge of Setting out and Assembling Commercial Vehicle Body Components or Parts  | 5      | 3     |
| 19  | T/601/5432         | Knowledge of Motor Vehicle Body Metal Active Gas (MAG) Welding Techniques            | 5      | 2     |
| 35  | K/502/6613         | Knowledge of Conducting Pre and Post Work Vehicle Inspections on Commercial Vehicles | 5      | 3     |
| 49  | M/502/6600         | Competency in Setting out and Assembling Commercial Vehicle Body Components or Parts | 10     | 3     |

| Unit No.   | Unit Reference No. | Unit Title  | Credit | Level |
|--|--------------------|---|--------|-------|
| <b>Group B – Mandatory specialist units continued</b>  |                    |   |        |       |
| Learners must achieve 61 credits from this group.  |                    |   |        |       |
| 29   | R/502/6606         | Competency in Fabricating of Commercial Vehicle Body Panels and Components            | 10     | 3     |
| 30   | D/601/5392         | Competency in Motor Vehicle Body Metal Active Gas (MAG) Welding Techniques            | 9      | 2     |
| 50   | H/502/6612         | Competency in Conducting Pre and Post Work Vehicle Inspections on Commercial Vehicles | 11     | 3     |
| <b>Group C – Optional groups</b>   |                    |   |        |       |
| Learners must achieve a minimum of 5 credits from one of the Option Groups. All subcomponents of the chosen group must be completed. |                    |   |        |       |
| <b>Group C1 – Option group 1</b>   |                    |   |        |       |
| If this group is chosen, learners must achieve 10 credits from this group.   |                    |   |        |       |
| 36   | T/601/6242         | Knowledge of how to Make Learning Possible through Demonstrations and Instruction     | 5      | 3     |
| 51   | Y/601/6380         | Competency in Making Learning Possible through Demonstrations and Instruction         | 5      | 3     |
| <b>Group C2 – Option group 2</b>   |                    |   |        |       |
| If this group is chosen, learners must achieve 10 credits from this group.   |                    |   |        |       |
| 39   | R/601/6247         | Knowledge of how to Identify and Agree Motor Vehicle Customer Service Needs           | 5      | 3     |
| 52   | K/601/6383         | Competency in Identifying and Agreeing Motor Vehicle Customer Service Needs           | 5      | 3     |
| <b>Group C3 – Option group 3</b>   |                    |   |        |       |
| If this group is chosen, learners must achieve 10 credits from this group.   |                    |   |        |       |
| 40   | D/502/6382         | Knowledge in Supervisory Skills Within the Automotive Sector                          | 5      | 3     |
| 53   | H/502/6383         | Competency in Supervising within the Automotive Sector                                | 5      | 3     |
| <b>Group C4 – Option group 4</b>   |                    |   |        |       |
| If this group is chosen, learners must achieve 5 credits from this group.  |                    |   |        |       |
| 42   | L/601/0933         | Give customers a positive impression of yourself and your organisation                | 5      | 2     |

| Unit No.   | Unit Reference No. | Unit Title  | Credit | Level |
|--|--------------------|---|--------|-------|
| <b>Group C5 – Option group 5</b>   |                    |   |        |       |
| If this group is chosen, learners must achieve 17 credits from this group. |                    |   |        |       |
| 43   | J/502/6604         | Knowledge of Installing Ancillary Units and Components to Commercial Vehicles       | 5      | 3     |
| 54   | D/502/6611         | Competency in Installing Ancillary Units and Components to Commercial Vehicles      | 12     | 3     |
| <b>Group C6 – Option group 6</b>   |                    |   |        |       |
| If this group is chosen, learners must achieve 14 credits from this group. |                    |   |        |       |
| 46   | L/601/5436         | Knowledge of Motor Vehicle Body Aluminium Metal Inert Gas (MIG) Welding Operations  | 5      | 3     |
| 55   | M/601/5400         | Competency in Motor Vehicle Body Aluminium Metal Inert Gas (MIG) Welding Operations | 9      | 3     |
| <b>Group C7 – Option group 7</b>   |                    |   |        |       |
| If this group is chosen, learners must achieve 14 credits from this group. |                    |   |        |       |
| 48   | Y/601/5438         | Knowledge of Motor Vehicle Body Tungsten Inert Gas (TIG) Welding Operations         | 5      | 3     |
| 56   | J/601/5404         | Competency in Motor Vehicle Body Tungsten Inert Gas (TIG) Welding Operations        | 9      | 3     |

## How are the qualifications graded and assessed?

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The overall grade for the qualifications is a 'pass'. The learner must achieve all the required units within the specified qualification structure.

To pass a unit the learner must:

- achieve **all** the specified learning outcomes
- satisfy **all** the assessment criteria by providing sufficient and valid evidence for each criterion
- show that the evidence is their own.

The qualifications are designed to be assessed:

- in the workplace or
- in conditions resembling the workplace, as specified in the assessment requirements/strategy for the sector, or
- as part of a training programme.

### Assessment strategy for competence-based qualifications (VCQs)

The assessment strategy for the competence-qualifications (VCQ) has been included in *Annexe C*. It has been developed by IMI in partnership with employers, training providers, awarding organisations and the regulatory authorities. The assessment strategy includes details on:

- criteria for defining realistic working environments
- roles and occupational competence of assessors, expert witnesses, internal verifiers and standards verifiers
- quality control of assessment
- evidence requirements.

Evidence of competence may come from:

- **current practice** where evidence is generated from a current job role
- a **programme of development** where evidence comes from assessment opportunities built into a learning/training programme whether at or away from the workplace
- the **Recognition of Prior Learning (RPL)** where a learner can demonstrate that they can meet the assessment criteria within a unit through knowledge, understanding or skills they already possess without undertaking a course of learning. They must submit sufficient, reliable and valid evidence for internal and standards verification purposes. RPL is acceptable for accrediting a unit, several units or a whole qualification
- a **combination** of these.

It is important that the evidence is:

|                   |   |
|-------------------|---|
| <b>Valid</b>      | relevant to the standards for which competence is claimed   |
| <b>Authentic</b>  | produced by the learner   |
| <b>Current</b>    | sufficiently recent to create confidence that the same skill, understanding or knowledge persist at the time of the claim |
| <b>Reliable</b>   | indicates that the learner can consistently perform at this level   |
| <b>Sufficient</b> | fully meets the requirements of the standards.  |

## Types of evidence

To successfully achieve a unit the learner must gather evidence which shows that they have met the required standard in the assessment criteria. Evidence can take a variety of different forms including the examples below. Centres should refer to the assessment strategy for information about which of the following are permissible.

Centres should also refer to the assessment strategy (for competence based qualifications (VCQs) and the assessment requirements/evidence requirements section within each individual unit.

- direct observation of the learner's performance by their assessor (O)
- outcomes from oral or written questioning (Q&A)
- products of the learner's work (P)
- personal statements and/or reflective accounts (RA)
- outcomes from simulation, where permitted by the assessment strategy (S)
- professional discussion (PD)
- assignment, project/case studies (A)
- authentic statements/witness testimony (WT)
- expert witness testimony (EWT)
- evidence of Recognition of Prior Learning (RPL).

The abbreviations may be used for cross-referencing purposes.

Learners can use one piece of evidence to prove their knowledge, skills and understanding across different assessment criteria and/or across different units. It is, therefore, not necessary for learners to have each assessment criterion assessed separately. Learners should be encouraged to reference the assessment criteria to which the evidence relates.

Evidence must be made available to the assessor, internal verifier and Edexcel standards verifier. A range of recording documents is available on the Edexcel website [www.edexcel.com](http://www.edexcel.com). Alternatively, centres may develop their own.

# Centre recognition and approval

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## Centre recognition

Centres that have not previously offered Edexcel qualifications need to apply for and be granted centre recognition as part of the process for approval to offer individual qualifications. New centres must complete both a centre recognition approval application and a qualification approval application.

Existing centres will be given 'automatic approval' for a new qualification if they are already approved for a qualification that is being replaced by the new qualification and the conditions for automatic approval are met. Centres already holding Edexcel approval are able to gain qualification approval for a different level or different sector via Edexcel online.

## Approvals agreement

All centres are required to enter into an approvals agreement which is a formal commitment by the head or principal of a centre to meet all the requirements of the specification and any linked codes or regulations. Edexcel will act to protect the integrity of the awarding of qualifications, if centres do not comply with the agreement. This could result in the suspension of certification or withdrawal of approval.

## Quality assurance

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Quality assurance is at the heart of vocational qualifications. Assessment on BTEC and Competency qualifications is completed by your centre. You use quality assurance to ensure that your managers, internal verifiers and assessors are standardised and supported. We use quality assurance to check that all centres are working to national standards. It gives us the opportunity to identify and provide support where it is needed in order to safeguard certification. It also allows us to recognise and support good practice.

For the qualifications in this specification, the Edexcel quality assurance model will follow one of the three processes listed below.

- 1 Delivery of the **Competence and Principles** qualifications as part of a BTEC apprenticeship (single click registration)
  - integrated annual visits by a Standards Verifier to review centre-wide quality assurance systems and sampling of internal verification and assessor decisions
- 2 Delivery of the **Competence** qualification outside the apprenticeship
  - annual visits to centres by a Centre Quality Reviewer to review centre-wide quality assurance systems
  - annual visits by a Standards Verifier for sampling of internal verification and assessor decisions for the qualification.
- 3 Delivery of the **Principles** qualification outside the apprenticeship
  - annual visits to centres by a Centre Quality Reviewer to review centre-wide quality assurance systems
  - Lead Internal Verifier accreditation. This involves online training and standardisation of Lead Internal Verifiers using our OSCA platform, accessed via Edexcel Online. Please note that not all qualifications are covered by Lead Internal Verifier accreditation. Where this is the case we will annually allocate a Standards Verifier to conduct postal sampling of internal verification and assessor decisions for the Principal Subject Area.

For further details, go to the UK BTEC Quality Assurance Handbook 2011-12 <http://www.edexcel.com/quals/BTEC/quality/Pages/documents.aspx>

## What resources are required?

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Each qualification is designed to support learners working in the automotive sector. Physical resources need to support the delivery of the qualifications and the assessment of the learning outcomes and must be of industry standard.

For competence based qualifications (VCQs), centres must meet any specific resource and staff requirements outlined in *Annexe C: Assessment strategy*.



# Unit format

Each unit in this specification contains the following sections.

|   |                             |  |  |  |  |  |
|---|-----------------------------|--|--|--|--|--|
| <b>Unit title:</b>  |                             |  |  |  | The unit title is approved on the QCF and this form of words will appear on the learner's Notification of Performance (NOP).   |  |
| <b>Unit reference number:</b>   |                             |  |  |  | This code is a unique reference number for the unit.   |  |
| <b>QCF level:</b>   |                             |  |  |  | All units and qualifications within the QCF have a level assigned to them, which represents the level of achievement. There are nine levels of achievement, from Entry level to level 8. The level of the unit has been informed by the QCF level descriptors and, where appropriate, the NOS and/or other sector/professional.                    |  |
| <b>Credit value:</b>  |                             |  |  |  | All units have a credit value. The minimum credit value is one, and credits can only be awarded in whole numbers. Learners will be awarded credits when they achieve the unit.   |  |
| <b>Guided learning hours:</b>   |                             |  |  |  | A notional measure of the substance of a qualification. It includes an estimate of the time that might be allocated to direct teaching or instruction, together with other structured learning time, such as directed assignments, assessments on the job or supported individual study and practice. It excludes learner-initiated private study. |  |
| <b>Unit summary:</b>  |                             |  |  |  | This provides a summary of the purpose of the unit.  |  |
| <b>Assessment requirements/evidence requirements:</b>   |                             |  |  |  | The assessment/evidence requirements are determined by the SSC. Learners must provide evidence for each of the requirements stated in this section.  |  |
| <b>Learning outcomes:</b>   | <b>Assessment criteria:</b> | <b>Evidence type:</b>  | <b>Portfolio reference:</b>  | <b>Date:</b>   |  |  |
|   |                             |  | The learner should use this box to indicate where the evidence can be obtained eg portfolio page number. | The learner should give the date when the evidence has been provided.  |  |  |
| Learning outcomes state exactly what a learner should know, understand or be able to do as a result of completing a unit. |                             | The assessment criteria of a unit specify the standard a learner is expected to meet to demonstrate that a learning outcome, or a set of learning outcomes, has been achieved. |  | Learners must reference the type of evidence they have and where it is available for quality assurance purposes. The learner can enter the relevant key and a reference. Alternatively, the learner and/or centre can devise their own referencing system. |  |  |



# Units



## **Unit 1: Knowledge of Health, Safety and Good Housekeeping in the Automotive Environment**

**Unit reference number:** D/601/6171

**QCF level:** 2

**Credit value:** 3

**Guided learning hours:** 30

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### **Unit summary**

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.

### **Assessment requirements/evidence requirements:**

If this unit is offered within a competence qualification (VCQ) it must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*).

This unit must adhere to the IMI Knowledge Unit Syllabus as set out below:

#### **Economic use of resources**

- a) consumable materials eg grease, oils, split pins, locking and fastening devices etc

#### **Requirement to maintain work area effectively**

- a) cleaning tools and equipment to maximise workplace efficiency
- b) requirement to carry out the housekeeping activities safely and in a way that minimises inconvenience to customers and staff
- c) risks involved when using solvents and detergents
- d) advantages of good housekeeping

### **Spillages, leaks and waste materials**

- a) relevance of safe systems of work to the storage and disposal of waste materials
- b) requirement to store and dispose of waste, used materials and debris correctly
- c) safe disposal of special/hazardous waste materials
- d) advantages of recycling waste materials
- e) dealing with spillages and leaks

### **Basic legislative requirements**

- a) Provision and Use of Work Equipment Regulations 1992
- b) Power Presses Regulations 1992
- c) Pressure Systems and Transportable Gas Containers Regulations 1989
- d) Electricity at Work Regulations 1989
- e) Noise at Work Regulations 1989
- f) Manual Handling Operations Regulations 1992
- g) Health and Safety (Display Screen Equipment) Regulations 1992
- h) Abrasive Wheel Regulations
- i) Safe Working Loads
- j) Working at Height Regulations

### **Routine maintenance of the workplace**

- a) trainees 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 eg electrical safety check log

### **Legislation relevant to Health and Safety**

- a) HASAWA
- b) COSHH
- c) EPA
- d) Manual Handling Operations Regulations 1992
- e) PPE Regulations 1992

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

- a) Health and Safety (Display Screen Equipment) Regulations 1992
- b) Health and Safety (First Aid) Regulations 1981
- c) Health and Safety (Safety Signs and Signals) Regulations 1996
- d) Health and Safety (Consultation with Employees) Regulations 1996
- e) Employers Liability (Compulsory Insurance) Act 1969 and Regulations 1998
- f) Confined Spaces Regulations 1997
- g) Noise at Work Regulations 1989
- h) Electricity at Work Regulations 1989
- i) Electricity (Safety) Regulations 1994
- j) Fire Precautions Act 1971
- k) Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1985
- l) Pressure Systems Safety Regulations 2000
- m) Waste Management 1991
- n) Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) 2002
- 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 eg 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, to include:
  - 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 personal, customers, contractors etc entering your 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 are outside your 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) the typical sequence of events following the discovery of an accident such as:
  - i. make the area safe
  - ii. remove hazards if appropriate ie 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 ie 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

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 1 Understand the correct personal and vehicle protective equipment to be used within the automotive environment | 1.1 explain the importance of wearing the types of PPE required for a range 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   |               |                     |      |
| 2 Understand effective housekeeping practices in the automotive environment                                     | 2.1 describe why the automotive environment should be properly cleaned and maintained  |               |                     |      |
|   | 2.2 describe requirements and systems which may be put in place to ensure a clean automotive environment                                       |               |                     |      |
|   | 2.3 describe how to minimise waste when using utilities and consumables  |               |                     |      |
|   | 2.4 state the procedures and precautions necessary when cleaning and maintaining an automotive environment                                     |               |                     |      |
|   | 2.5 describe the selection and use of cleaning equipment when dealing with general cleaning, spillages and leaks in the automotive environment |               |                     |      |

| Learning outcomes  | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| 3 Understand key health and safety requirements relevant to the automotive environment | 2.6 describe procedures for correct disposal of waste materials from an automotive environment                             |               |                     |      |
|  | 2.7 describe procedures for starting and ending the working day which ensure effective housekeeping practices are followed |               |                     |      |
|  | 3.1 list the main legislation relating to automotive environment health and safety   |               |                     |      |
|  | 3.2 describe the general legal duties of employers and employees required by current health and safety legislation         |               |                     |      |
|  | 3.3 describe key, current health and safety requirements relating to the automotive environment                            |               |                     |      |
|  | 3.4 describe why workplace policies and procedures relating to health and safety are important                             |               |                     |      |

| Learning outcomes  | Assessment criteria   | Evidence type | Portfolio reference | Date |
|--|---|---------------|---------------------|------|
| <p>4 Understand about hazards and potential risks relevant to the automotive environment</p> | 4.1 identify key hazards and risks in an automotive environment   |               |                     |      |
|  | 4.2. describe policies and procedures for reporting hazards, risks, health and safety matters in the automotive environment       |               |                     |      |
|  | 4.3 state precautions and procedures which need to be taken when working with vehicles, associated materials, tools and equipment |               |                     |      |
|  | 4.4 identify fire extinguishers in common use and which types of fire they should be used on                                      |               |                     |      |
|  | 4.5 identify key warning signs and their characteristics that are found in the vehicle repair environment                         |               |                     |      |
|  | 4.6 state the meaning of common product warning labels used in an automotive environment  |               |                     |      |

| Learning outcomes                      | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| 5 Understand personal responsibilities | 5.1 explain the importance of personal conduct in maintaining the health and safety of the individual and others |               |                     |      |
|  | 5.2 explain the importance of personal presentation in maintaining health safety and welfare                     |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
(if sampled)



## Unit 2: Skills in Health, Safety and Good Housekeeping in the Automotive Environment

Unit reference number: Y/601/7254

QCF level: 2

Credit value: 7

Guided learning hours: 60

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### Unit summary

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.

### Assessment requirements/evidence requirements:

This unit must adhere to the IMI Skills Unit Assessment Requirements developed for the unit as set out below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out in your training workshop as managed and organised by an approved centre
3. be observed by an assessor as defined by the IMI Assessment Strategy
4. produce evidence of use of personal and vehicle protection, cleaning the work environment and disposal of waste on **2** separate **occasions**
5. produce evidence of identifying risks which may result from at least **2** of the items listed below:
  - the use and maintenance of machinery or equipment
  - the use of materials or substances
  - working practices which do not conform to laid down policies
  - unsafe behaviour
  - accidental breakages and spillages
  - environmental factors

6. produce evidence of identifying risks
7. produce evidence of following at least 2 of the workplace policies listed below:
  - the use of safe working methods and equipment
  - the safe use of hazardous substances
  - smoking, eating, drinking and drugs
  - what to do in the event of an emergency
  - personal presentation
8. produce evidence of following workplace policies

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| <p>1 Be able to use correct personal and vehicle protection within the automotive environment</p> | <p>1.1 select and use personal protective equipment throughout activities. To include appropriate protection of:</p> <ul style="list-style-type: none"> <li>a. eyes</li> <li>b. ears</li> <li>c. head</li> <li>d. skin</li> <li>e. feet</li> <li>f. hands</li> <li>g. lungs</li> </ul> <p>1.2 select and use vehicle protective equipment throughout all activities</p>      |               |                     |      |
| <p>2 Be able to carry out effective housekeeping practices in the automotive environment</p>      | <p>2.1 select and use cleaning equipment which is of the right type and suitable for the task</p> <p>2.2 use utilities and appropriate consumables, avoiding waste</p> <p>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</p> |               |                     |      |

| Learning outcomes  | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| 3 Be able to recognise and deal with dangers in order to work safely within the automotive workplace       | 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          |               |                     |      |
|  | 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 outcomes                           | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 4 Be able to conduct themselves responsibly | 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 |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*(if sampled)*



## Unit 3: Skills in Supporting Job Roles in the Automotive Work Environment

Unit reference number: J/601/6262

QCF level: 3

Credit value: 5

Guided learning hours: 40

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### Unit summary

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.

### Assessment requirements/evidence requirements:

This unit must adhere to the IMI Skills Unit Assessment Requirements developed for the unit as set out below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out in your training workshop as managed and organised by an approved centre
3. be observed by an assessor as defined by the IMI Assessment Strategy
4. produce witness testimony from your peers **and** supervisor **or** tutor that you have worked well with others
5. produce evidence carrying out the above whilst performing your normal duties

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 1 Be able to work effectively within the organisational structure of the automotive work environment                  | 1.1 respond promptly and willingly to requests for assistance from customers and colleagues                               |               |                     |      |
|   | 1.2 refer customers and colleagues to the correct person should requests fall outside their responsibility and capability |               |                     |      |
| 2 Be able to obtain and use information in order to support their job role within the automotive work environment     | 2.1 select and use legal and technical information, in an automotive work environment                                     |               |                     |      |
| 3 Be able to communicate with and support colleagues and customers effectively within the automotive work environment | 3.1 use methods of communication with customers and colleagues which meet their needs                                     |               |                     |      |
|   | 3.2 give customers and colleagues accurate information  |               |                     |      |
|   | 3.3 make requests for assistance from or to customers and colleagues clearly and courteously                              |               |                     |      |



| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 4 Be able to develop and keep good working relationships in the automotive work environment | 4.1 contribute to team work by initiating ideas and co-operating with customers and colleagues |               |                     |      |
|   | 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 inform colleagues promptly of anything likely to affect their own work                     |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

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*(if sampled)*



## **Unit 4: Knowledge of Support for Job Roles in the Automotive Work Environment**

**Unit reference number:** T/601/6175

**QCF level:** 3

**Credit value:** 3

**Guided learning hours:** 20

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### **Unit summary**

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.

### **Assessment requirements/evidence requirements:**

If this unit is offered within a competence qualification (VCQ) it must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*).

This unit must adhere to the IMI Knowledge Unit Syllabus as set out below:

### **How these areas relate to each other within the business**

- a) body shop
- b) vehicle repair workshop
- c) paint shop
- d) valeting
- e) vehicle parts store
- f) main office
- g) vehicle sales
- h) reception

### **Sources of information**

- a) other staff
- b) manuals
- c) parts lists
- d) computer software and the internet
- e) manufacturer
- f) diagnostic equipment

## **Communication requirements when carrying out vehicle repairs**

- a) locating and using correct documentation and information for:
  - i. recording vehicle maintenance and repairs
  - ii. vehicle specifications
  - iii. component specifications
  - iv. oil and fluid specifications
  - v. equipment and tools
  - vi. identification codes
- b) procedures for:
  - i. referral of problems
  - ii. reporting delays
  - iii. additional work identified during repair or maintenance
  - iv. keeping others informed of progress

## **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
- i) letters

## **Organisational and customer requirements:**

- a) importance of time scales to customer and organisation
- b) relationship between time and costs
- c) meaning of profit

## **Choice of communication**

- a) distance
- b) location
- c) job responsibility

**Importance of maintaining positive working relationships:**

- a) morale
- b) productivity
- c) company image
- d) customer relationships
- e) colleagues

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria   | Evidence type   | Portfolio reference | Date |
|---|---|---|---------------------|------|
| <p>1 Understand key organisational structures, functions and roles within the automotive work environment</p> | 1.1 identify the purpose of different sections of a typical automotive work environment   |   |                     |      |
|   | 1.2 explain organisational structures and lines of communication within the automotive work environment   |   |                     |      |
|   | 1.3 explain levels of responsibility within specific job roles in automotive workplace. To include:<br>a. trainee<br>b. skilled technician<br>c. supervisor<br>d. manager |   |                     |      |
|   | <p>2 Understand the importance of obtaining, interpreting and using information in order to support their job role within the automotive work environment</p>             | 2.1 explain the importance of different sources of information in a automotive work environment |                     |      |
| 2.2 explain how to find, interpret and use relevant sources of information                                    |   |   |                     |      |
| 2.3 describe the main legal requirements relating to the vehicle, including road safety requirements          |   |   |                     |      |
| 2.4 explain the importance of working to recognised procedures and processes                                  |   |   |                     |      |

| Learning outcomes  | Assessment criteria  | Evidence type  | Portfolio reference | Date |
|--|--|--|---------------------|------|
| 3 Understand the importance of different types of communication within the automotive work environment           | 2.5 explain when replacement units and components must meet the manufacturers' original equipment specification                |  |                     |      |
|  | 2.6 explain the purpose of how to use identification codes   |  |                     |      |
|  | 3.1 explain where different methods of communication would be used within the automotive environment                           |  |                     |      |
|  | 3.2 explain the factors which can determine your choice of communication   |  |                     |      |
|  | 3.3 explain how the communication of information can change with the target audience to include uninformed and informed people |  |                     |      |
|  | 4 Understand communication requirements when carrying out vehicle repairs in the automotive work environment                   | 4.1 explain how to report using written and verbal communication |                     |      |
| 4.2 explain the importance of documenting information relating to work carried out in the automotive environment |  |  |                     |      |
| 4.3 explain the importance of working to agreed timescales   |  |  |                     |      |

| Learning outcomes  | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| 5 Understand how to develop good working relationships with colleagues and customers in the automotive workplace | 5.1 describe how to develop positive working relationships with colleagues and customers             |               |                     |      |
|  | 5.2 explain the importance of developing positive working relationships                              |               |                     |      |
|  | 5.3 explain the importance of accepting other peoples' views and opinions                            |               |                     |      |
|  | 5.4 explain the importance of making and honouring realistic commitments to colleagues and customers |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
(if sampled)



## Unit 5: Skills in Removing and Fitting Non-permanently Fixed Commercial Vehicle Body Panels, Chassis and Cab Components

Unit reference number: T/502/6596

QCF level: 2

Credit value: 2

Guided learning hours: 20

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### Unit summary

This unit will help the learner to develop the skills required to remove and fit non-permanently fixed commercial vehicle body panels, chassis and cab components.

### Assessment requirements/evidence requirements:

This unit must adhere to the IMI Skills Unit Assessment Requirements developed for the unit as set out below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out in your normal workplace or in a work environment as managed and organised by an approved centre
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy
4. produce evidence of removing and replacing **7 of the 10** units or components from the list below:
  - body panel
  - cab front panel
  - bumper
  - door
  - step
  - under run bumper
  - side guard
  - body mounting
  - body hardware
  - body furniture

## Learning outcomes and assessment criteria

| Learning outcomes  | Assessment criteria   | Evidence type | Portfolio reference | Date |
|--|---|---------------|---------------------|------|
| 1 Be able to work safely when removing and fitting non-permanently fixed commercial vehicle body and chassis cab panels and components | 1.1 use suitable personal protective equipment and vehicle coverings when carrying out all removal and replacement activities   |               |                     |      |
|  | 1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment   |               |                     |      |
| 2 Be able to use relevant information to carry out the task  | 2.1 select suitable sources of technical information to support commercial vehicle removal and recognised fitting activities  |               |                     |      |
|  | 2.2 use technical information to support commercial vehicle removal and recognised fitting activities   |               |                     |      |
| 3 Be able to use appropriate tools and equipment   | 3.1 select the appropriate tools and equipment to carry out the removal and fitting of non-permanently fixed body panels, chassis and cab and components              |               |                     |      |
|  | 3.2 ensure that tools and equipment are calibrated where appropriate and are in a safe working condition  |               |                     |      |
|  | 3.3 use the correct tools and equipment in the way specified by manufacturers when removing and fitting non-permanently fixed body panels, chassis and cab components |               |                     |      |

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 4 Be able to remove and fit non-permanently fixed commercial vehicle body and chassis cab panels and components | 4.1 ensure that specified panels or components are available and fit for purpose   |               |                     |      |
|   | 4.2 use the appropriate methods and techniques to remove and fit non-permanently fixed body panels, chassis and cab components |               |                     |      |
|   | 4.3 secure the panels or components using the correct fastening and securing devices   |               |                     |      |
|   | 4.4 check refitted panels or components at critical stages   |               |                     |      |
|   | 4.5 ensure that the refitted panels or components comply with specification  |               |                     |      |
|   | 4.6 deal promptly and effectively with problems within your control  |               |                     |      |
|   | 4.7 report problems that cannot be solved  |               |                     |      |
| 5 Be able to record information and make suitable recommendations   | 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 promptly in the format required  |               |                     |      |

Learner name: \_\_\_\_\_  
Learner signature: \_\_\_\_\_  
Assessor signature: \_\_\_\_\_  
Internal verifier signature: \_\_\_\_\_  
(if sampled)

Date: \_\_\_\_\_  
Date: \_\_\_\_\_  
Date: \_\_\_\_\_  
Date: \_\_\_\_\_

## **Unit 6: Knowledge of Removing and Fitting Non-Permanently Fixed Commercial Vehicle Body Panels, Chassis and Cab Components**

**Unit reference number:** T/502/6615

**QCF level:** 2

**Credit value:** 2

**Guided learning hours:** 20

### **Unit summary**

This unit will help the learner to develop the knowledge and understanding required to remove and fit commercial vehicle body panels, chassis and cab components.

### **Assessment requirements/evidence requirements:**

If this unit is offered within a competence qualification (VCQ) it must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*).

This unit must adhere to the IMI Knowledge Unit Syllabus as set out below:

#### **Sources of information**

- a) company procedures
- b) assembly and detail drawings
- c) data sheets
- d) specifications
- e) inspection sheets
- f) vehicle records
- g) workshop manuals
- h) manufacturers' manuals and bulletins
- i) wiring circuits and diagrams
- j) repair schedules and insurance assessors' reports

#### **Commercial vehicle body panels and chassis cab components**

- a) body panels
- b) cab front panels
- c) bumper assemblies

- d) door assemblies
- e) step assemblies
- f) under run bumpers
- g) side guards
- h) body mountings
- i) body hardware
- j) body furniture

### **Tools and equipment**

- a) removal and assembly tools
- b) calibrated tools
- c) cutting, shaping and forming tools
- d) lifting, holding and securing equipment
- e) measuring tools

### **Types of fastener**

- a) threaded male and female fasteners
- b) self tapping/cutting/drilling screws
- c) rivets
- d) trim clips and fasteners
- e) quick release fasteners
- f) cable wraps and ties
- g) worm/hose drive straps
- h) proprietary fasteners

### **Safe working procedures**

- a) HASWA
- b) COSHH regulations
- c) PPE regulations
- d) Tools and equipment instructions and safety guidance for their use, maintenance and storage

### **Methods used to check compliance with specification**

- a) correct operation
- b) accuracy
- c) alignment
- d) security of components or parts

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 1 Understand how to remove and fit commercial vehicle body panels, chassis and cab components | <p>1.1 describe how to remove and fit commercial vehicle body panels, chassis and cab components</p> <p>1.2 describe how to prepare the vehicle prior to removal and fitting of body panels, chassis and cab components</p> <p>1.3 describe the methods and procedures for storing removed body panels, chassis and cab components</p> <p>1.4 identify the different types of fastenings and fixings used when securing and fitting body panels, chassis and cab components</p> <p>1.5 explain the reasons for the use of different types of fastenings and fixings used when securing body panels, chassis and cab components</p> <p>1.6 describe the procedures, methods and reasons for ensuring alignment of body panels, chassis and cab components</p> |               |                     |      |

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 2 Understand how to check fitted commercial vehicle body panels and chassis cab components for compliance | 2.1 identify the quality checks that can be used to ensure alignment and operation of body panels, chassis and cab components<br><br>2.2 describe the methods used to check compliance with specification |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

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Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

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*(if sampled)*



## Unit 7: Skills in Assembling Commercial Vehicle Body Components or Parts

|                        |            |
|------------------------|------------|
| Unit reference number: | M/502/6595 |
| QCF level:             | 2          |
| Credit value:          | 7          |
| Guided learning hours: | 45         |

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### Unit summary

This unit will help the learner to develop the skills required to assemble commercial vehicle body parts and components where the component or part is quickly assembled, positioned and installed.

### Assessment requirements/evidence requirements:

This unit must adhere to the IMI Skills Unit Assessment Requirements developed for the unit as set out below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out in your normal workplace or in a work environment as managed and organised by an approved centre
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy
4. produce evidence of building **3 of the 6** assemblies from the list below.  
**One of which must be an underframe**
  - underframe
  - sideframe
  - bulk head (front frame)
  - rear frame
  - roof frame
  - interior trim and fittings

#### Guidance to assessors:

Assembly of an underframe is a mandatory evidence requirement for this unit. Learners will be able to produce evidence of building other main assemblies, sub assemblies or components. Assessors are expected to use their professional judgement to determine the suitability of such evidence and plan and agree its use in advance with the awarding organisation.

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 1 Be able to work safely when carrying out commercial vehicle body assembly | 1.1 use suitable personal protective equipment when carrying out all assembly operations                          |               |                     |      |
|   | 1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment         |               |                     |      |
| 2 Be able to use relevant information to carry out the task                 | 2.1 select suitable sources of technical information to support the completion of assembly operations             |               |                     |      |
|   | 2.2 use technical information to support the completion of assembly operations                                    |               |                     |      |
| 3 Be able to use appropriate tools and equipment                            | 3.1 select the appropriate tools and equipment necessary to complete assembly operations                          |               |                     |      |
|   | 3.2 ensure that all tools and equipment are calibrated where appropriate and are in a safe working condition      |               |                     |      |
|   | 3.3 use the correct tools and equipment in the way specified by manufacturers when completing assembly operations |               |                     |      |
| 4 Be able to carry out commercial vehicle body assembly operations          | 4.1 ensure that the specified components are available and are fit for purpose                                    |               |                     |      |
|   | 4.2 use the appropriate methods and techniques to assemble the components in their correct positions              |               |                     |      |
|   | 4.3 secure the components using appropriate fastening and securing devices  |               |                     |      |

| Learning outcomes  | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| 5 Be able to carry out commercial vehicle body assembly operations | 4.4 ensure that the assembly is checked at all critical stages   |               |                     |      |
|  | 4.5 ensure the completed assembly meets the required specification   |               |                     |      |
|  | 4.6 deal promptly and effectively with problems within their control   |               |                     |      |
|  | 4.7 report problems that cannot be solved  |               |                     |      |
|  | 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 promptly, in the format required                                       |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

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*(if sampled)*



## **Unit 8: Knowledge of Assembling Commercial Vehicle Body Components or Parts**

**Unit reference number:** Y/502/6610

**QCF level:** 2

**Credit value:** 6

**Guided learning hours:** 45

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### **Unit summary**

This unit will help the learner to develop the knowledge for assembly of commercial vehicle body parts and components where the component or part is quickly assembled, positioned and installed.

### **Assessment requirements/evidence requirements:**

If this unit is offered within a competence qualification (VCQ) it must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*).

This unit must adhere to the IMI Knowledge Unit Syllabus as set out below:

### **Sources of technical information to include:**

- a) assembly and detail drawings
- b) data sheets
- c) specifications
- d) inspection sheets
- e) workshop manuals
- f) chassis manufacturer's instructions
- g) wiring circuits and diagrams
- h) legislative requirements

### **Tools and equipment**

- a) striping and assembly tools
- b) calibrated tools
- c) cutting, shaping and forming tools
- d) lifting, holding and securing equipment
- e) measurement and marking out tools
- f) powered and manual riveting and proprietary fastener guns

### **Relevant safe working procedures**

- a) HASWA
- b) COSHH regulations
- c) PPE regulations
- d) tools and equipment instructions and safety guidance for their use, maintenance and storage

### **Assembly sequences**

- a) underframe
- b) sideframes
- c) bulk head (front frame)
- d) rear frame
- e) roof frame

### **Methods used to check compliance with specification**

- a) correct operation
- b) accuracy
- c) alignment
- d) security of components or parts

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 1 Understand commercial vehicle body components or parts assembly methods and techniques      | 1.1 identify the sequences used to assemble commercial vehicle body parts and components   |               |                     |      |
|   | 1.2 describe how to prepare a vehicle prior to assembly  |               |                     |      |
|   | 1.3 describe the need for adherence to the assembly sequence to ensure the work activity can be completed without hindrance  |               |                     |      |
|   | 1.4 illustrate the need for assembling components temporarily, including; checking alignment, profile, dimensions, correct operation and to allow other work to be carried out without hindrance |               |                     |      |
|   | 1.5 describe the methods used to support large, heavy and fragile materials during the assembly process, including working at heights  |               |                     |      |
| 2 Understand how to check commercial vehicle body components or parts assembly for compliance | 2.1 describe the methods used to check compliance with specification   |               |                     |      |

Learner name: \_\_\_\_\_  
Learner signature: \_\_\_\_\_  
Assessor signature: \_\_\_\_\_  
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Date: \_\_\_\_\_  
Date: \_\_\_\_\_  
Date: \_\_\_\_\_



## Unit 9: Skills in Motor Vehicle Body Mechanical Fastening Operations

Unit reference number: A/601/5478

QCF level: 3

Credit value: 2

Guided learning hours: 20

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### Unit summary

This unit will help the learner to develop the skills required to join materials using mechanical fastening techniques and procedures. It also covers the evaluation of the completed mechanical joint.

### Assessment requirements/evidence requirements:

This unit must adhere to the IMI Skills Unit Assessment Requirements developed for the unit as set out below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out in your normal workplace or in a work environment as managed and organised by an approved centre
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy
4. produce evidence from your normal workplace of carrying out **all** of the joining processes listed below:
  - riveting
  - bolts and fasteners
  - screwing
  - hybrid joining (combinations of techniques listed that may also include adhesives or welding)

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 1 Be able to work safely when carrying out motor vehicle body mechanical fastening operations | 1.1 use suitable personal protective equipment and vehicle coverings throughout all motor vehicle body mechanical fastening operations   |               |                     |      |
|   | 1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment  |               |                     |      |
| 2 Be able to use relevant information to carry out the task                                   | 2.1 select suitable sources of technical information to support motor vehicle body mechanical fastening operations activities including: <ul style="list-style-type: none"> <li>a. vehicle technical data</li> <li>b. joining procedures</li> <li>c. legal requirements</li> </ul> |               |                     |      |
|   | 2.2 use technical information to support motor vehicle body mechanical fastening operations activities   |               |                     |      |
| 3 Be able to use appropriate tools and equipment  | 3.1 select the appropriate tools and equipment necessary for carrying out motor vehicle body mechanical fastening operations   |               |                     |      |
|   | 3.2 ensure all tools and equipment that are required are in a safe working condition   |               |                     |      |

| Learning outcomes  | Assessment criteria   | Evidence type | Portfolio reference | Date |
|--|---|---------------|---------------------|------|
| 4 Be able to carry out motor vehicle body mechanical fastening operations                            | 3.3 set up and use the correct tools and equipment in the way specified by manufacturers when carrying motor vehicle body mechanical fastening operations |               |                     |      |
|  | 3.4 clean and store PPE and equipment in the appropriate manner   |               |                     |      |
|  | 4.1 prepare surface n to ensure a good mechanical fastening is achieved   |               |                     |      |
|  | 4.2 ensure alignment and mating and treatment of flanges to enable a suitable join to be achieved   |               |                     |      |
|  | 4.3 carry out a range of mechanical fastening   |               |                     |      |
|  | 4.4 carry out mechanical fastening operations following:<br>a. manufacturers processes, methods and procedures<br>b. recognised researched repair methods |               |                     |      |
|  | 4.5 dress and protect the joint area to inhibit corrosion where applicable  |               |                     |      |
| 4.6 recognise when the joint is not forming correctly and what action needs to be taken              |   |               |                     |      |
| 4.7 ensure integrity of the joint and record the type of joint achieved on the appropriate paperwork |   |               |                     |      |

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 5 Be able to record information and make suitable recommendations | 4.8 avoid damaging other components, units, panels and surfaces on the vehicle and the surrounding work area. Any damage caused should be correctly reinstated |               |                     |      |
|   | 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  |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

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(if sampled)

## Unit 10: Knowledge of Motor Vehicle Body Mechanical Fastening Operations

Unit reference number: T/601/5446

QCF level: 3

Credit value: 2

Guided learning hours: 20

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### Unit summary

This unit enables the learner to develop an understanding of joining materials using mechanical fastening techniques and procedures.

### Assessment requirements/evidence requirements:

If this unit is offered within a competence qualification (VCQ) it must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*).

This unit must adhere to the IMI Knowledge Unit Syllabus as set out below:

- a) the hazards associated with the joining operations (such as handling sheet/fabricated components, using hot metal riveting techniques, handling and using sealants and cleaning agents, dangerous or badly maintained tools and equipment), and how they can be minimised
- b) how to obtain the necessary drawings and joining procedure specifications
- c) how to extract information from engineering drawings and related specifications (to include symbols and conventions to appropriate BS or ISO standards in relation to work undertaken)
- d) the use of manufacturers' specifications for the types of fasteners used
- e) the various joining processes that are used, and the tools and equipment required
- f) the preparations to be carried out on the materials/components prior to joining them (such as materials to be degreased, dry and clean, with holes and flanges de-burred)
- g) how to set up and align the joints prior to fixing, and the tools and methods that can be used (such as clamps, rivet gripping tools, temporary fixings, jacking and supporting devices)
- h) how to produce a secure joint using blind rivets, and the type of riveting tools that are available

- i) the range of bolts and screwed fasteners that are to be used; why it is important to use the correct type of washer; sequence of tightening bolts on flanged joints; and the tools and equipment used to ensure they are tightened to the required torque
- j) checks to be carried out on the tools and equipment prior to use to ensure that they are in a safe and usable condition (such as condition of plugs and leads on power tools, condition of striking faces on hammers, condition of riveting tools)
- k) equipment setting, operating and care procedures; why equipment and tools need to be correctly set up and in good condition
- l) the importance of using the tools only for the purpose intended; the care that is required when using the equipment and tools; the proper way of preserving and storing tools and equipment between operations
- m) the things that can go wrong with the joining operations, and how these can be avoided
- n) the extent of your own authority and whom you should report to if you have problems that you cannot resolve
- o) reporting lines and procedures, line supervision and technical experts

## Learning outcomes and assessment criteria

| Learning outcomes  | Assessment criteria   | Evidence type | Portfolio reference | Date |
|--|---|---------------|---------------------|------|
| 1 Understand how to select, check, use and maintain appropriate tools and equipment used in motor vehicle body mechanical fastening operations | 1.1 explain the use of all tools and equipment required to join materials using mechanical fastening operations   |               |                     |      |
|  | 1.2 explain, within the scope of their responsibilities, how to select, prepare and maintain tools and equipment required to join materials using mechanical fastening operations   |               |                     |      |
| 2 Understand how to carry out motor vehicle body mechanical fastening operations   | 2.1 describe the importance of correct surface preparation methods to ensure a good mechanical fastening is achieved  |               |                     |      |
|  | 2.2 identify the correct need for alignment and mating of materials and the best methods used to achieve this in mechanical fastening operations  |               |                     |      |
|  | 2.3 explain the mechanical fastening processes, techniques and joints used for the joining of materials, joints include: <ul style="list-style-type: none"> <li>a. riveting (single sided, double sided and self piercing)</li> <li>b. clinching</li> <li>c. bolts and fasteners</li> <li>d. screwing (self threading and self piercing)</li> <li>e. hybrid joining (combinations of technique listed that may also include adhesives)</li> </ul> |               |                     |      |

| Learning outcomes | Assessment criteria  | Evidence type | Portfolio reference | Date |
|-------------------|--|---------------|---------------------|------|
|                   | 2.4 explain how different materials used in the construction of motor vehicles react with each other       |               |                     |      |
|                   | 2.5 identify the faults and defects that can occur when carrying out mechanical fastening operations       |               |                     |      |
|                   | 2.6 identify common causes which produce the faults and defects in mechanical fastening operations         |               |                     |      |
|                   | 2.7 explain the types of quality control checks that can be used to ensure correct joining of materials    |               |                     |      |
|                   | 2.8 explain how to use adhesives with riveting techniques  |               |                     |      |
|                   | 2.9 explain the advantages and disadvantages of mechanical fastening operations over other joining methods |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

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Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

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*(if sampled)*



## **Unit 11: Knowledge of Removing and Replacing Electrical Units and Components on Commercial Vehicles**

**Unit reference number:** K/502/6627

**QCF level:** 2

**Credit value:** 2

**Guided learning hours:** 17

### **Unit summary**

This unit will help the learner to develop the skills required to remove and replace defective electrical units used in the process of commercial vehicle body building and modification.

### **Assessment requirements/evidence requirements:**

If this unit is offered within a competence qualification (VCQ) it must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*).

This unit must adhere to the IMI Knowledge Unit Syllabus as set out below:

This unit is about removing and replacing units and components previously identified as faulty or damaged or where the customer has requested replacements. It is also about evaluating the performance of replaced units and components.

The units and components concerned are those outside those replaced as part of normal routine vehicle maintenance.

### **Sources of information to include:**

- a) manufactures instructions or specifications
- b) wiring codes and diagrams
- c) removal and replacement procedures
- d) legal requirements

### **Tools and equipment**

- a) hand and power
- b) removing and replacing
- c) general assembly
- d) joining
- e) electrical test

### **Electrical units and components**

- a) front, side and rear marker lights
- b) rear light assemblies
- c) reversing beepers
- d) interior lights
- e) number plate lights
- f) temperature monitoring
- g) instrumentation systems

### **Factors influencing the removal and replacement**

- a) electrical testing prior to starting work
- b) vehicle preparation
- c) circuit protection
- d) manufactures specification
- e) storing, handling, positioning and securing
- f) connecting to supply

### **Electrical principles**

- a) electrical safety
- b) vehicle earthing principles and earthing methods
- c) electrical principles
- d) circuit protection
- e) vehicle electrical circuits
- f) electrical symbols
- g) electrical control systems

### **Calculations**

- a) Ohm's law
- b) cable capacity

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 1 Understand vehicle electrical and electronic principles | 1.1 identify electrical symbols and units found in heavy vehicle circuits   |               |                     |      |
|   | 1.2 describe how to interpret heavy vehicle wiring diagrams   |               |                     |      |
|   | 1.3 describe the operation of key heavy vehicle circuit protection devices and why these are necessary                  |               |                     |      |
|   | 1.4 describe earthing principles and earthing methods   |               |                     |      |
|   | 1.5 identify the use of different cables and connectors used in heavy vehicle circuits                                  |               |                     |      |
|   | 1.6 describe the operation of electrical and electronic sensors and actuators and their application                     |               |                     |      |
|   | 1.7 describe the key electrical and electronic control principles that are related to heavy vehicle electrical circuits |               |                     |      |
|   | 1.8 state common terms used in heavy vehicle electrical circuits  |               |                     |      |

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 2 Understand removal and replacement methods and techniques | <p>2.1 explain the checks that are required prior to commencing removal of electrical units and components and the documentation required</p> <p>2.2 describe how to prepare a vehicle prior to commencing removal of electrical components following safe electrical procedures</p> <p>2.3 describe how to remove and replace heavy vehicle electrical system units and components</p> <p>2.4 describe common types of testing methods used to check the operation of heavy vehicle electrical systems and components and their purpose</p> <p>2.5 explain how to test and evaluate the performance of replacement units against specifications</p> <p>2.6 explain common faults found in heavy vehicle electrical systems and components</p> <p>2.7 state the need for adherence to the installation instructions to ensure the work activity can be completed without hindrance</p> <p>2.8 describe the process for positioning, securing and connecting the replacement electrical unit and components</p> |               |                     |      |

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(if sampled)



## Unit 12: Skills in Removing and Replacing Electrical Units and Components On Commercial Vehicles

Unit reference number: M/502/6628

QCF level: 2

Credit value: 2

Guided learning hours: 20

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### Unit summary

This unit will help the learner to develop the skills required to **remove and replace** defective electrical units used in the process of commercial vehicle body building and modification.

### Assessment requirements/evidence requirements:

This unit must adhere to the IMI Skills Unit Assessment Requirements developed for the unit as set out below:

#### You must:

1. produce evidence to show you meet all of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out in your normal workplace or in a work environment as managed and organised by an approved centre
3. be observed by an assessor as defined in the IMI Assessment Strategy
4. produce evidence of removing and replacing 3 different motor vehicle electrical units or components, from the list below:
  - front, side and rear marker light
  - rear light assembly
  - reversing bleeper
  - interior light
  - number plate light
  - temperature monitoring unit
  - instrumentation system

## Learning outcomes and assessment criteria

| Learning outcomes  | Assessment criteria   | Evidence type | Portfolio reference | Date |
|--|---|---------------|---------------------|------|
| 1 Be able to work safely when removing and replacing commercial vehicle electrical units and components        | 1.1 use suitable personal protective equipment when carrying out removal and replacement activities                       |               |                     |      |
|  | 1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment                 |               |                     |      |
| 2 Be able to select and use relevant information to remove and replace commercial vehicle units and components | 2.1 select suitable sources of technical information to support the fabrication/forming of body panels and components     |               |                     |      |
|  | 2.2 use technical information to support the removal and replacement of units and components                              |               |                     |      |
| 3 Be able to select and use appropriate tools and equipment  | 3.1 select the appropriate tools and equipment necessary to remove and replace electrical units                           |               |                     |      |
|  | 3.2 ensure that tools and equipment are fit for purpose, calibrated where appropriate and are in a safe working condition |               |                     |      |
|  | 3.3 use tools and equipment in a safe and correct manner to remove and replace electrical units and components            |               |                     |      |



| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| <p>4 Be able to carry out removal and replacement of commercial vehicle electrical units and components</p> | 4.1 ensure that the specified unit/component is available and undamaged  |               |                     |      |
|   | 4.2 ensure the vehicle has been correctly prepared and the electrical systems protected or isolated  |               |                     |      |
|   | <p>4.3 remove and replace the motor vehicle's electrical systems and components, adhering to the specifications and tolerances for the vehicle and following:</p> <ul style="list-style-type: none"> <li>a. the manufacturer's approved removal and replacement methods</li> <li>b. recognised researched repair methods</li> <li>c. health and safety requirements</li> </ul> |               |                     |      |
|   | 4.4 prepare, reassemble, position and secure replacement unit  |               |                     |      |
|   | 4.5 ensure that replaced motor vehicle electrical units and components conform to the vehicle  |               |                     |      |
|   | 4.6 report problems that cannot be solved  |               |                     |      |
|   | 4.7 operating specification and any legal requirements   |               |                     |      |
|   | 4.8 use suitable testing methods to evaluate the performance of the reassembled system   |               |                     |      |

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
|   | 4.9 ensure that the reassembled electrical systems perform to the vehicle operating specification and meets any legal requirements |               |                     |      |
| 5 Be able to record information and make suitable recommendations | 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 promptly, in the format required   |               |                     |      |

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## **Unit 13: Knowledge in Commercial Vehicle Body Building Construction and Materials**

**Unit reference number:** D/502/6818

**QCF level:** 2

**Credit value:** 3

**Guided learning hours:** 30

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### **Unit summary**

This unit will help the learner to develop a knowledge and understanding of the suitability of the materials used for building commercial vehicle bodies.

### **Assessment requirements/evidence requirements:**

If this unit is offered within a competence qualification (VCQ) it must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*).

This unit must adhere to the IMI Knowledge Unit Syllabus as set out below:

### **Relevant information sources**

- a) assembly and detail drawings
- b) data sheets
- c) specifications
- d) inspection sheets
- e) vehicle records
- f) workshop manuals
- g) manufacturer's manuals and bulletins
- h) wiring circuits and diagrams

### **Types of material**

- a) metallic – plain carbon steels, alloy steels, high strength low alloy steels, aluminium, aluminium alloys, copper, brass, zinc
- b) non-metallic – thermoplastic, thermosetting plastic, elastomers, composites, hardwoods, softwoods, particle boards, laminated boards, laminated glass, toughened glass, synthetic and natural rubber

### **Forms of material**

sheet, plate, hot and cold rolled steel, extruded, cast, forged, resin, liquid, paste

### **Properties of materials**

toughness, hardness, ductility, malleability, density, impact resistance, strength; tensile, compressive and torsional, elasticity, plasticity, resistance; oxidation and electrical, conductivity, insulation; thermal and acoustic, adhesion, cohesion, viscosity, transparency, translucency

### **Types of construction**

- a) composite (traditional and modern/kit)
- b) rolled steel
- c) aluminium alloy extrusion
- d) pressed steel

### **Joining methods**

- a) welding
- b) riveting/proprietary fasteners
- c) bolted

## Learning outcomes and assessment criteria

| Learning outcomes  | Assessment criteria   | Evidence type | Portfolio reference | Date |
|--|---|---------------|---------------------|------|
| 1 Understand how material specification influences commercial vehicle body construction            | 1.1 identify the different types and forms of material used in the construction of commercial vehicle bodies                    |               |                     |      |
|  | 1.2 state typical applications for the different types and forms of materials   |               |                     |      |
|  | 1.3 describe how to dispose of and re-cycle waste materials   |               |                     |      |
|  | 1.4 compare different joining materials used in body construction   |               |                     |      |
|  | 1.5 state the methods used to improve the properties of materials including alloying, heat treatment and the use of composites  |               |                     |      |
| 2 Understand the properties of the materials used in the construction of commercial vehicle bodies | 2.1 state the properties of materials used in the construction of commercial vehicle bodies                                     |               |                     |      |
|  | 2.2 state the methods used to improve the properties of materials to include alloying, heat treatment and the use of composites |               |                     |      |

| Learning outcomes  | Assessment criteria   | Evidence type | Portfolio reference | Date |
|--|---|---------------|---------------------|------|
| 3 Understand the different construction methods, materials and techniques used in vehicle construction | 3.1 identify the main types of structure to include; separate, integral and semi integral                               |               |                     |      |
|  | 3.2 identify the main sub assemblies to include; underframe, sideframes, bulkhead (front frame), rear frame, roof frame |               |                     |      |
|  | 3.3 identify the construction types used to build commercial vehicle bodies   |               |                     |      |
|  | 3.4 identify suitable joining methods for commercial vehicle body construction  |               |                     |      |
|  | 3.5 identify the main types of body mounting bracket used   |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_  
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 (if sampled)

## Unit 14: Skills in Removing and Fitting Commercial Vehicle Mechanical, Electrical and Trim MET Components

Unit reference number: T/502/6601

QCF level: 2

Credit value: 2

Guided learning hours: 19

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### Unit summary

This unit will help the learner to develop the skills required to remove and fit commercial vehicle MET components.

### Assessment requirements/evidence requirements:

This unit must adhere to the IMI Skills Unit Assessment Requirements developed for the unit as set out below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out in your normal workplace or in a work environment as managed and organised by an approved centre
3. be observed by an assessor as defined in the IMI Assessment Strategy
4. produce evidence of removing and refitting **6 of the 8** units or components listed below:
  - bumper
  - lamp or light unit
  - road wheel
  - battery
  - interior trim
  - exterior trim
  - wheel arch and spray suppression system
  - air management system

## Learning outcomes and assessment criteria

| Learning outcomes  | Assessment criteria   | Evidence type | Portfolio reference | Date |
|--|---|---------------|---------------------|------|
| 1 Be able to work safely when removing and fitting commercial vehicle MET components | 1.1 use suitable personal protective equipment and vehicle coverings when carrying out removal and replacement operations                 |               |                     |      |
|  | 1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment                                 |               |                     |      |
| 2 Be able to use relevant information to carry out the task                          | 2.1 select suitable sources of technical information to support commercial vehicle recognised removal and fitting activities              |               |                     |      |
|  | 2.2 use technical information to support commercial vehicle recognised removal and fitting activities                                     |               |                     |      |
| 3 Be able to use appropriate tools and equipment                                     | 3.1 select the appropriate tools and equipment necessary for carrying out removal and fitting of commercial vehicle MET components        |               |                     |      |
|  | 3.2 ensure that tools and equipment are calibrated where appropriate and in a safe working condition                                      |               |                     |      |
|  | 3.3 use the correct tools and equipment in the way specified by manufacturers when removing and fitting commercial vehicle MET components |               |                     |      |



| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 4 Be able to remove and fit commercial vehicle MET components     | 4.1 ensure components are available and are fit for purpose   |               |                     |      |
|   | 4.2 use appropriate methods and techniques to remove components   |               |                     |      |
|   | 4.3 use appropriate methods and techniques to fit components  |               |                     |      |
|   | 4.4 secure components using the specified fastening and securing devices  |               |                     |      |
|   | 4.5 check components at all critical stages   |               |                     |      |
|   | 4.6 ensure that fitted components comply with specification   |               |                     |      |
|   | 4.7 deal promptly and effectively with problems within their control  |               |                     |      |
|   | 4.8 report problems that cannot be solved   |               |                     |      |
| 5 Be able to record information and make suitable recommendations | 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, promptly, in the format required   |               |                     |      |

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## **Unit 15: Knowledge of Removing and Fitting Commercial Vehicle Mechanical, Electrical and Trim MET Components**

**Unit reference number:** Y/502/6607

**QCF level:** 2

**Credit value:** 2

**Guided learning hours:** 19

### **Unit summary**

This unit will help the learner to develop the knowledge and understanding required to remove and fit commercial vehicle MET components.

### **Assessment requirements/evidence requirements:**

If this unit is offered within a competence qualification (VCQ) it must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*).

This unit must adhere to the IMI Knowledge Unit Syllabus as set out below:

### **Sources of information**

- a) assembly and detail drawings
- b) data sheets
- c) specifications
- d) inspection sheets
- e) vehicle records
- f) workshop manuals
- g) manufacturer's manuals and bulletins
- h) wiring circuits and diagrams

### **MET components**

- a) bumpers
- b) lamp/light units
- c) road wheels
- d) batteries
- e) interior trim components
- f) exterior trim components
- g) wheel arches and spray suppression systems
- h) air management systems

### **Tools and equipment**

- a) removal and assembly tools
- b) calibrated tools
- c) cutting, shaping and forming tools
- d) lifting, holding and securing equipment
- e) measuring tools including meters

### **Types of fastener**

- a) threaded male and female fasteners
- b) self tapping/cutting/drilling screws
- c) rivets
- d) trim clips and fasteners
- e) quick release fasteners
- f) cable wraps and ties
- g) worm/hose drive straps
- h) proprietary fasteners

### **Safe working procedures**

- a) HASWA
- b) COSHH regulations
- c) PPE regulations
- d) tools and equipment instructions and safety guidance for their use, maintenance and storage

### **Methods used to check compliance with specification**

- a) correct operation
- b) accuracy
- c) alignment
- d) security of components or parts

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 1 Understand how to remove and fit commercial vehicle MET components              | 1.1 describe how to remove and fit MET components to the standard required   |               |                     |      |
|   | 1.2 describe how to prepare the vehicle prior to removing and fitting MET components                                 |               |                     |      |
|   | 1.3 describe the methods and procedures for storing removed vehicle MET components                                   |               |                     |      |
|   | 1.4 identify the different types of fastenings and fixings used when removing and fitting vehicle MET components     |               |                     |      |
|   | 1.5 explain the reasons for the use of different types of fastenings and fixings used in vehicle MET components      |               |                     |      |
|   | 1.6 describe the procedures, methods and reasons for ensuring correct alignment of vehicle MET components            |               |                     |      |
| 2 Understand how to check fitted commercial vehicle MET components for compliance | 2.1 identify the quality checks that can be used to ensure correct alignment and operation of vehicle MET components |               |                     |      |
|   | 2.2 describe the methods used to check compliance with specification   |               |                     |      |

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## Unit 16: Knowledge of Fabricating of Commercial Vehicle Body Panels and Components

Unit reference number: A/502/6602

QCF level: 3

Credit value: 6

Guided learning hours: 55

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### Unit summary

This unit will help the learner to develop the knowledge required to complete the **fabricating** of commercial vehicle **body panels and components**.

### Assessment requirements/evidence requirements:

If this unit is offered within a competence qualification (VCQ) it must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*).

This unit must adhere to the IMI Knowledge Unit Syllabus as set out below:

### **Fabricating/forming commercial vehicle body panels and components** (must include at least three of the following):

- a) component parts that have at least three related critical dimensions
- b) use at least two different processes (folding, rolling, cutting, bending)
- c) components should be made with at least two different planes or angles
- d) require three stage calculations when marking out components
- e) require the use of geometry when marking out components
- f) require tolerances that are less than industry standards due to the nature of or high cost of the materials being used or level of finish required

### **Sources of information to include**

- a) manufactures specification
- b) drawings and diagrams and sketches
- c) legal requirements
- d) workshop manuals
- e) company procedures
- f) material properties

### **Tools and equipment**

- a) measuring and marking out
- b) production aids: jigs, fixtures, formers, stops, fences, guides, templates and patterns
- c) cutting, bending, folding and rolling
- d) holding and securing
- e) general assembly
- f) moving and storing

### **Material**

- a) aluminium
- b) carbon steel
- c) stainless steel
- d) GRP
- e) timber and composites
- f) trimming materials

### **Factors influencing the fabricating**

- a) material properties
- b) material costs
- c) complexity of formed component
- d) equipment capability, capacity and availability
- e) fabricating sequence
- f) critical dimensions and checking stages
- g) operation and performance
- h) quality of finish

### **Calculations**

- a) materials required
- b) development size
- c) bending allowance
- d) cutter size, speeds and feed rate



## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 1 Understand fabricating methods and techniques used to produce commercial vehicle body panels and components | 1.1 explain how to set out the fabricating sequence for efficient and effective work   |               |                     |      |
|   | 1.2 explain the factors which influence the fabricating sequence   |               |                     |      |
|   | 1.3 explain the consequences of not adhering to the fabricating sequence   |               |                     |      |
|   | 1.4 evaluate by appropriate methods the number, dimension and material specification of fasteners used in the fabricating process    |               |                     |      |
|   | 1.5 evaluate appropriate methods to support and protect, large, heavy and fragile materials during the fabricating process           |               |                     |      |
|   | 1.6 produce developments for material blanks   |               |                     |      |
| 2 Understand how to check formed components for compliance  | 2.1 explain the methods used to check compliance with specification  |               |                     |      |
|   | 2.2 explain how to check the panels and components for dimensional accuracy  |               |                     |      |
|   | 2.3 explain appropriate points in the fabricating process to check the body panels and components for dimensional accuracy           |               |                     |      |
|   | 2.4 explain measurements and associated calculations to confirm accuracy and or discrepancies when formed body panels and components |               |                     |      |

Learner name: \_\_\_\_\_  
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Assessor signature: \_\_\_\_\_  
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## Unit 17: Skills in Fabricating of Commercial Vehicle Body Panels and Components

Unit reference number: F/502/6603

QCF level: 3

Credit value: 9

Guided learning hours: 53

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### Unit summary

This unit will help the learner to develop the skills required to complete the **fabricating** of commercial vehicle **body panels and components**.

### Assessment requirements/evidence requirements:

This unit must adhere to the IMI Skills Unit Assessment Requirements developed for the unit as set out below:

You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out in your normal workplace or in a work environment as managed and organised by an approved centre
3. be observed by an assessor as defined in the IMI Assessment Strategy
4. produce evidence of fabrication of commercial vehicle body panels and components, **2 different components using 2 different materials** to the specification and from the materials listed below

Specification must include at least three of the following:

- component parts that have at least three related critical dimensions
- use at least two different processes from: folding, rolling, cutting, bending
- components should be made with at least two different planes or angles
- require three stage calculations when marking out components
- require the use of geometry when marking out components
- require tolerances that are less than industry standards due to the nature of or high cost of the materials being used or level of finish required

Materials:

- aluminium
- carbon steel
- stainless steel
- GRP (glass reinforced plastic)
- timber and composites
- trimming materials

## Learning outcomes and assessment criteria

| Learning outcomes  | Assessment criteria   | Evidence type | Portfolio reference | Date |
|--|---|---------------|---------------------|------|
| 1 Be able to work safely when fabricating commercial vehicle body panels and components                | 1.1 use suitable personal protective equipment when carrying out all fabricating operations                               |               |                     |      |
|  | 1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment                 |               |                     |      |
| 2 Be able to select and use relevant information to form commercial vehicle body panels and components | 2.1 select suitable sources of technical information to support the fabricating of body panels and component              |               |                     |      |
|  | 2.2 use technical information to support the fabricating of body panels and components                                    |               |                     |      |
| 3 Be able to select and use appropriate tools and equipment  | 3.1 use technical information to support the fabricating of body panels and components                                    |               |                     |      |
|  | 3.2 select the appropriate tools and equipment necessary to carry out the fabricating of body panels and components       |               |                     |      |
|  | 3.3 ensure that tools and equipment are fit for purpose, calibrated where appropriate and are in a safe working condition |               |                     |      |
|  | 3.4 use tools and equipment in a safe and correct manner when carrying out the fabricating of body panels and components  |               |                     |      |

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 4 Be able to form commercial vehicle body panels and components   | 4.1 ensure that the specified materials are available and fit for purpose   |               |                     |      |
|   | 4.2 use efficient and effective techniques to form body panels and components   |               |                     |      |
|   | 4.3 check the body panels and components for compliance at regular intervals  |               |                     |      |
|   | 4.4 check that the completed body panels and components meets the required specification                                  |               |                     |      |
|   | 4.5 deal promptly and effectively with problems within your control   |               |                     |      |
|   | 4.6 report problems that cannot be solved   |               |                     |      |
|   | 4.7 complete manufacture of commercial vehicle panels and components within the agreed timescale                          |               |                     |      |
| 5 Be able to record information and make suitable recommendations | 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 promptly, in the format required                                      |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_  
Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
(if sampled)





## **Unit 18: Skills in Motor Vehicle Body Metal Active Gas (MAG) Welding Techniques**

**Unit reference number:** R/601/5468

**QCF level:** 2

**Credit value:** 5

**Guided learning hours:** 45

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### **Unit summary**

This unit enables the learner to develop the skills required to join materials using Metal Active Gas (MAG) welding techniques. It also covers the evaluation of the completed welded component.

### **Assessment requirements/evidence requirements:**

This unit must adhere to the IMI Skills Unit Assessment Requirements developed for the unit as set out below:

#### **You must:**

1. produce evidence to show you meet all of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out in your normal workplace or in a work environment as managed and organised by an approved centre
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy
4. produce evidence from your normal workplace of carrying out all of the material joining processes listed below using MAGS welding techniques:
  - lap plug
  - lap seam
  - butt joint
  - fillet joint

## Learning outcomes and assessment criteria

| Learning outcomes  | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| 1 Be able to work safely when carrying out motor vehicle body MAG welding operations | 1.1 use suitable personal protective equipment and vehicle coverings throughout all motor vehicle body MAG welding operations<br><br>1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment   |               |                     |      |
| 2 Be able to use relevant information to carry out the task                          | 2.1 select suitable sources of technical information to support motor vehicle body MAG welding operation activities including: <ul style="list-style-type: none"> <li>a. vehicle technical data</li> <li>b. welding procedures</li> <li>c. legal requirements</li> </ul> 2.2 use technical information to support motor vehicle body MAG welding operation activities  |               |                     |      |
| 3 Be able to use appropriate tools and equipment                                     | 3.1 select the appropriate tools and equipment necessary for carrying out motor vehicle body MAG welding operations<br><br>3.2 ensure all tools and equipment that are required are in a safe working condition<br><br>3.3 set up and use the appropriate tools and equipment in the way specified by manufacturers when carrying motor vehicle body MAG welding operations<br><br>3.4 clean and store PPE and equipment in the appropriate manner |               |                     |      |

| Learning outcomes  | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| 4 Be able to carry out motor vehicle body MAG welding operations | <p>4.1 prepare surface to ensure a good MAG weld is achieved</p> <p>4.2 ensure alignment, mating and treatment of flanges to enable a suitable join to be achieved</p> <p>4.3 conduct MAG weld operations including:</p> <ul style="list-style-type: none"> <li>a. lap plug</li> <li>b. lap seam</li> <li>c. butt joint</li> <li>d. fillet joint</li> </ul> <p>4.4 conduct MAG weld operations following:</p> <ul style="list-style-type: none"> <li>a. manufacturers processes, methods and procedures</li> <li>b. test procedures to provide test coupons on equivalent material in accordance with Industry Standards</li> <li>c. recognised researched repair methods</li> </ul> <p>4.5 dress the weld area without reducing material thickness and protect the area to inhibit corrosion where applicable</p> <p>4.6 recognise when the weld is not forming correctly and what action needs to be taken</p> |               |                     |      |

| Learning outcomes   | Assessment criteria  | Evidence type   | Portfolio reference | Date |
|---|--|---|---------------------|------|
|   | 4.7 inspect and assess quality of welds in accordance with Industry Standards and manufacturers specification  |   |                     |      |
|   | 4.8 avoid damaging other components, units, panels and surfaces on the vehicle and the surrounding work area. Any damage caused should be correctly reinstated |   |                     |      |
|   | 4.9 ensure no damage is incurred to other vehicle systems when MAG welding   |   |                     |      |
|   | 5 Be able to record information and make suitable recommendations  | 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 |  |   |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
(if sampled)

## Unit 19: Knowledge of Motor Vehicle Body Metal Active Gas (MAG) Welding Techniques

Unit reference number: T/601/5432

QCF level: 2

Credit value: 5

Guided learning hours: 45

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### Unit summary

This unit enables the learner to develop an understanding of joining carbon steels using Metal Active Gas (MAG) welding techniques.

### Assessment requirements/evidence requirements:

If this unit is offered within a competence qualification (VCQ) it must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*).

This unit must adhere to the IMI Knowledge Unit Syllabus as set out below:

- a) the safe working practices and procedures to be observed when working with, MAGS or cored wire arc welding equipment (general workshop and site safety; appropriate personal protective equipment; fire prevention; protecting other workers from the effects of the welding arc; safety in enclosed/confined spaces; fume control; accident procedure; statutory requirements, risk assessment procedures and relevant requirements of HASAWA, COSHH and Work Equipment Regulations; safe disposal of waste materials)
- b) the correct handling and storage of gas cylinders (manual handling and use of cylinder trolley, leak detection procedures, relevant BCGA codes of practice, cylinder identification, gas pressures, cylinder and equipment safety features, emergency shutdown procedures)
- c) the hazards associated with arc welding (live electrical components; current return (earth return); the electric arc; fumes and gases; gas supply leaks; spatter, hot slag and metal; elevated working; enclosed spaces; slips, trips and falls), and how they can be minimised
- d) the manual, MAGS or cored wire arc welding process (principles of fusion welding, AC and DC power sources, ancillary equipment, power ranges, care of equipment)
- e) the consumables associated with, MAGS or cored wire arc welding (types of wire and their application (solid and cored), types of shielding gas and their application, gas supply and control)

- f) the types of welded joints to be produced (fillet and butt welds, single and multi-run welds, sheet and sections; welding positions)
- g) setting up and restraining the joint (the use of jigs and fixtures, manipulators and positioners, restraining devices, tack welding size and spacing in relationship to material thickness)
- h) preparing the welding equipment and checks that need to be made to ensure that it is safe and ready to use (electrical connections, power return and current return (earth return); wire feed mechanisms, gas supply, setting welding parameters, correct joint set-up, cleanliness of materials used; calibration before use; routine care and maintenance of equipment)
- i) the techniques of operating the welding equipment to produce a range of joints in the various joint positions (fine tuning parameters, correct manipulation of the welding gun, safe closing down of the welding equipment)
- j) the importance of complying with job instructions and the welding procedure specification
- k) problems that can occur with the welding activities and how these can be overcome (causes of distortion and methods of control, effects of welding on materials and sources of weld defects; methods of prevention)
- l) the importance and usage of organisational quality systems used and weld standards to be achieved; weld inspection and test procedures used (including visual and non-destructive tests)
- m) personal approval tests, and their applicability to your work
- n) the extent of your own authority and whom you should report to if you have problems that you cannot resolve
- o) reporting lines and procedures, line supervision and technical experts

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 1 Understand how to work safely when carrying out motor vehicle body MAG welding operations   | 1.1 describe the health, safety and legal requirements relating to the joining of carbon steels using MAG welding techniques  |               |                     |      |
|   | 1.2 describe the importance of selecting, using and maintaining the appropriate personal protective equipment when joining carbon steels using MAG welding techniques             |               |                     |      |
|   | 1.3 describe the requirements for protecting the vehicle and contents from damage before, during and after the joining of carbon steels by MAG welding techniques                 |               |                     |      |
| 2 Understand how to select, check, use and maintain appropriate tools and equipment used in motor vehicle body MAG welding operations | 2.1 explain the use of all tools and equipment required to join carbon steels using MAG welding techniques  |               |                     |      |
|   | 2.2 describe, within the scope of their responsibilities, how to select, prepare and maintain the tools and equipment required to join carbon steels using MAG welding techniques |               |                     |      |

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 3 Understand how to carry out motor vehicle body MAG welding operations | 3.1 explain the importance of correct surface preparation methods to ensure a good MAG weld is achieved<br>3.2 identify the need for correct alignment and mating of carbon steels and the methods used to achieve this in MAG welding<br>3.3 describe the welding techniques used in MAG welding to include:<br>a. plug<br>b. lap<br>c. butt<br>d. fillet |               |                     |      |
|   | 3.4 identify the faults and defects that can occur when MAG welding  |               |                     |      |
|   | 3.5 identify common causes which result in faults and defects  |               |                     |      |
|   | 3.6 describe the quality control measures that can be used to help ensure correct joining of carbon steels before, during and after the welding process  |               |                     |      |
|   | 3.7 describe how to inspect and assess MAG welding in accordance to Industry Standards   |               |                     |      |



| Learning outcomes | Assessment criteria   | Evidence type | Portfolio reference | Date |
|-------------------|---|---------------|---------------------|------|
|                   | 3.8 compare the advantages and disadvantages of MAG welding over other welding methods  |               |                     |      |
|                   | 3.9 explain the importance and implications of checking and carrying out weld test pieces prior to carrying out the welding process |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
(if sampled)



## Unit 20: Knowledge of Motor Vehicle Body Adhesive Bonding Operations

Unit reference number: J/601/5449

QCF level: 3

Credit value: 2

Guided learning hours: 20

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### Unit summary

This unit enables the learner to develop an understanding of joining materials using adhesive bonding techniques and procedures.

### Assessment requirements/evidence requirements:

If this unit is offered within a competence qualification (VCQ) it must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*).

This unit must adhere to the IMI Knowledge Unit Syllabus as set out below:

- a) the specific safety precautions to be taken when bonding engineering materials using adhesives in a fabrication environment (general workshop and site safety, appropriate personal protective equipment, accident procedure; statutory regulations, risk assessment procedures and COSHH regulations)
- b) the personal protective clothing and equipment to be worn when carrying out bonding as part of the fabrication activities (gloves, eye protection, respiratory protection, etc)
- c) the importance of good workshop practice and house keeping, ventilation and fume control equipment, first aid procedures and actions, hazardous substances and relevant sections of COSHH
- d) the hazards associated with bonding fabricated components, and how they can be minimised
- e) how to obtain the necessary drawings and joining specifications
- f) how to extract information from research repair methodology in relation to the work undertaken

Types of adhesives:

- compact
- two parts
- cyanoacrylate
- anaerobic
- sealants

- toughened

Knowledge of curing mechanisms including:

- moisture/solvent evaporation
- chemical/thermal reaction
- exposure/exclusion to oxygen

Understanding the importance of recording shelf life, pot life, setting and curing times

Knowledge of adhesion and cohesion

- g) understanding the material preparations that are required, and the equipment and consumables that are used
- h) the importance of working to organisational and bonding agent manufacturers' instructions whilst carrying out the bonding activities
- i) the methods and techniques used for bonding the materials (such as gluing, impact, chemical and thermal reaction techniques)
- j) the characteristics of the adhesives that are to be used
- k) the application of, and precautions to be taken when using, adhesives and solvents
- l) maintenance and care of tools and equipment
- m) methods of degreasing components and producing a keying surface
- n) type and suitability of adhesives, setting or curing requirements and time, strength and appearance
- o) common causes of defects associated with the bonding processes, and how to avoid them
- p) the effects of the environment on the bonding process (such as temperature humidity, cleanliness)
- q) how to identify, select, use, and clean, the appropriate bonding agent holding vessels, brushes, stirrers and spatulas, scrapers, knives, clamps and weights
- r) the importance of cleaning up after use, to ensure everything can be used again and to minimise the need for replacement of equipment
- s) reasons for checking that components are assembled in the correct sequence, are positioned dimensionally accurately and to the correct orientation, in accordance with the specifications, prior to bonding
- t) how to check that completed joints are firm, sound and fit for purpose
- u) procedures for cleaning off surplus adhesive and tidying up the appearance of joints
- v) the extent of your own authority and whom you should report to if you have problems that you cannot resolve
- w) reporting lines and procedures, line supervision and technical experts

## Learning outcomes and assessment criteria

| Learning outcomes  | Assessment criteria   | Evidence type | Portfolio reference | Date |
|--|---|---------------|---------------------|------|
| 1 Understand how to work safely when carrying out motor vehicle body adhesive bonding operations   | 1.1 explain the health, safety and legal requirements relating to the joining of materials using adhesive bonding techniques  |               |                     |      |
|  | 1.2 explain the importance of selecting, using and maintaining the appropriate personal protective equipment when joining materials using adhesive bonding techniques         |               |                     |      |
|  | 1.3 explain the requirements for protecting the vehicle and contents from damage before, during and after the joining of materials by adhesive bonding techniques             |               |                     |      |
| 2 Understand how to select, check, use and maintain appropriate tools and equipment used in motor vehicle body adhesive bonding operations | 2.1 explain the use of all tools and equipment required to join materials using adhesive bonding techniques   |               |                     |      |
|  | 2.2 explain, within the scope of their responsibilities, how to select, prepare and maintain tools and equipment required to join materials using adhesive bonding techniques |               |                     |      |
| 3 Understand how to carry out motor vehicle body adhesive bonding operations   | 3.1 explain the importance of correct surface preparation methods to ensure a good adhesive bonding joint is achieved   |               |                     |      |
|  | 3.2 identify the need for alignment/mating of materials and the best methods used to achieve this in adhesive bonding   |               |                     |      |

| Learning outcomes | Assessment criteria  | Evidence type | Portfolio reference | Date |
|-------------------|--|---------------|---------------------|------|
|                   | 3.3 explain the joining processes, techniques and joints used for the joining of materials using adhesive bonding              |               |                     |      |
|                   | 3.4 identify the faults and defects that can occur when carrying out adhesive bonding  |               |                     |      |
|                   | 3.5 identify common causes which produce the faults and defects in adhesive bonding  |               |                     |      |
|                   | 3.6 explain the types of quality control checks that can be used to ensure correct joining of materials                        |               |                     |      |
|                   | 3.7 explain the advantages and disadvantages of adhesive bonding over other joining methods                                    |               |                     |      |
|                   | 3.8 explain the importance and implications of checking and carrying out test pieces prior to carrying out the joining process |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*(if sampled)*

## Unit 21: Skills in A Motor Vehicle Body Adhesive Bonding Operations

Unit reference number: T/601/5480

QCF level: 3

Credit value: 2

Guided learning hours: 20

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### Unit summary

This unit will help the learner to develop the skills required to join materials using adhesive bonding techniques and procedures. It also covers the evaluation of the completed joint.

### Assessment requirements/evidence requirements:

This unit must adhere to the IMI Skills Unit Assessment Requirements developed for the unit as set out below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out in your normal workplace or in a work environment as managed and organised by an approved centre
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy
4. produce evidence of carrying out adhesive bonding operations on vehicle body components using **at least \*3 of the different types of adhesive listed below:**
  - contact/impact
  - elastic adhesive sealants
  - heat reactive
  - toughened
  - two part
  - anaerobic
  - cyanoacrylate

\*However, you must provide evidence that you have the necessary knowledge and understanding required to use all of the types of adhesive listed above.

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 1 Be able to work safely when carrying out motor vehicle body adhesive bonding operations | 1.1 use suitable personal protective equipment and vehicle coverings throughout all motor vehicle body adhesive bonding operations<br><br>1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment   |               |                     |      |
| 2 Be able to use relevant information to carry out the task                               | 2.1 select suitable sources of technical information to support motor vehicle body adhesive bonding operation activities including: <ul style="list-style-type: none"> <li>a. vehicle technical data</li> <li>b. joining procedures</li> <li>c. legal requirements</li> </ul> 2.2 use technical information to support motor vehicle body adhesive bonding operation activities   |               |                     |      |
| 3 Be able to use appropriate tools and equipment  | 3.1 select the appropriate tools and equipment necessary for carrying out motor vehicle body adhesive bonding operations<br><br>3.2 ensure tools and equipment that are required are in a safe working condition<br><br>3.3 set up and use the correct tools and equipment in the way specified by manufacturers when carrying out motor vehicle body adhesive bonding operations |               |                     |      |



| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 4 Be able to carry out motor vehicle body adhesive bonding operations | 3.4 clean and store PPE and equipment in the appropriate manner   |               |                     |      |
|   | 4.1 prepare surface to ensure a good adhesive bond is achieved  |               |                     |      |
|   | 4.2 ensure alignment and mating and treatment of flanges to enable a suitable join to be achieved   |               |                     |      |
|   | 4.3 carry out adhesive bonding operations following:<br>a. manufacturers processes, methods and procedures<br>b. test procedures and providing test coupons on equivalent material<br>c. recognised researched repair methods |               |                     |      |
|   | 4.4 dress and protect the area to inhibit corrosion where applicable  |               |                     |      |
|   | 4.5 identify when the joint is not forming correctly and what action needs to be taken  |               |                     |      |
|   | 4.6 avoid damaging other components, units, panels and surfaces on the vehicle and the surrounding work area. Any damage caused should be correctly reinstated  |               |                     |      |

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 5 Be able to record information and make suitable recommendations | 5.1 produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required<br>5.2 make suitable and justifiable recommendations for cost effective repairs<br>5.3 record and report any additional faults noticed during the course of their work promptly in the format required |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_  
Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*(if sampled)*

## Unit 22: Competency in Health, Safety and Good Housekeeping in the Automotive Environment

Unit reference number: A/601/6338

QCF level: 2

Credit value: 7

Guided learning hours: 60

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### Unit summary

This unit will enable the learner to develop competency in order 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.

### Assessment requirements/evidence requirements:

This unit must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*) and adhere to the IMI Competency Unit Assessment Requirements as detailed below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in your normal workplace or as defined within the IMI VCQ Assessment Strategy as managed and organised by an approved centre when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy
4. produce evidence of use of personal and vehicle protection, cleaning the work environment and disposal of waste on **3** separate **occasions**
5. be observed by your assessor on at least **1** occasion carrying out the above

6. produce evidence of identifying risks which may result from at least **2** of the items listed below:
  - the use and maintenance of machinery or equipment
  - the use of materials or substances
  - working practices which do not conform to laid down policies
  - unsafe behaviour
  - accidental breakages and spillages
  - environmental factors
7. be observed by your assessor on at least **1** occasion carrying out the above
8. produce evidence of following at least **4** of the workplace policies listed below:
  - the use of safe working methods and equipment
  - the safe use of hazardous substances
  - smoking, eating, drinking and drugs
  - what to do in the event of an emergency
  - personal presentation
9. be observed by your assessor following workplace policies on at least **1** occasion

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| <p>1 Be able to use correct personal and vehicle protection within the automotive environment</p> | <p>1.1 select and use personal protective equipment throughout activities. To include appropriate protection of:</p> <ul style="list-style-type: none"> <li>a. eyes</li> <li>b. ears</li> <li>c. head</li> <li>d. skin</li> <li>e. feet</li> <li>f. hands</li> <li>g. lungs</li> </ul> <p>1.2 select and use vehicle protective equipment throughout all activities</p>       |               |                     |      |
| <p>2 Be able to carry out effective housekeeping practices in the automotive environment</p>      | <p>2.1 select and use cleaning equipment which is of the right type and suitable for the task</p> <p>2.2 use utilities and appropriate consumables, avoiding waste</p> <p>2.3 use materials and equipment to carry out cleaning and maintenance duties in allocated work areas, following automotive work environment policies, schedules and manufacturer's instructions</p> |               |                     |      |

| Learning outcomes  | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| 3 Be able to recognise and deal with dangers in order to work safely within the automotive workplace       | 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          |               |                     |      |
|  | 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 outcomes                           | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 4 Be able to conduct themselves responsibly | 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 |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*(if sampled)*





## Unit 23: Competency in Supporting Job Roles in the Automotive Work Environment

Unit reference number: K/601/6366

QCF level: 3

Credit value: 5

Guided learning hours: 40

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### Unit summary

This unit will help the learner develop competency in order to keep good working relationships with all colleagues and customers in the automotive work environment by using effective communication and support.

### Assessment requirements/evidence requirements:

This unit must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*) and adhere to the IMI Competency Unit Assessment Requirements as detailed below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in your normal workplace or as defined within the IMI VCQ Assessment Strategy as managed and organised by an approved centre when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy
4. produce evidence that you have worked well with others in the automotive industry
5. be observed by your assessor on at least **3** occasions carrying out the above whilst performing your normal work duties

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 1 Be able to work effectively within the organisational structure of the automotive work environment                  | 1.1 respond promptly and willingly to requests for assistance from customers and colleagues                               |               |                     |      |
|   | 1.2 refer customers and colleagues to the correct person should requests fall outside their responsibility and capability |               |                     |      |
| 2 Be able to obtain and use information in order to support their job role within the automotive work environment     | 2.1 select and use legal and manufacturers information, in an automotive work environment                                 |               |                     |      |
| 3 Be able to communicate with and support colleagues and customers effectively within the automotive work environment | 3.1 use methods of communication with customers and colleagues which meet their needs                                     |               |                     |      |
|   | 3.2 give customers and colleagues accurate information  |               |                     |      |
|   | 3.3 make requests for assistance from or to customers and colleagues clearly and courteously                              |               |                     |      |
|   | 3.4 report any anticipated delays in completion to the relevant persons promptly  |               |                     |      |

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 4 Be able to develop and keep good working relationships in the automotive work environment | 4.1 contribute to team work by initiating ideas and co-operating with customers and colleagues |               |                     |      |
|   | 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 inform colleagues promptly of anything likely to affect their own work                     |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*(if sampled)*



## Unit 24: Competency in Removing and Fitting Non-permanently Fixed Commercial Vehicle Body Panels, Chassis and Cab Components

Unit reference number: F/502/6598

QCF level: 2

Credit value: 3

Guided learning hours: 30

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### Unit summary

This unit will enable the learner to demonstrate competency in removing and fitting non-permanently fixed commercial vehicle body panels, chassis and cab components.

### Assessment requirements/evidence requirements:

This unit must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*) and adhere to the IMI Competency Unit Assessment Requirements as detailed below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in:
  - a) your normal workplace  
or when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk
  - b) in an approved centre as defined within the IMI VCQ Assessment Strategy
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy

4. produce evidence from your normal workplace of removing and replacing **6 of the 10** units or components from the list below on **at least 2 occasions**. Alternatively, produce **at least 12 pieces of evidence** of which no more than 2 are of the same type of component.
  - body panel
  - cab front panel
  - bumper
  - door
  - step
  - under run bumper
  - side guard
  - body mounting
  - body hardware
  - body furniture
5. be observed by your assessor on **at least 2 occasions, each** observation covering the removal and replacement of **different** units.

Evidence from simulated activities is **not** acceptable for this unit.

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 1 Be able to work safely when removing and fitting non-permanently fixed body and chassis cab panels and components | 1.1 use suitable personal protective equipment and vehicle coverings when carrying out removal and fitting operations   |               |                     |      |
|   | 1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment   |               |                     |      |
| 2 Be able to use relevant information to carry out the task   | 2.1 select suitable sources of technical information to support the removal and fitting of non-permanently fixed body panels, chassis and cab and components          |               |                     |      |
|   | 2.2 use technical information to support the removal and fitting of non-permanently fixed body panels, chassis and cab and components                                 |               |                     |      |
| 3 Be able to use appropriate tools and equipment  | 3.1 select the appropriate tools and equipment necessary to carry out the removal and fitting of non-permanently fixed body panels, chassis and cab and components    |               |                     |      |
|   | 3.2 ensure tools and equipment are calibrated where appropriate and are in a safe working condition   |               |                     |      |
|   | 3.3 use correct tools and equipment in the way specified by manufacturers when removing and fitting non-permanently fixed body panels, chassis and cab and components |               |                     |      |

| Learning outcomes  | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| 4 Be able to remove and fit non-permanently fixed body and chassis cab panels and components | 4.1 ensure that the specified panels or components are available and are fit for purpose                                       |               |                     |      |
|  | 4.2 use the appropriate methods and techniques to remove and fit non-permanently fixed body panels, chassis and cab components |               |                     |      |
|  | 4.3 secure the panels or components using the correct fastening and securing devices   |               |                     |      |
|  | 4.4 check refitted panels or components at critical stages   |               |                     |      |
|  | 4.5 ensure that the refitted panels or components comply with specification  |               |                     |      |
|  | 4.6 deal promptly and effectively with problems within their control   |               |                     |      |
|  | 4.7 report problems that cannot be solved  |               |                     |      |



| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 5 Be able to record information and make suitable recommendations | 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 identify and report any expected delays in completion to the relevant person(s) promptly in the format required       |               |                     |      |
|   | 5.4 record and report any additional faults promptly in the format required   |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*(if sampled)*



## Unit 25: Competency in Assembling Commercial Vehicle Body Components or Parts

Unit reference number: J/502/6599

QCF level: 2

Credit value: 10

Guided learning hours: 70

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### Unit summary

This unit will enable the learner to demonstrate competency in assembling commercial vehicle body parts and components where the component or part is quickly assembled, positioned and installed.

### Assessment requirements/evidence requirements:

This unit must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*) and adhere to the IMI Competency Unit Assessment Requirements as detailed below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in:
  - a) your normal workplace  
or when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk
  - b) in an approved centre as defined within the IMI VCQ Assessment Strategy
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy
4. produce evidence from your normal workplace of assembling **3 of the 6** listed below. **One of which must be an underframe**
  - underframe
  - sideframe
  - bulk head (front frame)
  - rear frame
  - roof frame
  - interior trim and fittings

**Guidance for assessors:**

Assembly of an underframe is a mandatory evidence requirement for this unit. Learners will be able to produce evidence from other main assemblies, sub assemblies and or components if these are indicative of their normal working practices. Assessors are expected to use their professional judgement to determine the suitability of such evidence and plan and agree its use in advance.

5. be observed by your assessor on **at least 1 occasion**.

Evidence from simulated activities is **not** acceptable for this unit.

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 1 Be able to work safely when carrying out commercial vehicle body assembly | 1.1 use suitable personal protective equipment and vehicle coverings when carrying out assembly operations        |               |                     |      |
|   | 1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment         |               |                     |      |
| 2 Be able to use relevant information to carry out the task                 | 2.1 select suitable sources of technical information to support the completion of assembly operations             |               |                     |      |
|   | 2.2 use technical information to support the completion of assembly operations                                    |               |                     |      |
| 3 Be able to use appropriate tools and equipment                            | 3.1 select the appropriate tools and equipment necessary to complete assembly operations                          |               |                     |      |
|   | 3.2 ensure tools and equipment are calibrated where appropriate and are in a safe working condition               |               |                     |      |
|   | 3.3 use the correct tools and equipment in the way specified by manufacturers when completing assembly operations |               |                     |      |
|   |   |               |                     |      |
|   |   |               |                     |      |

| Learning outcomes                                       | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 4 Be able to carry out vehicle body assembly operations | 4.1 ensure that the specified components are available and are fit for purpose                       |               |                     |      |
|   | 4.2 use the appropriate methods and techniques to assemble the components in their correct positions |               |                     |      |
|   | 4.3 secure the components using appropriate fastening and securing devices                           |               |                     |      |
|   | 4.4 ensure that the assembly is checked at all critical stages                                       |               |                     |      |
|   | 4.5 ensure the completed assembly meets the required specification                                   |               |                     |      |
|   | 4.6 deal promptly and effectively with problems within their control                                 |               |                     |      |
|   | 4.7 report problems that cannot be solved  |               |                     |      |

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 5 Be able to record information and make suitable recommendations | 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 identify and report any expected delays in completion to the relevant person(s) promptly in the format required        |               |                     |      |
|   | 5.4 record and report any additional faults noticed promptly, in the format required                                       |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*(if sampled)*





## Unit 26: Competency in Motor Vehicle Body Mechanical Fastening Operations

Unit reference number: R/601/5406

QCF level: 3

Credit value: 4

Guided learning hours: 40

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### Unit summary

This unit will enable the learner to demonstrate competency in joining materials using mechanical fastening techniques and procedures. It also covers the evaluation of the completed mechanical joint.

### Assessment requirements/evidence requirements:

This unit must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*) and adhere to the IMI Competency Unit Assessment Requirements as detailed below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in:
  - a) your normal workplace  
or when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk
  - b) in an approved centre as defined within the IMI VCQ Assessment Strategy
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy
4. produce evidence from your normal workplace of carrying out **all** of the joining processes listed below **on at least 2 occasions**
  - riveting
  - bolts and fasteners
  - screwing
  - hybrid joining (combinations of techniques listed that may also include adhesives or welding)

5. be observed by your assessor **on at least 2 occasions**, each observation covering a different mechanical fastening joint. **Both** of the observations must be carried out **in your normal workplace**

Evidence from simulated activities is **not** acceptable for this unit

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 1 Be able to work safely when carrying out motor vehicle body mechanical fastening operations | 1.1 use suitable personal protective equipment and vehicle coverings throughout all motor vehicle body mechanical fastening operations   |               |                     |      |
|   | 1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment  |               |                     |      |
| 2 Be able to use relevant information to carry out the task                                   | 2.1 select suitable sources of technical information to support motor vehicle body mechanical fastening operations activities including: <ul style="list-style-type: none"> <li>a. vehicle technical data</li> <li>b. joining procedures</li> <li>c. legal requirements</li> </ul> |               |                     |      |
|   | 2.2 use technical information to support motor vehicle body mechanical fastening operations activities   |               |                     |      |
| 3 Be able to use appropriate tools and equipment  | 3.1 select the appropriate tools and equipment necessary for carrying out motor vehicle body mechanical fastening operations   |               |                     |      |
|   | 3.2 ensure all tools and equipment that are required are in a safe working condition   |               |                     |      |
|   | 3.3 set up and use the correct tools and equipment in the way specified by manufacturers when carrying out motor vehicle body mechanical fastening operations  |               |                     |      |

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 4 Be able to carry out motor vehicle body mechanical fastening operations | 3.4 clean and store PPE and equipment in the appropriate manner  |               |                     |      |
|   | 4.1 prepare surface n to ensure a good mechanical fastening is achieved  |               |                     |      |
|   | 4.2 ensure alignment and mating and treatment of flanges to enable a suitable join to be achieved  |               |                     |      |
|   | 4.3 carry out a range of mechanical fastening  |               |                     |      |
|   | 4.4 carry out mechanical fastening operations following:<br>a. manufacturers processes, methods and procedures<br>b. recognised researched repair methods      |               |                     |      |
|   | 4.5 dress and protect the joint area to inhibit corrosion where applicable   |               |                     |      |
|   | 4.6 recognise when the joint is not forming correctly and what action needs to be taken  |               |                     |      |
|   | 4.7 ensure integrity of the joint and record the type of joint achieved on the appropriate paperwork   |               |                     |      |
|   | 4.8 avoid damaging other components, units, panels and surfaces on the vehicle and the surrounding work area. Any damage caused should be correctly reinstated |               |                     |      |

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 5 Be able to record information and make suitable recommendations | 4.9 work to the specified timescale for the activity  |               |                     |      |
|   | 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 identify and report any expected delays in completion to the relevant person(s) promptly in the format required       |               |                     |      |
|   | 5.4 record and report any additional faults noticed during the course of their work promptly in the format required       |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_  
Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*(if sampled)*



## Unit 27: Competency in Removing and Replacing Electrical Units and Components On Commercial Vehicles

Unit reference number: T/502/6629

QCF level: 2

Credit value: 3

Guided learning hours: 30

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### Unit summary

This unit will help the learner to demonstrate the competencies required to **remove and replace** defective electrical units used in the process of commercial vehicle body building and modification.

### Assessment requirements/evidence requirements:

This unit must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*) and adhere to the IMI Competency Unit Assessment Requirements as detailed below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in:
  - a) your normal workplace  
or when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk
  - b) in an approved centre as defined within the IMI VCQ Assessment Strategy
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy
4. produce evidence from your normal workplace of removing and replacing **4 of the 7** motor vehicle electrical units or components from the list below, on at **least 2 occasions**. Alternatively, produce **at least 8 pieces of evidence** of which no more than **2** are the same type of unit or component
  - lighting systems
  - reversing bleeper and sensors

- reversing camera
  - temperature monitoring unit
  - instrumentation system
  - electrical transformers
  - winches
  - tail lifts
  - tow bars
  - wiring looms
  - comfort and convenience systems
5. be observed by your assessor on **at least 2 occasions, each** observation covering the removal and replacement of **different** units

Evidence from simulated activities is **not** acceptable for this unit.



## Learning outcomes and assessment criteria

| Learning outcomes  | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| 1 Be able to work safely when removing and replacing commercial vehicle electrical units and components        | 1.1 use suitable personal protective equipment when carrying out removal and replacement activities                              |               |                     |      |
|  | 1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment                        |               |                     |      |
| 2 Be able to select and use relevant information to remove and replace commercial vehicle units and components | 2.1 select suitable sources of technical information to support the fabrication/forming of body panels and components            |               |                     |      |
|  | 2.2 use technical information to support the removal and replacement of units and components                                     |               |                     |      |
| 3 Be able to select and use appropriate tools and equipment  | 3.1 select the appropriate tools and equipment necessary to carry out the fabrication/forming of body panels and components      |               |                     |      |
|  | 3.2 ensure that tools and equipment are fit for purpose, calibrated where appropriate and are in a safe working condition        |               |                     |      |
|  | 3.3 use tools and equipment in a safe and correct manner when carrying out the fabrication/forming of body panels and components |               |                     |      |

| Learning outcomes  | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| 4 Be able to carry out removal and replacement of commercial vehicle electrical units and components | 4.1 ensure that the specified unit/component is available and undamaged<br>4.2 ensure the vehicle has been correctly prepared and the electrical systems protected or isolated<br>4.3 remove and replace the motor vehicle's electrical systems and components, adhering to the specifications and tolerances for the vehicle and following:<br>a. the manufacturer's approved removal and replacement methods<br>b. recognised researched repair methods<br>c. health and safety requirements |               |                     |      |
|  | 4.4 prepare, reassemble, position and secure replacement unit  |               |                     |      |
|  | 4.5 ensure that replaced motor vehicle electrical units and components conform to the vehicle  |               |                     |      |
|  | 4.6 deal promptly and effectively with problems within your control  |               |                     |      |
|  | 4.7 report problems that cannot be solved  |               |                     |      |
|  | 4.8 complete the work activity in the agreed timescale   |               |                     |      |
|  | 4.9 operating specification and any legal requirements   |               |                     |      |

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 5 Be able to record information and make suitable recommendations | 4.10 use suitable testing methods to evaluate the performance of the reassembled system   |               |                     |      |
|   | 4.11 ensure that the reassembled electrical systems perform to the vehicle operating specification and meets any legal requirements |               |                     |      |
|   | 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 Identify and report any expected delays in completion to the relevant person(s) promptly in the format required                 |               |                     |      |
|   | 5.4 record and report any additional faults noticed promptly, in the format required  |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
(if sampled)



## Unit 28: Competency in Removing and Fitting Commercial Vehicle Mechanical, Electrical and Trim MET Components

Unit reference number: A/502/6597

QCF level: 2

Credit value: 3

Guided learning hours: 28

### Unit summary

This unit will enable the learner to demonstrate competency in removing and fitting commercial vehicle MET components.

### Assessment requirements/evidence requirements:

This unit must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*) and adhere to the IMI Competency Unit Assessment Requirements as detailed below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in:
  - a) your normal workplace  
or when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk
  - b) in an approved centre as defined within the IMI VCQ Assessment Strategy
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy
4. produce evidence from your normal workplace of removing and replacing **6 of the 8** units or components from the list below on **at least 2 occasions**. Alternatively, produce **at least 12 pieces of evidence** of which no more than 2 are of the same type of unit or component
  - bumper
  - lamp or light unit
  - road wheel
  - battery

- interior trim
  - exterior trim
  - wheel arch and spray suppression system
  - air management system
5. be observed by your assessor on **at least 2 occasions, each** observation covering the removal and replacement of **different** units

Evidence from simulated activities is **not** acceptable for this unit.

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 1 Be able to work safely when removing and fitting commercial vehicle MET components. | 1.1 use suitable personal protective equipment and vehicle coverings when carrying out removal and fitting operations                 |               |                     |      |
|   | 1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment                             |               |                     |      |
| 2 Be able to use relevant information to carry out the task                           | 2.1 select suitable sources of technical information to support the removal and fitting of commercial vehicle MET components          |               |                     |      |
|   | 2.2 use technical information to support the removal and fitting of commercial vehicle MET components                                 |               |                     |      |
| 3 Be able to use appropriate tools and equipment                                      | 3.1 select the appropriate tools and equipment necessary to remove and fit commercial vehicle MET components                          |               |                     |      |
|   | 3.2 ensure tools and equipment are calibrated where appropriate and are in a safe working condition                                   |               |                     |      |
|   | 3.3 use correct tools and equipment in the way specified by manufacturers when removing and fitting commercial vehicle MET components |               |                     |      |

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 4 Be able to remove and fit commercial vehicle MET components | 4.1 ensure components are available and are fit for purpose              |               |                     |      |
|   | 4.2 use appropriate methods and techniques to remove components          |               |                     |      |
|   | 4.3 use appropriate methods and techniques to fit components             |               |                     |      |
|   | 4.4 secure components using the specified fastening and securing devices |               |                     |      |
|   | 4.5 check components at all critical stages                              |               |                     |      |
|   | 4.6 ensure that fitted components comply with specification              |               |                     |      |
|   | 4.7 deal promptly and effectively with problems within their control     |               |                     |      |
|   | 4.8 report problems that cannot be solved                                |               |                     |      |



| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 5 Be able to record information and make suitable recommendations | 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 identify and report any expected delays in completion to the relevant person(s) promptly in the format required       |               |                     |      |
|   | 5.4 record and report any additional faults promptly in the format required   |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*(if sampled)*



## Unit 29: Competency in Fabricating of Commercial Vehicle Body Panels and Components

Unit reference number: R/502/6606

QCF level: 3

Credit value: 10

Guided learning hours: 80

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### Unit summary

This unit will help the learner to demonstrate the competency required to complete the **fabricating** of commercial vehicle **body panels and components**.

### Assessment requirements/evidence requirements:

This unit must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*) and adhere to the IMI Competency Unit Assessment Requirements as detailed below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in:
  - a) your normal workplace  
or when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk
  - b) in an approved centre as defined within the IMI VCQ Assessment Strategy
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy

4. produce evidence from your normal workplace of fabricating **3 different** commercial vehicle body panels or components, **using 2 different materials**, to the specification and from materials listed below, on **at least 2 occasions**

Specification must include at least three of the following:

- component parts that have at least three related critical dimensions
- use at least two different processes from: folding, rolling, cutting, bending
- components should be made with at least two different planes or angles
- require three stage calculations when marking out components
- require the use of geometry when marking out components
- require tolerances that are less than industry standards due to the nature of or high cost of the materials being used or level of finish required

Materials:

- aluminium
  - carbon steel
  - stainless steel
  - GRP (glass reinforced plastic)
  - timber and composites
  - trimming materials
5. be observed by your assessor on **at least 2 occasions, each** observation covering the fabrication of commercial vehicle body panels and components

Evidence from simulated activities is **not** acceptable for this unit.

## Learning outcomes and assessment criteria

| Learning outcomes  | Assessment criteria   | Evidence type | Portfolio reference | Date |
|--|---|---------------|---------------------|------|
| 1 Be able to work safely when fabricating commercial vehicle body panels and components                | 1.1 use suitable personal protective equipment when carrying out all fabricating operations                               |               |                     |      |
|  | 1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment                 |               |                     |      |
| 2 Be able to select and use relevant information to form commercial vehicle body panels and components | 2.1 select suitable sources of technical information to support the fabricating of body panels and component              |               |                     |      |
|  | 2.2 use technical information to support the fabricating of body panels and components                                    |               |                     |      |
| 3 Be able to select and use appropriate tools and equipment  | 3.1 use technical information to support the fabricating of body panels and components                                    |               |                     |      |
|  | 3.2 select the appropriate tools and equipment necessary to carry out the fabricating of body panels and components       |               |                     |      |
|  | 3.3 ensure that tools and equipment are fit for purpose, calibrated where appropriate and are in a safe working condition |               |                     |      |
|  | 3.4 use tools and equipment in a safe and correct manner when carrying out the fabricating of body panels and components  |               |                     |      |

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 4 Be able to form commercial vehicle body panels and components   | 4.1 ensure that the specified materials are available and fit for purpose   |               |                     |      |
|   | 4.2 use efficient and effective techniques to form body panels and components   |               |                     |      |
|   | 4.3 check the body panels and components for compliance at regular intervals  |               |                     |      |
|   | 4.4 check that the completed body panels and components meets the required specification                                  |               |                     |      |
|   | 4.5 deal promptly and effectively with problems within your control   |               |                     |      |
|   | 4.6 report problems that cannot be solved   |               |                     |      |
|   | 4.7 complete manufacture of commercial vehicle panels and components within the agreed timescale                          |               |                     |      |
| 5 Be able to record information and make suitable recommendations | 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 identify and report any expected delays in completion to the relevant person(s) promptly in the format required       |               |                     |      |
|   | 5.4 record and report any additional faults noticed promptly, in the format required                                      |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_  
Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
(if sampled)





## Unit 30: Competency in Motor Vehicle Body Metal Active Gas (MAG) Welding Techniques

Unit reference number: D/601/5392

QCF level: 2

Credit value: 9

Guided learning hours: 90

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### Unit summary

This unit will enable the learner to demonstrate competency in joining materials using Metal Active Gas (MAG) welding techniques. It also covers the evaluation of the completed welded component.

### Assessment requirements/evidence requirements:

This unit must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*) and adhere to the IMI Competency Unit Assessment Requirements as detailed below:

#### You must:

1. produce evidence to show you meet all of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in:
  - a) your normal workplace  
or when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk
  - b) in an approved centre as defined within the IMI VCQ Assessment Strategy
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy
4. produce evidence from your normal workplace of carrying out **all** of the material joining processes listed below, on **at least 2 occasions** using MAGS welding techniques
  - lap plug
  - lap seam
  - butt joint
  - fillet joint

5. be observed by your assessor completing all of the above welds, **2 of which can be simulated. All** of the observations must be carried out **in your normal workplace**

Evidence from simulated activities **is** acceptable for this unit.

## Learning outcomes and assessment criteria

| Learning outcomes  | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| 1 Be able to work safely when carrying out motor vehicle body MAG welding operations | 1.1 use suitable personal protective equipment and vehicle coverings throughout all motor vehicle body MAG welding operations  |               |                     |      |
|  | 1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment  |               |                     |      |
| 2 Be able to use relevant information to carry out the task                          | 2.1 select suitable sources of technical information to support motor vehicle body MAG welding operation activities including: <ul style="list-style-type: none"> <li>a. vehicle technical data</li> <li>b. welding procedures</li> <li>c. legal requirements</li> </ul> |               |                     |      |
|  | 2.2 use technical information to support motor vehicle body MAG welding operation activities   |               |                     |      |
| 3 Be able to use appropriate tools and equipment                                     | 3.1 select the appropriate tools and equipment necessary for carrying out motor vehicle body MAG welding operations  |               |                     |      |
|  | 3.2 ensure all tools and equipment that are required are in a safe working condition   |               |                     |      |
|  | 3.3 set up and use the appropriate tools and equipment in the way specified by manufacturers when carrying out motor vehicle body MAG welding operations   |               |                     |      |

| Learning outcomes  | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| 4 Be able to carry out motor vehicle body MAG welding operations | 3.4 clean and store PPE and equipment in the appropriate manner  |               |                     |      |
|  | 4.1 prepare surface to ensure a good MAG weld is achieved  |               |                     |      |
|  | 4.2 ensure alignment, mating and treatment of flanges to enable a suitable join to be achieved   |               |                     |      |
|  | 4.3 conduct MAG weld operations including:<br>a. lap plug<br>b. lap seam<br>c. butt joint<br>d. fillet joint   |               |                     |      |
|  | 4.4 conduct MAG weld operations following:<br>a. manufacturers processes, methods and procedures<br>b. test procedures to provide test coupons on equivalent material in accordance with Industry Standards<br>c. recognised researched repair methods |               |                     |      |
|  | 4.5 dress the weld area without reducing material thickness and protect the area to inhibit corrosion where applicable   |               |                     |      |

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 5 Be able to record information and make suitable recommendations | 4.6 recognise when the weld is not forming correctly and what action needs to be taken   |               |                     |      |
|   | 4.7 inspect and assess quality of welds in accordance with Industry Standards and manufacturers specification  |               |                     |      |
|   | 4.8 avoid damaging other components, units, panels and surfaces on the vehicle and the surrounding work area. Any damage caused should be correctly reinstated |               |                     |      |
|   | 4.9 ensure no damage is incurred to other vehicle systems when MAG welding   |               |                     |      |
|   | 4.10 work to the specified timescale for the activity  |               |                     |      |
|   | 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 identify and report any expected delays in completion to the relevant person(s) promptly in the format required  |               |                     |      |
|   | 5.4 record and report any additional faults noticed during the course of their work promptly in the format required  |               |                     |      |

Learner name: \_\_\_\_\_  
Learner signature: \_\_\_\_\_  
Assessor signature: \_\_\_\_\_  
Internal verifier signature: \_\_\_\_\_  
(if sampled)

Date: \_\_\_\_\_  
Date: \_\_\_\_\_  
Date: \_\_\_\_\_  
Date: \_\_\_\_\_

## Unit 31: Competency in a Motor Vehicle Body Adhesive Bonding Operations

Unit reference number: Y/601/5407

QCF level: 3

Credit value: 4

Guided learning hours: 40

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### Unit summary

This unit will enable the learner to demonstrate competency in joining materials using adhesive bonding techniques and procedures. It also covers the evaluation of the completed joint.

### Assessment requirements/evidence requirements:

This unit must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*) and adhere to the IMI Competency Unit Assessment Requirements as detailed below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in:
  - a) your normal workplace  
or when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk
  - b) in an approved centre as defined within the IMI VCQ Assessment Strategy
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy

4. produce evidence from your normal workplace of carrying out adhesive bonding operations on vehicle body components using **at least 3\* of the different types of adhesive listed below:**
- contact/impact
  - elastic adhesive sealants
  - heat reactive
  - toughened
  - two part
  - anaerobic
  - cyanoacrylate
5. be observed by your assessor on **at least 2 occasions in your normal workplace**

\*However, you must provide evidence that you have the necessary knowledge and understanding required to use all of the types of adhesive listed above.

Evidence from simulated activities is **not** acceptable for this unit.



## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 1 Be able to work safely when carrying out motor vehicle body adhesive bonding operations | 1.1 use suitable personal protective equipment and vehicle coverings throughout all motor vehicle body adhesive bonding operations  |               |                     |      |
|   | 1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment   |               |                     |      |
| 2 Be able to use relevant information to carry out the task                               | 2.1 select suitable sources of technical information to support motor vehicle body adhesive bonding operation activities including: <ul style="list-style-type: none"> <li>a. vehicle technical data</li> <li>b. joining procedures</li> <li>c. legal requirements</li> </ul> |               |                     |      |
|   | 2.2 use technical information to support motor vehicle body adhesive bonding operation activities   |               |                     |      |
| 3 Be able to use appropriate tools and equipment  | 3.1 select the appropriate tools and equipment necessary for carrying out motor vehicle body adhesive bonding operations  |               |                     |      |
|   | 3.2 ensure tools and equipment that are required are in a safe working condition  |               |                     |      |
|   | 3.3 set up and use the correct tools and equipment in the way specified by manufacturers when carrying out motor vehicle body adhesive bonding operations   |               |                     |      |

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 4 Be able to carry out motor vehicle body adhesive bonding operations | 3.4 clean and store PPE and equipment in the appropriate manner   |               |                     |      |
|   | 4.1 prepare surface to ensure a good adhesive bond is achieved  |               |                     |      |
|   | 4.2 ensure alignment and mating and treatment of flanges to enable a suitable join to be achieved   |               |                     |      |
|   | 4.3 carry out adhesive bonding operations following:<br>a. manufacturers processes, methods and procedures<br>b. test procedures and providing test coupons on equivalent material<br>c. recognised researched repair methods |               |                     |      |
|   | 4.4 dress and protect the area to inhibit corrosion where applicable  |               |                     |      |
|   | 4.5 identify when the joint is not forming correctly and what action needs to be taken  |               |                     |      |
|   | 4.6 avoid damaging other components, units, panels and surfaces on the vehicle and the surrounding work area. Any damage caused should be correctly reinstated  |               |                     |      |
| 4.7 work to the specified timescale for the activity                  |   |               |                     |      |

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 5 Be able to record information and make suitable recommendations | 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 identify and report any expected delays in completion to the relevant person(s) promptly in the format required       |               |                     |      |
|   | 5.4 record and report any additional faults noticed during the course of their work promptly in the format required       |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*(if sampled)*



## Unit 32: Skills in Setting out and Assembling Commercial Vehicle Body Components or Parts

Unit reference number: K/502/6594

QCF level: 3

Credit value: 7

Guided learning hours: 43

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### Unit summary

This unit will help the learner to develop the skills required to set out and assemble commercial vehicle body parts and components which involve a **combination of multi stage techniques**.

### Assessment requirements/evidence requirements:

This unit must adhere to the IMI Skills Unit Assessment Requirements developed for the unit as set out below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out in your normal workplace or in a work environment as managed and organised by an approved centre
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy
4. produce evidence from your normal workplace of setting out and building **3 of the 6** assemblies from the list below. **One of these must be setting out and assembly an underframe**
  - underframe
  - sideframe
  - bulk head (front frame)
  - rear frame
  - roof frame
  - interior trim and fittings

### **Guidance for assessors:**

Setting out and assembly of an underframe is a mandatory evidence requirement for this unit. Learners will be able to produce evidence of setting out and building other main assemblies, sub assemblies and or components. Assessors are expected to use their professional judgement to determine the suitability of such evidence and plan and agree its use in advance with the awarding organisation.

In summary work at this level should involve a **combination of multi stage techniques** that includes at least three of the following:

- a) consist of at least four different parts
- b) use at least three different types of material
- c) use at least three different joining techniques
- d) require a specific assembly sequence of at least three prescribed sequential stages
- e) component part alignment is related to at least two other components which are aligned on different planes
- f) require three stage calculations when setting out components
- g) require tolerances that are 'tighter' than industry standards due to the nature of or high cost of the materials being used or level of finish required

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 1 Be able to work safely when setting out and assembling commercial vehicle body components and parts                 | 1.1 use suitable personal protective equipment when carrying out all assembly operations                                  |               |                     |      |
|   | 1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment                 |               |                     |      |
| 2 Be able to select and use relevant information to set out and assemble commercial vehicle body components and parts | 2.1 select suitable sources of technical information to support the completion of setting out and assembly operations     |               |                     |      |
|   | 2.2 use technical information to support the completion of setting out and assembly operations                            |               |                     |      |
| 3 Be able to select and use appropriate tools and equipment   | 3.1 select the appropriate tools and equipment necessary to carry out setting out and assembly operations                 |               |                     |      |
|   | 3.2 ensure that tools and equipment are fit for purpose, calibrated where appropriate and are in a safe working condition |               |                     |      |
|   | 3.3 use tools and equipment in a safe and correct manner when carrying out setting out and assembly operations            |               |                     |      |

| Learning outcomes  | Assessment criteria   | Evidence type | Portfolio reference | Date |
|--|---|---------------|---------------------|------|
| 4 Be able to set out and assemble commercial vehicle body components and parts | 4.1 ensure that the specified components are available and fit for purpose  |               |                     |      |
|  | 4.2 use efficient and effective techniques to set out the components in their correct positions                           |               |                     |      |
|  | 4.3 select and use appropriate joining methods and techniques to assemble the components                                  |               |                     |      |
|  | 4.4 use efficient and effective techniques to assemble the components in their correct positions                          |               |                     |      |
|  | 4.5 make informed judgements on when to check the setting out and assembly for compliance                                 |               |                     |      |
|  | 4.6 check that the completed assembly meets the required specification  |               |                     |      |
|  | 4.7 deal promptly and effectively with problems within your control   |               |                     |      |
|  | 4.8 report problems that cannot be solved   |               |                     |      |
| 5 Be able to record information and make suitable recommendations              | 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 promptly, in the format required                                      |               |                     |      |



Learner name: \_\_\_\_\_ Date: \_\_\_\_\_  
Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
(if sampled)



## Unit 33: Knowledge of Setting out and Assembling Commercial Vehicle Body Components or Parts

Unit reference number: L/502/6605

QCF level: 3

Credit value: 5

Guided learning hours: 50

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### Unit summary

This unit will help the learner to develop the knowledge and understanding required for setting out and assembling of commercial vehicle body parts and components which involves a **combination of multi stage techniques**.

### Assessment requirements/evidence requirements:

If this unit is offered within a competence qualification (VCQ) it must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*).

This unit must adhere to the IMI Knowledge Unit Syllabus as set out below:

### **Combination of multi stage techniques must include at least three of the following:**

- a) consist of at least four different parts
- b) use at least three different types of material
- c) use at least three different joining techniques
- d) require a specific assembly sequence of at least three prescribed sequential stages
- e) component part alignment is related to at least two other components which are aligned on different planes
- f) require three stage calculations when setting out components
- g) require tolerances that are less than industry standards due to the nature of or high cost of the materials being used or level of finish required

### **Sources of technical information to include:**

- a) assembly and detail drawings
- b) data sheets
- c) specifications

- d) inspection sheets
- e) workshop manuals
- f) chassis manufacturer's instructions
- g) wiring circuits and diagrams
- h) legislative requirements

### **Tools and equipment**

- a) striping and assembly tools
- b) calibrated tools
- c) cutting, shaping and forming tools
- d) lifting, holding and securing equipment
- e) measurement and marking out tools
- f) powered and manual riveting and proprietary fastener guns.

### **Main commercial vehicle sub assemblies**

- a) underframe
- b) sideframes
- c) bulk head (front frame)
- d) rear frame
- e) roof frame

### **Factors which influence the assembly sequence**

- a) volume of production
- b) type of construction
- c) complexity of vehicle
- d) materials used in construction
- e) joining process used
- f) skill level of assemblers
- g) customer requirements

### **Calculations include**

- a) shear stress
- b) principle of moments

**Safe working procedures**

- a) HASWA
- b) COSHH regulations
- c) PPE regulations
- d) tools and equipment instructions and safety guidance for their use, maintenance and storage

**Methods used to check compliance with specification**

- a) correct operation
- b) accuracy
- c) alignment
- d) security of components or parts

## Learning outcomes and assessment criteria

| Learning outcomes  | Assessment criteria   | Evidence type | Portfolio reference | Date |
|--|---|---------------|---------------------|------|
| <p>1 Understand how to set out and assemble commercial vehicle body components and parts</p> | 1.1 explain how to set out main assemblies and sub assemblies for efficient and effective work  |               |                     |      |
|  | 1.2 explain the factors which influence the assembly sequence   |               |                     |      |
|  | 1.3 explain the consequences of not adhering to the assembly sequence   |               |                     |      |
|  | 1.4 evaluate by appropriate methods the number, dimension and material specification of fasteners used in the assembly process  |               |                     |      |
|  | 1.5 explain calculations required to determine the effects of assembly on axle loading  |               |                     |      |
|  | 1.6 clarify when to assemble components temporarily to enable checking; alignment, profile, dimensions, correct operation and to allow other work to be carried out without hindrance |               |                     |      |
|  | 1.7 evaluate appropriate methods to support and protect, large, heavy and fragile materials during the assembly process, including working at heights                                 |               |                     |      |

| Learning outcomes  | Assessment criteria   | Evidence type | Portfolio reference | Date |
|--|---|---------------|---------------------|------|
| 2 Understand how to check commercial vehicle body components and parts assembly for compliance | 2.1 explain the methods used to check compliance with specification   |               |                     |      |
|  | 2.2 explain how to check the main assembly and sub assemblies for dimensional accuracy  |               |                     |      |
|  | 2.3 explain appropriate points in the setting out and assembly processes to check the main assembly and sub assemblies for dimensional accuracy         |               |                     |      |
|  | 2.4 explain measurements and associated calculations to confirm accuracy and or discrepancies when setting out and assembling commercial vehicle bodies |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_  
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 Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
 (if sampled)





## Unit 34: Skills in Conducting Pre and Post Work Vehicle Inspections on Commercial Vehicles

Unit reference number: H/502/6593

QCF level: 3

Credit value: 8

Guided learning hours: 53

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### Unit summary

This unit will help the learner to develop the skills required to complete the **pre and post work inspections** on commercial vehicles before and after construction.

### Assessment requirements/evidence requirements:

This unit must adhere to the IMI Skills Unit Assessment Requirements developed for the unit as set out below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out in your training workshop as managed and organised by an approved centre
3. be observed by an assessor as defined in the IMI Assessment Strategy
4. produce evidence of conducting **2 of the 4** pre and post vehicle inspections listed below:
  - first inspections (vehicle arrival on site)
  - pre build inspections
  - production inspections (critical stages, modifications, prior to painting)
  - pre delivery inspections

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 1 Be able to work safely when conducting commercial vehicle pre and post work inspections           | 1.1 use suitable protective equipment when carrying out inspections   |               |                     |      |
|   | 1.2 work in a way which minimises the risk of damage or injury to the vehicle, tools, equipment, people and the environment   |               |                     |      |
|   | 1.3 use substances hazardous to health (solvents, metal working fluids and lubricants) in the correct manner  |               |                     |      |
| 2 Be able to use relevant information to carry out commercial vehicle pre and post work inspections | 2.1 select suitable sources of technical information to support vehicle inspection activities including: <ul style="list-style-type: none"> <li>a. vehicle technical data</li> <li>b. inspection procedures</li> <li>c. legal requirements</li> </ul> |               |                     |      |
|   | 2.2 use technical information to support heavy vehicle inspection activities  |               |                     |      |
| 3 Be able to use appropriate tools and equipment  | 3.1 select the appropriate tools and equipment necessary for carrying out inspections on vehicle systems  |               |                     |      |
|   | 3.2 ensure that equipment has been calibrated to meet manufacturers' and legal requirements   |               |                     |      |
|   | 3.3 use the tools and equipment in the way specified by manufacturers when carrying out a range of inspections on vehicle systems   |               |                     |      |

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 4 Be able to carry out commercial vehicle pre and post work inspections | 4.1 ensure the vehicle is correctly and safely parked, with the appropriate precautions taken, prior to inspection<br>4.2 confirm vehicle details<br>4.3 use the appropriate methods and techniques to inspect the vehicle<br>4.4 ensure that the vehicle complies with the specification provided<br>4.5 deal promptly and effectively with problems within their control<br>4.6 report problems that cannot be solved |               |                     |      |
| 5 Be able to record information and make suitable recommendations       | 5.1 produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required<br>5.2 make suitable and justifiable recommendations for cost effective repairs<br>5.3 record and report any additional faults noticed during the course of their work promptly in the format required  |               |                     |      |

Learner name: \_\_\_\_\_  
Learner signature: \_\_\_\_\_  
Assessor signature: \_\_\_\_\_  
Internal verifier signature: \_\_\_\_\_  
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Date: \_\_\_\_\_  
Date: \_\_\_\_\_

## **Unit 35: Knowledge of Conducting Pre and Post Work Vehicle Inspections on Commercial Vehicles**

**Unit reference number:** K/502/6613

**QCF level:** 3

**Credit value:** 5

**Guided learning hours:** 50

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### **Unit summary**

This unit will help the learner to develop the knowledge required to complete the pre and post work vehicle inspections on commercial vehicles before and after construction.

### **Assessment requirements/evidence requirements:**

If this unit is offered within a competence qualification (VCQ) it must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*).

This unit must adhere to the IMI Knowledge Unit Syllabus as set out below:

### **Different types of inspection**

- a) first inspection (vehicle arrival on site)
- b) pre build inspections
- c) production inspections (critical stages, modifications, prior to painting)
- d) pre delivery inspections

### **Sources of information to include**

- a) manufactures specification
- b) customer specification
- c) company documentation
- d) drawings and diagrams
- e) legal requirements

### **Tools and equipment**

- a) measuring
- b) timing
- c) weight testing
- d) pressure testing
- e) torque wrench
- f) multi metre
- g) test rigs

### **Check compliance**

- a) visual
- b) tactile
- c) aural
- d) measurement
- e) operation and performance

### **Areas to be inspected**

- a) general condition
- b) dimensional accuracy
- c) legal requirements
- d) material specification
- e) correct operation
- f) quality of finish
- g) end user instructions and legal lettering

### **Safe Working Procedures**

- a) HASWA
- b) COSHH regulations
- c) PPE regulations
- d) tools and equipment instructions and safety guidance for their use, maintenance and storage

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 1 Understand how to carry out inspections when building commercial vehicle bodies | <p>1.1 explain the difference between the various inspections methods to include:</p> <ul style="list-style-type: none"> <li>a. first inspection (vehicle arrival on site)</li> <li>b. pre build inspections</li> <li>c. production inspections (critical stages, modifications, prior to painting)</li> <li>d. pre delivery inspections</li> </ul> <p>1.2 describe the areas of the vehicle that are inspected on different types of inspection</p> <p>1.3 explain the operational checks completed prior to and after body construction</p> <p>1.4 explain the importance of evaluating the results of inspections, in order to improve the assembly or build sequence</p> <p>1.5 compare test and inspection results against specifications and legal requirements</p> |               |                     |      |
| 2 Understand how to check compliance  | <p>2.1 explain how to record and complete the inspection results in the format required</p> <p>2.2 explain the implications of failing to carry out inspection activities correctly</p> <p>2.3 explain the implications of signing workplace documentation and vehicle records</p>  |               |                     |      |

Learner name: \_\_\_\_\_  
Learner signature: \_\_\_\_\_  
Assessor signature: \_\_\_\_\_  
Internal verifier signature: \_\_\_\_\_  
(if sampled)

Date: \_\_\_\_\_  
Date: \_\_\_\_\_  
Date: \_\_\_\_\_  
Date: \_\_\_\_\_



## Unit 36: Knowledge of how to Make Learning Possible through Demonstrations and Instruction

Unit reference number: T/601/6242

QCF level: 3

Credit value: 5

Guided learning hours: 45

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### Unit summary

This unit enables the learner to develop an understanding of how to carry out demonstrations and instruction which will help the learner to learn. It includes demonstrating equipment, showing skills, giving instruction, deciding when to use demonstration or instruction, potential of technology based learning, checking on learners' progress and giving feedback.

### Assessment requirements/evidence requirements:

If this unit is offered within a competence qualification (VCQ) it must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*).

This unit must adhere to the IMI Knowledge Unit Syllabus as set out below:

### Separate areas of demonstration which encourage learning, to include:

- a) demonstration is particularly applicable to learning manual skills
- b) learning to do something usually involves:
  - i. purpose – the aim or objective
  - ii. procedure – the most effective way of completing the task
  - iii. practice – all skills require practice to improve
- c) practical tasks are more quickly learnt through demonstration
- d) emphasis is required to body movements when demonstrating
- e) the demonstrator should encourage learners to ask questions
- f) emphasis should be placed upon key points whilst demonstrating
- g) any demonstration should ensure that all safety aspects are covered

**Types of learning which are best achieved and supported through demonstrations, to include:**

- a) types of learning:
  - i. psychomotor – measurement of manual skill performance
  - ii. cognitive – learning involving thought processes
  - iii. affective – demonstration of feelings, emotions or attitudes
- b) demonstration – involves learning to do something (psychomotor domain)
- c) combination of instruction and practical demonstrations are very effective means of learning practical skills

**How to structure demonstration and instruction sessions, to include:**

- a) before the demonstration and/or instruction ensure that the following good practice is recognised:
  - i. identify key points
  - ii. relate theoretical underpinning knowledge to key points
  - iii. rehearse to ensure that all equipment is working
  - iv. ensure all students can see even small equipment and processes
  - v. time the demonstration
  - vi. consider how to make students participate
  - vii. consider how to emphasise safe working practices
- b) during the demonstration and/or instruction good practice is to:
  - i. give a clear introduction
  - ii. identify any tools/equipment
  - iii. determine the current audience level of knowledge
  - iv. complete the demonstration correctly (do not show how not to do it)
  - v. stress key points and show links between them
  - vi. monitor safety aspects
  - vii. check learner understanding
- c) after the demonstration (if possible):
  - i. enable the audience to practice the techniques
  - ii. provide feedback on their performance

### **How to identify individual learning needs**

- a) diagnose the learning needs of your audience to include:
  - i. what competencies they already have
  - ii. what experience they have of the subject area
  - iii. what competencies they need to achieve
  - iv. what demonstration techniques are best suited to their needs
  - v. how you will assess their needs have been met
- b) what factors are likely to prevent learning, to include:
  - i. language barriers
  - ii. physical barriers
  - iii. specialist knowledge
  - iv. pace of learning
  - v. method of delivery
  - vi. environmental factors
  - vii. teaching styles
  - viii. dyslexia

### **How to check learners understanding and progress**

- a) questionnaires
- b) verbal questioning
- c) observation
- d) assessment
- e) role play
- f) projects/assignments
- g) multi-choice questions
- h) simulation
- i) tests

### **How to organise information and prepare materials**

- a) identify the course aim
- b) identify the subject aim
- c) identify the lesson aim
- d) complete a lesson plan — plan the teaching
- e) identify a series of 'cues' to be used during the lesson

- f) logically organise the information
- g) use suitable resources and equipment to maximise learning opportunities
- h) assess the learners progress and understanding

### **Instructional techniques**

- a) types of instructional techniques to include:
  - i. lectures
  - ii. handouts
  - iii. team teaching
  - iv. peer teaching
  - v. discussion – individual, group and peer
  - vi. question and answer
  - vii. multimedia
  - viii. seminars
  - ix. case studies
  - x. project/assignments

### **Environmental factors that effect learning**

- a) environmental factors that should be considered before demonstration/instruction to include:
  - i. loud noises
  - ii. bright colours
  - iii. bright lights
  - iv. strong smells
  - v. atmosphere
  - vi. temperature
  - vii. classroom seating
  - viii. classroom layout
  - ix. bright lights

### **Health and safety factors that effect learning**

- a) health and safety factors that should be considered before demonstration/instruction to include:
  - i. assessment of risk and hazards
  - ii. condition of electrical/electronic equipment
  - iii. position of cables and wires

- iv. safety of equipment used in demonstration/instruction
- v. condition of classroom equipment/furniture/structure
- vi. suitable protective clothing/equipment

**Analysis of demonstration/instruction**

- a) analysis of demonstration/instruction to include:
  - i. feedback from students
  - ii. feedback from colleagues
  - iii. organisational quality assessment
  - iv. feedback from external organisations
  - v. awarding body requirements

**Developments in learning, to include:**

- a) multimedia based materials
- b) web based materials
- c) interactive materials

**How to choose and prepare appropriate materials, to include:**

- a) putting information in order
- b) deciding whether the language used is appropriate
- c) type of material ie paper and technology based etc

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 1 Understand the nature and role of demonstrations and instruction        | 1.1 classify the separate areas of demonstrations which encourage learning                  |               |                     |      |
|   | 1.2 identify which types of learning are best achieved and supported through demonstrations |               |                     |      |
|   | 1.3 explain how to identify and use different learning opportunities                        |               |                     |      |
|   | 1.4 explain how to structure demonstrations and instruction sessions                        |               |                     |      |
|   | 1.5 explain how to choose from a range of demonstration techniques                          |               |                     |      |
| 2 Understand the principles and concepts of demonstration and instruction | 2.1 describe how to put learners at ease and encourage them to take part                    |               |                     |      |
|   | 2.2 justify the choice between demonstration and instruction as a learning method           |               |                     |      |
|   | 2.3 explain how to identify individual learning needs                                       |               |                     |      |
|   | 2.4 clarify which factors are likely to prevent learning and how to overcome them           |               |                     |      |
|   | 2.5 explain how to check learners' understanding and progress                               |               |                     |      |

| Learning outcomes  | Assessment criteria   | Evidence type | Portfolio reference | Date |
|--|---|---------------|---------------------|------|
| 3 Understand the external factors influencing human resource development | 2.6 explain how to choose and prepare appropriate materials   |               |                     |      |
|  | 2.7 explain the separate areas of instructional techniques which encourage learning   |               |                     |      |
|  | 2.8 describe which types of learning are best achieved and supported through instruction  |               |                     |      |
|  | 3.1 explain how to make sure everybody acts in line with health, safety and environmental protection, legislation and best practice |               |                     |      |
|  | 3.2 analyse developments in technology based learning and new ways of delivery  |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_  
Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*(if sampled)*





## Unit 37: Skills in how to Make Learning Possible through Demonstrations and Instruction

Unit reference number: Y/601/6282

QCF level: 3

Credit value: 5

Guided learning hours: 40

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### Unit summary

This unit will help the learner to develop the skills required to carry out demonstrations and instruction which will help the learner to learn. It includes demonstrating equipment, showing skills, giving instruction, deciding when to use demonstration or instruction, potential of technology based learning, checking on learners' progress and giving feedback.

### Assessment requirements/evidence requirements:

This unit must adhere to the IMI Skills Unit Assessment Requirements developed for the unit as set out below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out in your training workshop as managed and organised by an approved centre
3. be observed by an assessor as defined by the IMI Assessment Strategy
4. provide **1 record** of an activity which has been a combination of demonstration and instruction
5. provide records of **an observation**, which covers a **combination of demonstration and instruction**

It is expected that the **records** must include evidence to show how you:

- decided on the sequence of the demonstration
- ensured that the demonstration was accurate and realistic
- identified which learning outcomes were achieved
- ensured a safe environment for the demonstration and allowed all learners to see the demonstration clearly

In preparing the record you should consider:

- which types of learning are best achieved and supported through demonstrations
- how to choose between instruction and demonstration as learning methods
- how to identify individual learning needs
- which factors are likely to prevent learning and how to overcome them
- how to choose and prepare appropriate materials, including technology based materials
- which types of learning are best achieved through instruction
- how to make sure everybody acts in line with health, safety and environmental protection legislation and best practice
- how to analyse developments in learning and new ways of delivery, including technology based learning

It is also expected that evidence from your observations **will show** how you:

- structured the demonstration so that the learner got the most out of it
- encouraged learners to ask questions and get explanations at appropriate stages in the demonstration
- gave learners the opportunities to practice the skill being demonstrated
- gave learners positive feedback
- reinforced learning by repeating demonstration
- responded to the needs of learners during the demonstration
- reduced distractions and disruptions as much as possible
- matched instruction to the needs of learners
- ensured that the manner, level and speed of the instruction encourages learners to take part
- regularly check that learners understand and adapt instruction as appropriate
- gave learners positive feedback on the learning experience and the outcome achieved
- identified anything that prevented learning and reviewed this with the learner

Evidence from **real** or **simulated** activities and **role play is** acceptable for this unit.

## Learning outcomes and assessment criteria

| Learning outcomes                                       | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 1 Be able to demonstrate skills and methods to learners | 1.1 perform demonstrations based on an analysis of the skills needed and the order in which they must be learned                         |               |                     |      |
|   | 1.2 perform demonstrations that are accurate and realistic   |               |                     |      |
|   | 1.3 perform structured demonstrations so that the learner can get the most out of it   |               |                     |      |
|   | 1.4 perform demonstrations whilst encouraging learners to ask questions and get explanation at appropriate stages in the demonstration   |               |                     |      |
|   | 1.5 provide positive feedback to learners whilst they are being given the opportunity to practise the skills that have been demonstrated |               |                     |      |
|   | 1.6 perform additional demonstrations of skills being taught to reinforce learning   |               |                     |      |
|   | 1.7 perform demonstrations in a safe environment which also allows learners to see clearly   |               |                     |      |
|   | 1.8 respond to the needs of the learners during demonstrations   |               |                     |      |
|   | 1.9 reduce distractions and disruptions as much as possible  |               |                     |      |

| Learning outcomes              | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--------------------------------|--|---------------|---------------------|------|
| 2 Be able to instruct learners | 2.1 implement instruction which is matched to the needs of learners<br>2.2 use identified learning outcomes which can be achieved through instruction<br>2.3 perform instruction, ensuring that the manner, level and speed of the instruction encourages learners to take part<br>2.4 perform instruction whilst regularly checking that the learners understand and adapt instruction as appropriate<br>2.5 give learners positive feedback on the learning experience and the outcomes achieved<br>2.6 carry out a review with the learners to identify anything that prevented learning and adapt instruction as appropriate |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_  
 Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_  
 Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
 (if sampled)

## Unit 38: Skills to Identify and Agree Motor Vehicle Customer Service Needs

Unit reference number: M/601/6286

QCF level: 3

Credit value: 5

Guided learning hours: 40

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### Unit summary

This unit helps the learner to develop the skills required to: gain information from customers on their perceived needs; give advice and information and agree a course of action; contract for the agreed work and complete all necessary records and instructions.

### Assessment requirements/evidence requirements:

This unit must adhere to the IMI Skills Unit Assessment Requirements developed for the unit as set out below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out in your training workshop as managed and organised by an approved centre
3. be observed by an assessor as defined by the IMI Assessment Strategy
4. produce evidence, including records, to show that you have dealt with **3 different customers**
5. be observed by your assessor on at least **1 occasion**

Evidence from real activity **or role-play is acceptable** for this unit

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 1 Be able to obtain relevant information from the customer      | 1.1 obtain and interpret sufficient, relevant information, from the customer to make an assessment of their needs             |               |                     |      |
|   | 1.2 clarify customer and vehicle needs by referring to vehicle data and operating procedures                                  |               |                     |      |
| 2 Be able to provide relevant information to the customer       | 2.1 provide customers with accurate, current and relevant advice and information, in a form that the customer will understand |               |                     |      |
|   | 2.2 demonstrate techniques which encourage customers to ask questions and seek clarification during conversation              |               |                     |      |
| 3 Be able to agree work undertaken with the customer            | 3.1 summarise and record work agreed with the customer, before accepting the vehicle  |               |                     |      |
|   | 3.2 implement confirmation of the agreement by ensuring customer understanding  |               |                     |      |
| 4 Be able to ensure recording systems are implemented correctly | 4.1 use recording systems which are accurate and complete, in the required format and signed by the customer where necessary  |               |                     |      |
|   | 4.2 perform the next stage in the process by passing on completed records to the correct person promptly                      |               |                     |      |
|   | 4.3 demonstrate correct procedures for customer approval where the contracted agreement is likely to be exceeded              |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_  
Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
(if sampled)





## **Unit 39: Knowledge of how to Identify and Agree Motor Vehicle Customer Service Needs**

**Unit reference number:** R/601/6247

**QCF level:** 3

**Credit value:** 5

**Guided learning hours:** 45

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### **Unit summary**

This unit enables the learner to develop an understanding of how to gain: information from customers on their perceived needs; give advice and information and agree a course of action; contract for the agreed work and complete all necessary records and instructions.

### **Assessment requirements/evidence requirements:**

If this unit is offered within a competence qualification (VCQ) it must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*).

This unit must adhere to the IMI Knowledge Unit Syllabus as set out below:

### **Organisational Requirements**

- a) explain the organisation's terms and conditions applicable to the acceptance of customer vehicles
- b) explain the content and limitations of vehicle and component warranties for the vehicles dealt with by your organisation
- c) detail what, if any, limits there are to the authority for accepting vehicles
- d) detail why it is important to keep customers advised of progress and how this is achieved within the organisation
- e) detail the organisation's procedures for the completion and processing of documentation and records, including payment methods and obtaining customer signatures as applicable

### **Principles of customer communication and care**

- a) first impressions
- b) listening skills – 80:20 ratio
- c) eye contact and smiling
- d) showing interest and concern

- e) questioning techniques and customer qualification
- f) giving clear non-technical explanations
- g) confirming understanding (statement/question technique, reflective summary)
- h) written communication – purpose, content, presentation and style
- i) providing a high quality service – fulfilling (ideally exceeding) customer expectations within agreed time frames
- j) obtaining customer feedback and corrective actions when dissatisfaction expressed
- k) dealing with complaints

### **Company products and services**

- a) service standards
  - i. national
  - ii. manufacturer
  - iii. organisational
- b) the range and type of services offered by the organisation
  - i. diagnostic
  - ii. servicing
  - iii. repair
  - iv. warranty
  - v. MOT testing
  - vi. fitment of accessories/enhancements
  - vii. internal
- c) the courses of action available to resolve customer problems
  - i. the extent and nature of the work to be undertaken
  - ii. the terms and conditions of acceptance
  - iii. the cost
  - iv. the timescale
  - v. required payment methods
- d) the effect of resource availability upon the receipt of customer vehicles and the completion of work
  - i. levels and availability of equipment
  - ii. levels and availability of technicians
  - iii. workshop loading systems
- e) how to access costing and work completion time information
  - i. manuals
  - ii. computer based

### **Vehicle information systems, servicing and repair requirements**

- a) accessing technical data including diagnostics
- b) servicing to manufacturer requirements/standards
- c) repair/operating procedures
- d) MOT standards/requirements
- e) quality controls – interim and final
- f) requirements for cleanliness of vehicle on return to customer
- g) handover procedures

### **Consumer legislation, to include:**

- a) consumer protection
- b) sale of goods
- c) data protection
- d) product liability
- e) health and safety
- f) discrimination

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 1 Understand legislative and organisational requirements and procedures | 1.1 describe the fundamental legal requirements of current consumer legislation and the consequences of their own actions in respect of this legislation |               |                     |      |
|   | 1.2 describe the content and limitations of company and product warranties for the vehicles dealt with by their company                                  |               |                     |      |
|   | 1.3 explain the limits of their own authority for accepting vehicles   |               |                     |      |
|   | 1.4 explain the importance of keeping customers informed of progress   |               |                     |      |
|   | 1.5 describe their workplace requirements for the completion of records  |               |                     |      |
|   | 1.6 explain how to complete and process all the necessary documentation  |               |                     |      |
| 2 Understand how to communicate and care for customers                  | 2.1 explain how to communicate effectively with customers  |               |                     |      |
|   | 2.2 describe how to adapt your language when explaining technical matters to non-technical customers   |               |                     |      |
|   | 2.3 explain how to use effective questioning techniques  |               |                     |      |
|   | 2.4 describe how to care for customers and achieve customer satisfaction   |               |                     |      |

| Learning outcomes                          | Assessment criteria   | Evidence type | Portfolio reference | Date |
|--|---|---------------|---------------------|------|
| 3 Understand company products and services | 3.1 describe the range of options available to resolve vehicle problems                                       |               |                     |      |
|  | 3.2 describe the range and type of services offered by their company  |               |                     |      |
|  | 3.3 explain the effect of resource availability upon the receipt of customer vehicles and the completion work |               |                     |      |
|  | 3.4 explain how to access costing and work completion time information  |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*(if sampled)*



## Unit 40: Knowledge in Supervisory Skills Within the Automotive Sector

Unit reference number: D/502/6382

QCF level: 3

Credit value: 5

Guided learning hours: 40

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### Unit summary

This unit provides the learner with the knowledge to effectively plan and fairly allocate work required within an area. It also includes the monitoring of progress and quality of work to ensure that the required level or standard of performance is being met.

### Assessment requirements/evidence requirements:

If this unit is offered within a competence qualification (VCQ) it must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*).

This unit must adhere to the IMI Knowledge Unit Syllabus as set out below:

#### Effective communication

- a) methods of communication to include:
  - i. verbal
  - ii. written
  - iii. telephone
  - iv. signs and notices
  - v. memos
  - vi. electronic mail
  - vii. vehicle job cards
  - viii. notice boards
  - ix. text
  - x. body language
- b) preferred method of communication to use with the following:
  - i. vehicle workshop
  - ii. parts department
  - iii. reception
  - iv. sales department

- v. main office
  - vi. body and paint shop
  - vii. valet department
  - viii. customer
- c) communication method considerations:
- i. distance
  - ii. location
  - iii. job responsibility
- d) reasons for effective and prompt communication:
- i. customer relations
  - ii. company image
  - iii. morale
  - iv. productivity
  - v. colleagues

### **Supervising effectively to obtain best results**

- a) planning and allocation of work:
- i. health and safety issues
  - ii. fair allocation of work
  - iii. skill set of individuals
  - iv. standards and performance levels
  - v. workload
- b) monitoring of allocated work:
- i. on a regular basis
  - ii. fairly amongst all members
  - iii. timely
  - iv. supportive feedback
  - v. constructive feedback
- c) dealing with poor performance:
- i. identify poor performance and deal with promptly
  - ii. conflict
  - iii. assessing the situation
  - iv. appropriate outcomes
  - v. limits of authority



## Learning outcomes and assessment criteria

| Learning outcomes  | Assessment criteria   | Evidence type | Portfolio reference | Date |
|--|---|---------------|---------------------|------|
| <p>1 Understand how to communicate at all levels within a automotive environment</p> | 1.1 identify lines of communication within a automotive environment   |               |                     |      |
|  | 1.2 identify the most appropriate form of communication to colleagues according to their area of responsibility                         |               |                     |      |
|  | 1.3 explain the importance of clarifying work required  |               |                     |      |
|  | 1.4 explain the importance of seeking views from colleagues within their specialist area  |               |                     |      |
|  | 1.5 explain the importance of considering the different values of colleagues taking into account various ethnic backgrounds and beliefs |               |                     |      |
|  | 1.6 explain the importance of understanding how your own body language, tone of voice, use of language and beliefs appear to others     |               |                     |      |
|  | 1.7 identify the importance of providing prompt and accurate feedback to an individual or team  |               |                     |      |

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 2 Understand how to supervise effectively to obtain the best results from an individual or team | 2.1 identify and take account of health and safety issues in the planning, allocation and monitoring of work                               |               |                     |      |
|   | 2.2 explain how to produce a plan of work for an individual or team  |               |                     |      |
|   | 2.3 identify sustainable resources and ensure their effective use when planning  |               |                     |      |
|   | 2.4 explain how to allocate work fairly and effectively within their area of responsibility  |               |                     |      |
|   | 2.5 explain why it is important to brief a team or individual on the allocation of work and the expected standard and level of performance |               |                     |      |
|   | 2.6 explain to a team or individual the bigger picture and how their work fits in within the business                                      |               |                     |      |
|   | 2.7 identify ways to encourage individuals or teams to seek clarification in relation to the work allocated                                |               |                     |      |
| 3 Understand how to support individuals or teams and recognise their achievements               | 3.1 identify ways to effectively monitor the progress and quality of work  |               |                     |      |
|   | 3.2 explain how to provide constructive feedback   |               |                     |      |
|   | 3.3 identify additional support or resources required to assist completion of tasks set  |               |                     |      |
|   | 3.4 explain why it is important to log performance on an ongoing basis   |               |                     |      |

| Learning outcomes  | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| 4 Understand how to deal with conflict or poor performance | 4.1 explain why it is important to monitor and identify causes of conflict<br>4.2 explain why it is important to deal with conflict promptly and effectively<br>4.3 identify the types of problems and unforeseen events and deal with effectively |               |                     |      |
| 5 Understand the limits of the supervisory role            | 5.1 identify the limits of the job role and explain when a situation needs to be handed to management  |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
(if sampled)



## Unit 41: Skills in Supervising in the Automotive Sector

Unit reference number: K/502/6384

QCF level: 3

Credit value: 5

Guided learning hours: 40

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### Unit summary

This unit provides the learner with the skills to effectively plan and fairly allocate work required within an area. It also includes the monitoring of progress and quality of work to ensure that the required level or standard of performance is being met.

### Assessment requirements/evidence requirements:

This unit must adhere to the IMI Skills Unit Assessment Requirements developed for the unit as set out below:

#### You must:

1. produce evidence to show you meet all of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out in your training workshop as managed and organised by an approved centre
3. be observed by an assessor as defined by the IMI Assessment Strategy
4. be assessed by carrying out a briefing to an individual or team regarding the allocation of work. The briefing should include:
  - reasons for allocation
  - explanation of quality of work expected
  - inviting individuals to ask questions and seek clarification
5. produce performance evidence of at least **2** situations where changes to the plans have had to be made to meet new requirements. This could include:
  - revised expected completion time
  - additional work being added
  - higher priority job coming in unexpectedly

6. produce evidence of planning work on at least 3 occasions to be undertaken to include:
  - fair allocation of work to complement an individual's skill set
  - allocation of work to provide an individual with experience
  - allowing for values from different ethnic backgrounds
7. be assessed by an assessor providing feedback on the quality of work against the standard or level expected
8. produce evidence of providing additional support to an individual or team in dealing with a problem. This could be:
  - providing additional training
  - using a mentor
  - allocating additional time for completion
9. be assessed by an assessor motivating a team or individual to complete work allocated. This could include:
  - a discussion in the briefing
  - providing assistance and helping with the job in hand
  - providing achievable goals and recognising when these have been met

## Learning outcomes and assessment criteria

| Learning outcomes                                | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| 1 Be able to communicate to a team or individual | 1.1 confirm with management the work required of a team or individual<br>1.2 seek management clarification on any outstanding issues<br>1.3 ensure that a team or individual is briefed on allocation of work<br>1.4 ensure that a team or individual is aware of the quality of work expected<br>1.5 encourage a team or individual to ask questions and seek clarification<br>1.6 communicate any changes to ensure plans of work are updated for a team or individual |               |                     |      |
| 2 Be able plan work load and allocation of work  | 2.1 plan how the work will be undertaken<br>2.2 ensure the allocation of work is fair and reflects a team's or individual's skill set<br>2.3 promote the importance of recognising the different values of colleagues, taking into account various ethnic backgrounds and beliefs  |               |                     |      |

| Learning outcomes  | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| <p>3 Be able to support to a team or individual to encourage high morale and improve performance</p> | 3.1 monitor the progress and quality of work against the standard or level of expected performance             |               |                     |      |
|  | 3.2 provide constructive feedback on the quality of work against the standard or level of expected performance |               |                     |      |
|  | 3.3 support a team or individual in dealing with problems and unforeseen events                                |               |                     |      |
|  | 3.4 motivate a team or individual to complete the work allocated   |               |                     |      |
|  | 3.5 identify causes of conflict and deal with it promptly and effectively                                      |               |                     |      |
|  | 3.6 identify unacceptable performance and deal with it promptly and effectively                                |               |                     |      |
|  | 3.7 support successful completion of work activities by a team or individual                                   |               |                     |      |
|  | 3.8 utilise information collected on the performance of a team or individual in any formal appraisal           |               |                     |      |



Learner name: \_\_\_\_\_ Date: \_\_\_\_\_  
Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
(if sampled)



**Unit 42:** **Give customers a positive impression of yourself and your organisation**

**Unit reference number:** L/601/0933

**QCF level:** 2

**Credit value:** 5

**Guided learning hours:** 33

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**Unit summary**

Excellent customer service is provided by people who are good with people. The learner's behaviour affects the impression that customers have of the service they are receiving. This unit is about communicating with the customers and giving a positive impression whenever dealing with a customer. By doing this the learner can create a positive impression of the organisation and the customer service it provides. All of us enjoy the experience of good customer service if we feel that the person serving us really wants to create the right impression, responds to us and gives us good information. Every detail of the learners' behaviour counts when dealing with a customer.

**Assessment requirements/evidence requirements:**

The assessment and quality assurance requirement for this unit provides evidence towards A and V units.

## Learning outcomes and assessment criteria

| Learning outcomes                    | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--------------------------------------|--|---------------|---------------------|------|
| 1 Establish rapport with customers   | 1.1 meet their organisation's standards of appearance and behaviour                                    |               |                     |      |
|                                      | 1.2 greet their customer respectfully and in a friendly manner   |               |                     |      |
|                                      | 1.3 communicate with their customer in a way that makes them feel valued and respected                 |               |                     |      |
|                                      | 1.4 identify and confirm their customer's expectations   |               |                     |      |
|                                      | 1.5 treat their customer courteously and helpfully at all times  |               |                     |      |
|                                      | 1.6 keep their customer informed and reassured   |               |                     |      |
|                                      | 1.7 adapt their behaviour to respond to different customer behaviour                                   |               |                     |      |
| 2 Respond appropriately to customers | 2.1 respond promptly to a customer seeking help  |               |                     |      |
|                                      | 2.2 choose the most appropriate way to communicate with their customer                                 |               |                     |      |
|                                      | 2.3 check with their customer that they have fully understood their expectations                       |               |                     |      |
|                                      | 2.4 respond promptly and positively to their customer's questions and comments                         |               |                     |      |
|                                      | 2.5 allow their customer time to consider their response and give further explanation when appropriate |               |                     |      |

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 3 Communicate information to customers  | 3.1 quickly find information that will help their customer<br>3.2 give their customer information they need about the services or products offered by their organisation<br>3.3 recognise information that their customer might find complicated and check whether they fully understand<br>3.4 explain clearly to their customers any reasons why their expectations cannot be met  |               |                     |      |
| 4 Understand how to give customers a positive impression of themselves and the organisation | 4.1 describe their organisation's standards for appearance and behaviour<br>4.2 explain their organisation's guidelines for how to recognise what their customer wants and respond appropriately<br>4.3 identify their organisation's rules and procedures regarding the methods of communication they use<br>4.4 explain how to recognise when a customer is angry or confused<br>4.5 identify their organisation's standards for timeliness in responding to customer questions and requests for information |               |                     |      |

Learner name: \_\_\_\_\_  
Learner signature: \_\_\_\_\_  
Assessor signature: \_\_\_\_\_  
Internal verifier signature: \_\_\_\_\_  
(if sampled)

Date: \_\_\_\_\_  
Date: \_\_\_\_\_  
Date: \_\_\_\_\_  
Date: \_\_\_\_\_

## Unit 43: Knowledge of Installing Ancillary Units and Components to Commercial Vehicles

Unit reference number: J/502/6604

QCF level: 3

Credit value: 5

Guided learning hours: 45

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### Unit summary

This unit will help the learner to develop the knowledge required to **install** a range of units and components on commercial vehicles in accordance with approved procedures to organisational and manufacturers' standards.

### Assessment requirements/evidence requirements:

If this unit is offered within a competence qualification (VCQ) it must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*).

This unit must adhere to the IMI Knowledge Unit Syllabus as set out below:

This unit identifies the competencies needed to install a range of units and components on commercial vehicles in accordance with approved procedures to organisational and manufacturers' standards. It requires the knowledge of installation methods and a basic understanding of electrical circuits, hydraulics and pneumatics.

### Sources of technical information to include:

- a) manufactures instructions
- b) component specification
- c) workshop manuals and procedures
- d) data sheets and bulletins
- e) repair and installation schedules
- f) legal requirements

### **Tools and equipment**

- a) lifting and moving
- b) measuring and marking out
- c) cutting and forming
- d) holding and securing
- e) general assembly
- f) testing and commissioning

### **Units and Components and Auxiliary Systems to be installed**

- a) security cameras
- b) tail-lifts
- c) cranes
- d) drawbars
- e) PTO (Power Take-off)
- f) air management systems
- g) sleeper pods

### **Factures which influence the installation process**

- a) component/unit suitability
- b) source of power supply
- c) basic principles of hydraulics and pneumatics
- d) vehicle preparation
- e) handling, lifting and positioning of component/unit
- f) securing method and type of fasteners
- g) routing of cables and leads
- h) checks methods for compliance
- i) commissioning
- j) documentation required



## Learning outcomes and assessment criteria

| Learning outcomes                                | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| 1 Understand installation methods and techniques | <p>1.1 explain the importance of checking the unit and component to the specification and vehicle type</p> <p>1.2 state the reasons for preparing the vehicle correctly to accept the unit and component to be installed</p> <p>1.3 describe the importance of using appropriate lifting, moving and positioning techniques whilst installing unit and components</p> <p>1.4 state the importance of checking position of the unit and component prior to securing</p> <p>1.5 explain the sequence for securing the unit and component permanently</p> <p>1.6 describe the most suitable and efficient route for any cables or pipe work required to connect the unit and component</p> <p>1.7 explain the process of connecting the services or power required to the unit and component</p> <p>1.8 explain the process for checking that the unit and component meets regulatory requirements and standards</p> <p>1.9 explain the consequences of not adhering to the installation instructions</p> |               |                     |      |

| Learning outcomes  | Assessment criteria   | Evidence type | Portfolio reference | Date |
|--|---|---------------|---------------------|------|
| 2 Understand how to check completed installations for compliance           | 2.1 explain the methods used to check compliance with specification<br>2.2 explain how to check the installations for operation and performance<br>2.3 explain appropriate points in the installation process to check the installations for operation and performance<br>2.4 explain measurements and associated calculations to confirm accuracy when installing units and components |               |                     |      |
| 3 Understand how commercial vehicle auxiliary units and components operate | 3.1 identify commercial vehicle auxiliary system components<br>3.2 describe the construction and operation of commercial vehicle auxiliary systems.<br>Auxiliary systems to include:<br>a. security cameras<br>b. tail-lifts<br>c. cranes<br>d. drawbars<br>e. PTO (Power Take-off)<br>f. air management systems<br>g. sleeper pods   |               |                     |      |

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 4 Understand how to check, install and test Commercial Vehicle Body Building auxiliary units and components | 3.3 compare key commercial vehicle auxiliary unit and components and assemblies against alternatives to identify differences in construction and operation |               |                     |      |
|   | 3.4 state common terms used in commercial vehicle auxiliary system design  |               |                     |      |
|   | 4.1 describe how to install commercial vehicle auxiliary units and components  |               |                     |      |
|   | 4.2 describe common types of testing methods used to check the operation of commercial vehicle auxiliary units and components and their purpose            |               |                     |      |
|   | 4.3 explain how to test and evaluate the performance of replacement units against specifications   |               |                     |      |
|   | 4.4 identify common faults found in commercial vehicle electrical systems and components   |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*(if sampled)*



## Unit 44: Skills in Installing Ancillary Units and Components to Commercial Vehicles

Unit reference number: M/502/6614

QCF level: 3

Credit value: 7

Guided learning hours: 48

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### Unit summary

This unit will help the learner to develop the skills required to **install** a range of units and components on commercial vehicles in accordance with approved procedures to organisational and manufacturers' standards.

### Assessment requirements/evidence requirements:

This unit must adhere to the IMI Skills Unit Assessment Requirements developed for the unit as set out below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out in your normal workplace or in a work environment as managed and organised by an approved centre
3. be observed by an assessor as defined in the IMI Assessment Strategy
4. produce evidence of installation of **2 different** commercial vehicle ancillary units or components from the list below:
  - security camera
  - tail-lift
  - crane
  - drawbar
  - PTO (Power Take-off)
  - air management system
  - sleeper pod

## Learning outcomes and assessment criteria

| Learning outcomes  | Assessment criteria   | Evidence type | Portfolio reference | Date |
|--|---|---------------|---------------------|------|
| 1 Be able to work safely when installing ancillary units and components                    | 1.1 use suitable personal protective equipment when carrying out installation of ancillary units and components               |               |                     |      |
|  | 1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment                     |               |                     |      |
| 2 Be able to select and use relevant information to install ancillary units and components | 2.1 select suitable sources of technical information to support the installation of ancillary units and components            |               |                     |      |
|  | 2.2 use technical information to support the installation of ancillary units and components                                   |               |                     |      |
| 3 Be able to select and use appropriate tools and equipment                                | 3.1 select the appropriate tools and equipment necessary to carry out the installation of ancillary units and components      |               |                     |      |
|  | 3.2 ensure that tools and equipment are fit for purpose, calibrated where appropriate and are in a safe working condition     |               |                     |      |
|  | 3.3 use tools and equipment in a safe and correct manner when carrying out the installation of ancillary units and components |               |                     |      |

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 4 Be able to install ancillary units and components               | 4.1 record and report any additional faults noticed promptly, in the format required<br>4.2 use efficient and effective techniques to install ancillary units and components<br>4.3 check the installation for compliance at regular intervals<br>4.4 check that the completed installation meets the required specification<br>4.5 check the completed installation meets any regulatory requirements relevant to the unit and vehicle<br>4.6 deal promptly and effectively with problems within your control<br>4.7 report problems that cannot be solved |               |                     |      |
| 5 Be able to record information and make suitable recommendations | 5.1 produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required<br>5.2 make suitable and justifiable recommendations for cost effective repairs<br>5.3 record and report any additional faults noticed promptly, in the format required   |               |                     |      |

Learner name: \_\_\_\_\_  
Learner signature: \_\_\_\_\_  
Assessor signature: \_\_\_\_\_  
Internal verifier signature: \_\_\_\_\_  
(if sampled)

Date: \_\_\_\_\_  
Date: \_\_\_\_\_  
Date: \_\_\_\_\_  
Date: \_\_\_\_\_



## Unit 45: Skills in Motor Vehicle Body Aluminium Metal Inert Gas (MIG) Welding Operations

Unit reference number: K/601/5475

QCF level: 3

Credit value: 5

Guided learning hours: 45

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### Unit summary

This unit will help the learner to develop the skills required to join materials correctly and effectively using aluminium Metal Inert Gas (MIG) welding techniques and procedures. It also covers the evaluation of the completed welded components.

### Assessment requirements/evidence requirements:

This unit must adhere to the IMI Skills Unit Assessment Requirements developed for the unit as set out below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out in your normal workplace or in a work environment as managed and organised by an approved centre
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy
4. produce evidence from your normal workplace of carrying out **all** of the joining processes listed below, when working with aluminium, using MIG welding techniques
  - lap seam
  - butt joint
  - fillet joint

## Learning outcomes and assessment criteria

| Learning outcomes  | Assessment criteria   | Evidence type | Portfolio reference | Date |
|--|---|---------------|---------------------|------|
| 1 Be able to work safely when carrying out motor vehicle body aluminium MIG welding operations | <p>1.1 use suitable personal protective equipment and vehicle coverings throughout all motor vehicle body aluminium MIG welding operations</p> <p>1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment</p>   |               |                     |      |
| 2 Be able to use relevant information to carry out the task                                    | <p>2.1 select suitable sources of technical information to support motor vehicle body aluminium MIG welding operation activities including:</p> <ul style="list-style-type: none"> <li>a. vehicle technical data</li> <li>b. welding procedures</li> <li>c. legal requirements</li> </ul> <p>2.2 use technical information to support motor vehicle body aluminium MIG welding operation activities</p> |               |                     |      |

| Learning outcomes  | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| 3 Be able to use appropriate tools and equipment                           | 3.1 select the appropriate tools and equipment necessary for carrying out motor vehicle body aluminium MIG welding operations<br>3.2 ensure tools and equipment that are required are in a safe working condition<br>3.3 set up and use the correct tools and equipment in the way specified by manufacturers when carrying motor vehicle body aluminium MIG welding operations<br>3.4 clean and store PPE and equipment in the appropriate manner |               |                     |      |
| 4 Be able to carry out motor vehicle body aluminium MIG welding operations | 4.1 prepare surface preparation to ensure a good aluminium weld is achieved<br>4.2 ensure alignment, and mating and treatment of flanges to enable a suitable joint to be achieved<br>4.3 carry out aluminium welding operations including:<br>a. lap seam<br>b. butt joint<br>c. fillet joint   |               |                     |      |

| Learning outcomes | Assessment criteria  | Evidence type | Portfolio reference | Date |
|-------------------|--|---------------|---------------------|------|
|                   | <p>4.4 carry out aluminium welding operations following:</p> <ul style="list-style-type: none"> <li>a. manufacturers processes, methods and procedures</li> <li>b. test procedures and providing test coupons on equivalent material in accordance with Industry Standards</li> <li>c. recognised researched repair methods</li> </ul> |               |                     |      |
|                   | <p>4.5 dress the weld area without reducing material thickness and protect the area to inhibit corrosion where applicable</p>  |               |                     |      |
|                   | <p>4.6 identify when the weld is not forming correctly and what action needs to be taken</p>   |               |                     |      |
|                   | <p>4.7 inspect and assess all aluminium weld quality in accordance with Industry Standards and manufacturers specification</p>   |               |                     |      |
|                   | <p>4.8 ensure the integrity of the weld and record the type of weld achieved on the appropriate paperwork</p>  |               |                     |      |
|                   | <p>4.9 store and record all weld test pieces</p>   |               |                     |      |
|                   | <p>4.10 avoid damaging other components, units, panels and surfaces on the vehicle and the surrounding work area. Any damage caused should be correctly reinstated</p>   |               |                     |      |
|                   | <p>4.11 ensure no damage is incurred to other vehicle systems when aluminium welding</p>   |               |                     |      |

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 5 Be able to record information and make suitable recommendations | 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       |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*(if sampled)*



## **Unit 46: Knowledge of Motor Vehicle Body Aluminium Metal Inert Gas (MIG) Welding Operations**

**Unit reference number:** L/601/5436

**QCF level:** 3

**Credit value:** 5

**Guided learning hours:** 45

### **Unit summary**

This unit enables the learner to develop an understanding of joining materials using aluminium Metal Inert Gas (MIG) welding techniques and procedures.

### **Assessment requirements/evidence requirements:**

If this unit is offered within a competence qualification (VCQ) it must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*).

This unit must adhere to the IMI Knowledge Unit Syllabus as set out below:

- a) the safe working practices and procedures to be observed when working with aluminium welding equipment (general workshop and site safety; appropriate personal protective equipment; fire prevention; protecting other
- b) workers from the effects of the electric arc; safety in enclosed/confined spaces; fume control; accident procedure; statutory requirements, risk assessment procedures and relevant requirements of HASAWA, COSHH and Work Equipment Regulations; safe disposal of waste materials)
- c) the hazards associated with aluminium welding (live electrical components; current return (earth return) arrangements; the electric arc; fumes and gases; gas supply leaks; spatter; hot slag and metal; grinding and mechanical metal/slag removal; elevated working; enclosed spaces; slips, trips and falls), and how they can be minimised
- d) the correct handling and storage of gas cylinders (manual handling and use of cylinder trolley, leak detection procedures, relevant BCGA codes of practice, cylinder identification, gas pressures, cylinder and equipment safety features, emergency shutdown procedures)
- e) the manual MIG welding process (principles of fusion welding; power sources; ancillary equipment; power ranges; arc initiation system; care and maintenance of equipment)

- f) the consumables associated with MIG welding (types of filler wire, types of shielding gas, welding electrodes, gas supply and control, control and storage of consumables)
- g) the types of welded joints to be produced (fillet and butt welds, single and multi-run welds, sheet and sections; welding positions)
- h) setting up and restraining the joint (confirming correct set-up of joint; cleanliness of materials used; the use of jigs and fixtures, manipulators and positioners, restraining devices; tack welding size and spacing in relationship to material thickness)
- i) preparing the equipment, and checks that need to be made to ensure that it is safe to use (condition of electrical connections, power return and current return (earth return) arrangements, operating parameters)
- j) the techniques of operating the welding equipment to produce a range of joints in the various joint positions (fine tuning parameters, correct manipulation of torch, safe closing down of the welding equipment)
- k) the importance of complying with job instructions and the welding procedure specification
- l) problems that can occur with the welding activities and how these can be overcome (causes of distortion and methods of control, effects of welding on materials and sources of weld defects; methods of prevention)
- m) the organisational quality systems used and weld standards to be achieved; weld inspection and test procedures used (including visual and non-destructive tests)
- n) personal approval tests and their applicability to your work
- o) the extent of your own authority and whom you should report to if you have problems that you cannot resolve
- p) reporting lines and procedures, line supervision and technical experts



## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 1 Understand how to work safely when carrying out motor vehicle body aluminium MIG welding operations   | 1.1 explain the health, safety and legal requirements relating to the joining of materials using aluminium MIG welding techniques  |               |                     |      |
|   | 1.2 explain the importance of selecting, using and maintaining the appropriate personal protective equipment when joining materials using MIG aluminium welding techniques         |               |                     |      |
|   | 1.3 explain the requirements for protecting the vehicle and contents from damage before, during and after the joining of materials by aluminium MIG welding techniques             |               |                     |      |
| 2 Understand how to select, check, use and maintain appropriate tools and equipment used in motor vehicle body aluminium MIG welding operations | 2.1 explain the use of all tools and equipment required to join materials using aluminium MIG welding techniques   |               |                     |      |
|   | 2.2 explain, within the scope of their responsibilities, how to select, prepare and maintain tools and equipment required to join materials using aluminium MIG welding techniques |               |                     |      |
| 3 Understand how to carry out motor vehicle body aluminium MIG welding operations   | 3.1 explain the importance of correct surface preparation methods to ensure a good aluminium MIG weld is achieved  |               |                     |      |
|   | 3.2 identify the correct need for alignment/mating of materials and the best methods used to achieve this in aluminium MIG welding   |               |                     |      |

| Learning outcomes | Assessment criteria   | Evidence type | Portfolio reference | Date |
|-------------------|---|---------------|---------------------|------|
|                   | 3.3 explain the welding processes, techniques and joints used for the joining of materials using aluminium MIG welding, joints include: <ul style="list-style-type: none"> <li>a. lap seam</li> <li>b. butt joint</li> <li>c. fillet joint</li> </ul> |               |                     |      |
|                   | 3.4 identify the faults and defects that can occur when carrying out aluminium MIG welding  |               |                     |      |
|                   | 3.5 identify common causes which produce the faults and defects in aluminium MIG welding  |               |                     |      |
|                   | 3.6 explain the types of quality control checks that can be used to ensure correct joining of materials including: <ul style="list-style-type: none"> <li>a. dye penetrate</li> <li>b. crack tests</li> </ul>   |               |                     |      |
|                   | 3.7 explain how to inspect and assess aluminium MIG welding in accordance to Industry Standards   |               |                     |      |
|                   | 3.8 explain the advantages and disadvantages of aluminium MIG welding over other welding methods  |               |                     |      |

| Learning outcomes | Assessment criteria  | Evidence type | Portfolio reference | Date |
|-------------------|--|---------------|---------------------|------|
|                   | 3.9 explain how to ensure cross contamination does not occur and the effect of cross contamination on aluminium                      |               |                     |      |
|                   | 3.10 explain the importance and implications of checking and carrying out weld test pieces prior to carrying out the welding process |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
(if sampled)



## Unit 47: Skills in Motor Vehicle Body Tungsten Inert Gas (TIG) Welding Operations

Unit reference number: T/601/5477

QCF level: 3

Credit value: 5

Guided learning hours: 45

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### Unit summary

This unit will help the learner to develop the skills required to join materials using TIG welding techniques and procedures. It also covers the evaluation of the completed welded component.

### Assessment requirements/evidence requirements:

This unit must adhere to the IMI Skills Unit Assessment Requirements developed for the unit as set out below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out in your normal workplace or in a work environment as managed and organised by an approved centre
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy
4. produce evidence from your normal workplace of carrying out **all** of the joining processes listed below using TIG welding
  - lap seam
  - butt joint
  - fillet joint

## Learning outcomes and assessment criteria

| Learning outcomes  | Assessment criteria   | Evidence type | Portfolio reference | Date |
|--|---|---------------|---------------------|------|
| 1 Be able to work safely when carrying out motor vehicle body TIG welding operations | 1.1 use suitable personal protective equipment and vehicle coverings throughout all motor vehicle body TIG welding operations<br><br>1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment  |               |                     |      |
| 2 Be able to use relevant information to carry out the task                          | 2.1 select suitable sources of technical information to support motor vehicle body TIG welding operation activities including: <ul style="list-style-type: none"> <li>a. vehicle technical data</li> <li>b. welding procedures</li> <li>c. legal requirements</li> </ul>  |               |                     |      |
| 3 Be able to use appropriate tools and equipment                                     | 2.2 use technical information to support motor vehicle body TIG welding operation activities<br><br>3.1 select the appropriate tools and equipment necessary for carrying out motor vehicle body TIG welding operations<br><br>3.2 ensure all tools and equipment that are required are in a safe working condition<br><br>3.3 set up and use the correct tools and equipment in the way specified by manufacturers when carrying motor vehicle body TIG welding operations |               |                     |      |

| Learning outcomes  | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| 4 Be able to carry out motor vehicle body TIG welding operations | 3.4 clean and store PPE and equipment in the appropriate manner  |               |                     |      |
|  | 4.1 prepare surface to ensure a good TIG weld is achieved  |               |                     |      |
|  | 4.2 ensure alignment and mating and treatment of flanges to enable a suitable join to be achieved  |               |                     |      |
|  | 4.3 carry out TIG welding operations including:<br>a. lap seam<br>b. butt joint<br>c. fillet joint   |               |                     |      |
|  | 4.4 carry out TIG welding operations following:<br>a. manufacturers processes, methods and procedures<br>b. test procedures and providing test coupons on equivalent material in accordance with Industry Standards<br>c. recognised researched repair methods |               |                     |      |
|  | 4.5 dress the weld area without reducing material thickness and protect the area to inhibit corrosion where applicable   |               |                     |      |
|  | 4.6 identify when the weld is not forming correctly and what action needs to be taken  |               |                     |      |

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 5 Be able to record information and make suitable recommendations | 4.7 inspect and assess all TIG weld quality in accordance with Industry Standards and manufacturers specification   |               |                     |      |
|   | 4.8 ensure the integrity of the weld and record the type of weld achieved on the appropriate paperwork  |               |                     |      |
|   | 4.9 store and record all weld test pieces   |               |                     |      |
|   | 4.10 avoid damaging other components, units, panels and surfaces on the vehicle and the surrounding work area. Any damage caused should be correctly reinstated |               |                     |      |
|   | 4.11 ensure no damage is incurred to other vehicle systems when TIG welding   |               |                     |      |
|   | 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   |               |                     |      |



Learner name: \_\_\_\_\_ Date: \_\_\_\_\_  
Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
(if sampled)



## **Unit 48: Knowledge of Motor Vehicle Body Tungsten Inert Gas (TIG) Welding Operations**

**Unit reference number:** Y/601/5438

**QCF level:** 3

**Credit value:** 5

**Guided learning hours:** 45

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### **Unit summary**

This unit enables the learner to develop an understanding of joining materials using Tungsten Inert Gas(TIG) welding techniques and procedures.

### **Assessment requirements/evidence requirements:**

If this unit is offered within a competence qualification (VCQ) it must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*).

This unit must adhere to the IMI Knowledge Unit Syllabus as set out below:

- a) the safe working practices and procedures to be observed when working with TIG or Plasma-arc welding equipment (general workshop and site safety; appropriate personal protective equipment; fire prevention; protecting other workers from the effects of the electric arc; safety in enclosed/confined spaces; fume control; accident procedure; statutory requirements, risk assessment procedures and relevant requirements of HASAWA, COSHH and Work Equipment Regulations; safe disposal of waste materials)
- b) the hazards associated with arc welding (live electrical components; current return (earth return); the electric arc; fumes and gases; gas supply leaks; spatter; hot slag and metal; grinding and mechanical metal/slag removal; elevated working; enclosed spaces; slips, trips and falls), and how they can be minimised
- c) the correct handling and storage of gas cylinders (manual handling and use of cylinder trolley, leak detection procedures, relevant BCGA codes of practice, cylinder identification, gas pressures, cylinder and equipment safety features, emergency shutdown procedures)
- d) the manual TIG or Plasma-arc welding process (principles of fusion welding; power sources; ancillary equipment; power ranges; arc initiation system; care and maintenance of equipment)

- e) the consumables associated with TIG or Plasma-arc welding (types of filler wire, types of shielding gas, welding electrodes, gas supply and control, control and storage of consumables)
- f) the types of welded joints to be produced (fillet and butt welds, single and multi-run welds, sheet and sections; welding positions)
- g) setting up and restraining the joint (confirming correct set-up of joint; cleanliness of materials used; the use of jigs and fixtures, manipulators and positioners, restraining devices; tack welding size and spacing in relationship to material thickness)
- h) preparing the equipment, and checks that need to be made to ensure that it is safe to use (condition of electrical connections, power return and earthing arrangements, operating parameters)
- i) the techniques of operating the welding equipment to produce a range of joints in the various joint positions (fine tuning parameters, correct manipulation of torch, safe closing down of the welding equipment)
- j) the importance of complying with job instructions and the welding procedure specification
- k) Problems that can occur with the welding activities and how these can be overcome (causes of distortion and methods of control, effects of welding on materials and sources of weld defects; methods of prevention)
- l) the organisational quality systems used and weld standards to be achieved; weld inspection and test procedures used (including visual and non-destructive tests)
- m) personal approval tests and their applicability to your work
- n) the extent of your own authority and whom you should report to if you have problems that you cannot resolve
- o) reporting lines and procedures, line supervision and technical experts

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 1 Understand how to work safely when carrying out motor vehicle body TIG welding operations   | 1.1 explain health, safety and legal requirements relating to the joining of materials using TIG welding techniques   |               |                     |      |
|   | 1.2 explain the importance of selecting, using and maintaining the appropriate personal protective equipment when joining materials using TIG welding techniques        |               |                     |      |
|   | 1.3 explain the requirements for protecting the vehicle and contents from damage before, during and after the joining of materials by TIG welding techniques            |               |                     |      |
| 2 Understand how to select, check, use and maintain appropriate tools and equipment used in motor vehicle body TIG welding operations | 2.1 explain the use of all tools and equipment required to join materials using TIG welding techniques  |               |                     |      |
|   | 2.2 explain within the scope of their responsibilities, how to select, prepare and maintain tools and equipment required to join materials using TIG welding techniques |               |                     |      |
| 3 Understand how to carry out motor vehicle body TIG welding operations   | 3.1 explain the importance of correct surface preparation methods to ensure a good TIG weld is achieved   |               |                     |      |
|   | 3.2 identify the need for alignment and mating of materials and the best methods used to achieve this in TIG welding  |               |                     |      |

| Learning outcomes | Assessment criteria   | Evidence type | Portfolio reference | Date |
|-------------------|---|---------------|---------------------|------|
|                   | 3.3 identify and describe the welding processes, techniques and joints used for the joining of materials using TIG welding, joints include: <ul style="list-style-type: none"> <li>a. lap seam</li> <li>b. butt joint</li> <li>c. fillet joint</li> </ul> |               |                     |      |
|                   | 3.4 identify the faults and defects that can occur when carrying out TIG welding  |               |                     |      |
|                   | 3.5 identify common causes which produce the faults and defects in TIG welding  |               |                     |      |
|                   | 3.6 explain the types of quality control checks that can be used to ensure correct joining of materials   |               |                     |      |
|                   | 3.7 explain how to inspect and assess TIG welding in accordance to Industry Standards   |               |                     |      |
|                   | 3.8 explain the advantages and disadvantages of TIG welding over other welding methods  |               |                     |      |
|                   | 3.9 explain the importance and implications of checking and carrying out weld test pieces prior to carrying out the welding process   |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_  
Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
(if sampled)





## Unit 49: Competency in Setting out and Assembling Commercial Vehicle Body Components or Parts

Unit reference number: M/502/6600

QCF level: 3

Credit value: 10

Guided learning hours: 80

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### Unit summary

This unit will enable the learner to demonstrate competency in setting out and assembling commercial vehicle body parts and components which involve a **combination of multi stage techniques**.

### Assessment requirements/evidence requirements:

This unit must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*) and adhere to the IMI Competency Unit Assessment Requirements as detailed below:

You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in:
  - a) your normal workplace  
or when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk
  - b) in an approved centre as defined within the IMI VCQ Assessment Strategy
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy
4. produce evidence from your normal workplace of setting out and assembling **4 of the 6** listed below. **One of which must be the setting out and assembly of an underframe**
  - underframe
  - sideframe
  - bulk head (front frame)

- rear frame
- roof frame
- interior trim and fittings

5. be observed by your assessor on **at least 1 occasion**.

**Guidance for assessors:**

Setting out and assembly of an underframe is a mandatory evidence requirement for this unit. Learners will be able to produce evidence from other main assemblies, sub assemblies and or components if these are indicative of their normal working practices. Assessors are expected to use their professional judgement to determine the suitability of such evidence and plan and agree its use in advance.

In summary work at this level should involve a **combination of multi stage techniques** that includes at least three of the following:

- consist of at least four different parts
- use at least three different types of material
- use at least three different joining techniques
- require a specific assembly sequence of at least three prescribed sequential stages
- component part alignment is related to at least two other components which are aligned on different planes
- require three stage calculations when setting out components
- require tolerances that are 'tighter' than industry standards due to the nature of or high cost of the materials being used or level of finish required

Evidence from simulated activities is **not** acceptable for this unit.

## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 1 Be able to work safely when setting out and assembling commercial vehicle body components and parts                 | 1.1 use suitable personal protective equipment and vehicle coverings when carrying out the assembly of body components or parts |               |                     |      |
|   | 1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment                       |               |                     |      |
| 2 Be able to select and use relevant information to set out and assemble commercial vehicle body components and parts | 2.1 select suitable sources of technical information to support setting out and assembly operations                             |               |                     |      |
|   | 2.2 use technical information to support setting out and assembly operations  |               |                     |      |
| 3 Be able to select and use appropriate tools and equipment   | 3.1 select the appropriate tools and equipment to support the completion of setting out and assembly operations                 |               |                     |      |
|   | 3.2 ensure tools and equipment are calibrated where appropriate and are in a safe working condition                             |               |                     |      |
|   | 3.3 use correct tools and equipment in the way specified by manufacturers when completing setting out and assembly operations   |               |                     |      |

| Learning outcomes  | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| 4 Be able to set out and assemble commercial vehicle body components and parts | 4.1 ensure that the specified components are available and fit for purpose                       |               |                     |      |
|  | 4.2 use efficient and effective techniques to set out the components in their correct positions  |               |                     |      |
|  | 4.3 select and use appropriate joining methods and techniques to assemble the components         |               |                     |      |
|  | 4.4 use efficient and effective techniques to assemble the components in their correct positions |               |                     |      |
|  | 4.5 make informed judgements on when to check the setting out and assembly for compliance        |               |                     |      |
|  | 4.6 check that the completed assembly meets the required specification                           |               |                     |      |
|  | 4.7 deal promptly and effectively with problems within their control                             |               |                     |      |
|  | 4.8 report problems that cannot be solved  |               |                     |      |

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 5 Be able to record information and make suitable recommendations | 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 identify and report any expected delays in completion to the relevant person(s) promptly in the format required       |               |                     |      |
|   | 5.4 record and report any additional faults noticed during the course of their work promptly in the format required       |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*(if sampled)*



## Unit 50: Competency in Conducting Pre and Post Work Vehicle Inspections on Commercial Vehicles

Unit reference number: H/502/6612

QCF level: 3

Credit value: 11

Guided learning hours: 85

### Unit summary

This unit will help the learner to demonstrate the competency required to complete the **pre and post work inspections** on commercial vehicles before and after construction.

### Assessment requirements/evidence requirements:

This unit must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*) and adhere to the IMI Competency Unit Assessment Requirements as detailed below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in:
  - a) your normal workplace  
or when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk
  - b) in an approved centre as defined within the IMI VCQ Assessment Strategy
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy
4. produce evidence from your normal workplace of conducting **3 of the 4** pre and post vehicle inspections listed below, on **at least 2 occasions** for each. Alternatively, produce at least **6 pieces of evidence** of which no more than **2** are of the same inspection
  - first inspections (vehicle arrival on site)
  - pre build inspections
  - production inspections (critical stages, modifications, prior to painting)

- pre delivery inspections
5. be observed by your assessor on **at least 2 occasions**, each observation covering **different** inspection type

Evidence from simulated activities is **not** acceptable for this unit.



## Learning outcomes and assessment criteria

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 1 Be able to work safely when conducting commercial vehicle pre and post work inspections           | 1.1 use suitable protective equipment when carrying out inspections   |               |                     |      |
|   | 1.2 work in a way which minimises the risk of damage or injury to the vehicle, tools, equipment, people and the environment   |               |                     |      |
|   | 1.3 use substances hazardous to health (solvents, metal working fluids and lubricants) in the correct manner  |               |                     |      |
| 2 Be able to use relevant information to carry out commercial vehicle pre and post work inspections | 2.1 select suitable sources of technical information to support vehicle inspection activities including: <ul style="list-style-type: none"> <li>a. vehicle technical data</li> <li>b. inspection procedures</li> <li>c. legal requirements</li> </ul> |               |                     |      |
|   | 2.2 use technical information to support heavy vehicle inspection activities  |               |                     |      |
| 3 Be able to use appropriate tools and equipment  | 3.1 select the appropriate tools and equipment necessary for carrying out inspections on vehicle systems  |               |                     |      |
|   | 3.2 ensure that equipment has been calibrated to meet manufacturers' and legal requirements   |               |                     |      |
|   | 3.3 use the tools and equipment in the way specified by manufacturers when carrying out a range of inspections on vehicle systems   |               |                     |      |

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 4 Be able to carry out commercial vehicle pre and post work inspections | 4.1 ensure the vehicle is correctly and safely parked, with the appropriate precautions taken, prior to inspection<br>4.2 confirm vehicle details<br>4.3 use the appropriate methods and techniques to inspect the vehicle<br>4.4 ensure that the vehicle complies with the specification provided<br>4.5 deal promptly and effectively with problems within their control<br>4.6 report problems that cannot be solved                                 |               |                     |      |
| 5 Be able to record information and make suitable recommendations       | 5.1 produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required<br>5.2 make suitable and justifiable recommendations for cost effective repairs<br>5.3 identify and report any expected delays in completion to the relevant person(s) promptly in the format required<br>5.4 record and report any additional faults noticed during the course of their work promptly in the format required |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_  
Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
(if sampled)



## Unit 51: Competency in Making Learning Possible through Demonstrations and Instruction

Unit reference number: Y/601/6380

QCF level: 3

Credit value: 5

Guided learning hours: 40

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### Unit summary

This unit will help the learner to develop competency in order to carry out demonstrations and instruction which will help the learner to learn. It includes demonstrating equipment, showing skills, giving instruction, deciding when to use demonstration or instruction, potential of technology based learning, checking on learners' progress and giving feedback.

### Assessment requirements/evidence requirements:

This unit must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*) and adhere to the IMI Competency Unit Assessment Requirements as detailed below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out in your normal workplace or as defined within the IMI VCQ Assessment Strategy as managed and organised by an approved centre when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy or by a witness who has been previously agreed with the assessor prior to the observation taking place
4. provide at least **1 record** of an activity which has been demonstrated
5. provide records of at least **2 observations**, **1** of which **must be** by your assessor, which cover at least **1 demonstration** and **1 instruction or a combination of both**

It is expected that the **records** must include evidence to show how you:

- decided on the sequence of the demonstration
- ensured that the demonstration was accurate and realistic
- identified which learning outcomes were achieved
- ensured a safe environment for the demonstration and allowed all learners to see the demonstration clearly

In preparing the records you should consider:

- which types of learning are best achieved and supported through demonstrations
- how to choose between instruction and demonstration as learning methods
- how to identify individual learning needs
- which factors are likely to prevent learning and how to overcome them
- how to choose and prepare appropriate materials, including technology based materials.
- which types of learning are best achieved through instruction
- how to make sure everybody acts in line with health, safety and environmental protection legislation and best practice
- how to analyse developments in learning and new ways of delivery, including technology based learning

It is also expected that evidence from your observations will **show how** you:

- structured the demonstration so that the learner got the most out of it
- encouraged learners to ask questions and get explanations at appropriate stages in the demonstration
- gave learners the opportunities to practice the skill being demonstrated
- gave learners positive feedback
- reinforced learning by repeating demonstration
- responded to the needs of learners during the demonstration
- reduced distractions and disruptions as much as possible
- matched instruction to the needs of learners
- ensured that the manner, level and speed of the instruction encourages learners to take part
- regularly check that learners understand and adapt instruction as appropriate

- gave learners positive feedback on the learning experience and the outcome achieved
- identified anything that prevented learning and reviewed this with the learner

## Learning outcomes and assessment criteria

| Learning outcomes                                       | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 1 Be able to demonstrate skills and methods to learners | 1.1 perform demonstrations based on an analysis of the skills needed and the order in which they must be learned                         |               |                     |      |
|   | 1.2 perform demonstrations that are accurate and realistic   |               |                     |      |
|   | 1.3 perform structured demonstrations so that the learner can get the most out of it   |               |                     |      |
|   | 1.4 perform demonstrations whilst encouraging learners to ask questions and get explanation at appropriate stages in the demonstration   |               |                     |      |
|   | 1.5 provide positive feedback to learners whilst they are being given the opportunity to practise the skills that have been demonstrated |               |                     |      |
|   | 1.6 perform additional demonstrations of skills being taught to reinforce learning   |               |                     |      |
|   | 1.7 perform demonstrations in a safe environment which also allows learners to see clearly   |               |                     |      |
|   | 1.8 respond to the needs of the learners during demonstrations   |               |                     |      |
|   | 1.9 reduce distractions and disruptions as much as possible  |               |                     |      |



| Learning outcomes              | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--------------------------------|--|---------------|---------------------|------|
| 2 Be able to instruct learners | 2.1 implement instruction which is matched to the needs of learners  |               |                     |      |
|                                | 2.2 use identified learning outcomes which can be achieved through instruction   |               |                     |      |
|                                | 2.3 perform instruction, ensuring that the manner, level and speed of the instruction encourages learners to take part     |               |                     |      |
|                                | 2.4 perform instruction whilst regularly checking that the learners understand and adapt instruction as appropriate        |               |                     |      |
|                                | 2.5 give learners positive feedback on the learning experience and the outcomes achieved                                   |               |                     |      |
|                                | 2.6 carry out a review with the learners to identify anything that prevented learning and adapt instruction as appropriate |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
(if sampled)



## Unit 52: Competency in Identifying and Agreeing Motor Vehicle Customer Service Needs

Unit reference number: K/601/6383

QCF level: 3

Credit value: 5

Guided learning hours: 40

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### Unit summary

This unit helps the learner to develop competency in order to: gain information from customers on their perceived needs; give advice and information and agree a course of action; contract for the agreed work and complete all necessary records and instructions.

### Assessment requirements/evidence requirements:

This unit must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*) and adhere to the IMI Competency Unit Assessment Requirements as detailed below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in your normal workplace or as defined within the IMI VCQ Assessment Strategy as managed and organised by an approved centre when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy
4. produce evidence, including records, to show that you have dealt with **3 different customers**
5. be observed by your assessor in your normal workplace dealing with at least **1 customer**

## Learning outcomes and assessment criteria

| Learning outcomes  | Assessment criteria   | Evidence type | Portfolio reference | Date |
|--|---|---------------|---------------------|------|
| 1 Be able to obtain relevant information from the customer | 1.1 obtain and interpret sufficient, relevant information, from the customer to make an assessment of their needs             |               |                     |      |
|  | 1.2 clarify customer and vehicle needs by referring to vehicle data and operating procedures                                  |               |                     |      |
| 2 Be able to provide relevant information to the customer  | 2.1 provide customers with accurate, current and relevant advice and information, in a form that the customer will understand |               |                     |      |
|  | 2.2 demonstrate techniques which encourage customers to ask questions and seek clarification during conversation              |               |                     |      |
| 3 Be able to agree work undertaken with the customer       | 3.1 summarise and record work agreed with the customer, before accepting the vehicle  |               |                     |      |
|  | 3.2 implement confirmation of the agreement by ensuring customer understanding  |               |                     |      |

| Learning outcomes   | Assessment criteria  | Evidence type | Portfolio reference | Date |
|---|--|---------------|---------------------|------|
| 4 Be able to ensure recording systems are implemented correctly | 4.1 use recording systems which are accurate and complete, in the required format and signed by the customer where necessary |               |                     |      |
|   | 4.2 perform the next stage in the process by passing on completed records to the correct person promptly                     |               |                     |      |
|   | 4.3 demonstrate correct procedures for customer approval where the contracted agreement is likely to be exceeded             |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*(if sampled)*



## Unit 53: Competency in Supervising within the Automotive Sector

Unit reference number: H/502/6383

QCF level: 3

Credit value: 5

Guided learning hours: 40

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### Unit summary

This unit enables the learner to demonstrate competency at planning and fairly allocating work required within an area. It also includes the monitoring of progress and quality of work to ensure that the required level or standard of performance is being met.

### Assessment requirements/evidence requirements:

This unit must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*) and adhere to the IMI Competency Unit Assessment Requirements as detailed below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in your normal workplace or as defined within the IMI VCQ Assessment Strategy as managed and organised by an approved centre when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy
4. be assessed by an assessor on communication techniques to include body language, tone of voice and words used the following situations:
  - reasons for allocation of work
  - quality and timing of work expectations have been met or exceeded
  - quality or timing of work expectations have not been achieved
  - customer complaint
5. produce evidence on at least **2** occasions where prompt and accurate feedback has been given to a team or individual

6. produce evidence of planning work on at least **3** occasions to be undertaken to include:
  - fair allocation of work to complement an individual's skill set
  - allocation of work to provide an individual with experience
  - allowing for health and safety issues
7. produce evidence of regularly monitoring progress and quality of work. Evidence may be obtained from:
  - customer feedback
  - time taken to complete the work
  - quality inspection on completion of work
8. be assessed an assessor as dealing with at least **2** of the following situations:
  - customer complaint
  - unacceptable or poor performance of a team or individual
  - conflict



## Learning outcomes and assessment criteria

| Learning outcomes                                | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| 1 Be able to communicate to a team or individual | 1.1 confirm with management the work required of a team or individual<br>1.2 seek management clarification on any outstanding issues<br>1.3 ensure that a team or individual is briefed on allocation of work<br>1.4 ensure that a team or individual is aware of the quality of work expected<br>1.5 encourage a team or individual to ask questions and seek clarification<br>1.6 communicate any changes to ensure plans of work are updated for a team or individual |               |                     |      |
| 2 Be able plan work load and allocation of work  | 2.1 plan how the work will be undertaken<br>2.2 ensure the allocation of work is fair and reflects a team's or individual's skill set<br>2.3 promote the importance of recognising the different values of colleagues, taking into account various ethnic backgrounds and beliefs  |               |                     |      |

| Learning outcomes  | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| <p>3 Be able to support an individual or team to encourage high morale and improve performance</p> | 3.1 monitor the progress and quality of work against the standard or level of expected performance             |               |                     |      |
|  | 3.2 provide constructive feedback on the quality of work against the standard or level of expected performance |               |                     |      |
|  | 3.3 support a team or individual in dealing with problems and unforeseen events                                |               |                     |      |
|  | 3.4 motivate a team or individual to complete the work allocated   |               |                     |      |
|  | 3.5 identify causes of conflict and deal with promptly and effectively   |               |                     |      |
|  | 3.6 identify unacceptable performance and deal with promptly and effectively                                   |               |                     |      |
|  | 3.7 support successful completion of work activities by a team or individual                                   |               |                     |      |
|  | 3.8 utilise information collected on the performance of a team or individual in any formal appraisal           |               |                     |      |

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 4 Be able to record information and make suitable recommendations | 4.1 produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required |               |                     |      |
|   | 4.2 identify and report any expected delays in completion to the relevant person(s) promptly in the format required       |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*(if sampled)*



## Unit 54: Competency in Installing Ancillary Units and Components to Commercial Vehicles

Unit reference number: D/502/6611

QCF level: 3

Credit value: 12

Guided learning hours: 95

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### Unit summary

This unit will help the learner to demonstrate the competencies required to install a range of units and components on commercial vehicles in accordance with approved procedures to organisational and manufacturers' standards.

### Assessment requirements/evidence requirements:

This unit must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*) and adhere to the IMI Competency Unit Assessment Requirements as detailed below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in:
  - a) your normal workplace  
or when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk
  - b) in an approved centre as defined within the IMI VCQ Assessment Strategy
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy
4. produce evidence from your normal workplace, of installing **3 of the 7** commercial vehicle ancillary units and components listed below, on at least **2 occasions**. Alternatively, produce at least **6 pieces of evidence** of which no more than **2** are the same type of unit or component
  - security camera
  - tail-lift
  - crane

- drawbar
  - PTO (Power Take-off)
  - air management system
  - sleeper pod
5. be observed by your assessor on at **least 2 occasions, each** observation covering the installation of commercial vehicle ancillary units and components, **2 different** units or components

Evidence from simulated activities is **not** acceptable for this unit.

## Learning outcomes and assessment criteria

| Learning outcomes  | Assessment criteria   | Evidence type | Portfolio reference | Date |
|--|---|---------------|---------------------|------|
| 1 Be able to work safely when installing ancillary units and components                    | 1.1 use suitable personal protective equipment when carrying out installation of ancillary units and components               |               |                     |      |
|  | 1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment                     |               |                     |      |
| 2 Be able to select and use relevant information to install ancillary units and components | 2.1 select suitable sources of technical information to support the installation of ancillary units and components            |               |                     |      |
|  | 2.2 use technical information to support the installation of ancillary units and components                                   |               |                     |      |
| 3 Be able to select and use appropriate tools and equipment                                | 3.1 select the appropriate tools and equipment necessary to carry out the installation of ancillary units and components      |               |                     |      |
|  | 3.2 ensure that tools and equipment are fit for purpose, calibrated where appropriate and are in a safe working condition     |               |                     |      |
|  | 3.3 use tools and equipment in a safe and correct manner when carrying out the installation of ancillary units and components |               |                     |      |

| Learning outcomes                                   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 4 Be able to install ancillary units and components | 4.1 ensure that the specified materials are available and fit for purpose                               |               |                     |      |
|   | 4.2 use efficient and effective techniques to install ancillary units and components                    |               |                     |      |
|   | 4.3 check the installation for compliance at regular intervals  |               |                     |      |
|   | 4.4 check that the completed installation meets the required specification                              |               |                     |      |
|   | 4.5 check the completed installation meets any regulatory requirements relevant to the unit and vehicle |               |                     |      |
|   | 4.6 deal promptly and effectively with problems within your control                                     |               |                     |      |
|   | 4.7 report problems that cannot be solved   |               |                     |      |
|   | 4.8 complete the installation process within the agreed timescale                                       |               |                     |      |



| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 5 Be able to record information and make suitable recommendations | 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 identify and report any expected delays in completion to the relevant person(s) promptly in the format required       |               |                     |      |
|   | 5.4 record and report any additional faults noticed promptly, in the format required                                      |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_  
Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
*(if sampled)*



## Unit 55: Competency in Motor Vehicle Body Aluminium Metal Inert Gas (MIG) Welding Operations

Unit reference number: M/601/5400

QCF level: 3

Credit value: 9

Guided learning hours: 90

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### Unit summary

This unit will enable the learner to demonstrate competency in joining materials correctly and effectively using aluminium Metal Inert Gas (MIG) welding techniques and procedures. It also covers the evaluation of the completed welded components.

### Assessment requirements/evidence requirements:

This unit must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*) and adhere to the IMI Competency Unit Assessment Requirements as detailed below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in:
  - a) your normal workplace  
or when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk
  - b) in an approved centre as defined within the IMI VCQ Assessment Strategy
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy
4. produce evidence from your normal workplace of carrying out **all** of the joining processes listed below **on at least 2 occasions** when working with aluminium, using MIG welding techniques
  - lap seam
  - butt joint
  - fillet joint

5. be observed by your assessor completing all of the above welds, **1 of which can be simulated**. **All** of the observations must be carried out in your normal workplace

Evidence from simulated activities **is** acceptable for this unit.

## Learning outcomes and assessment criteria

| Learning outcomes  | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| 1 Be able to work safely when carrying out motor vehicle body aluminium MIG welding operations | 1.1 use suitable personal protective equipment and vehicle coverings throughout all motor vehicle body aluminium MIG welding operations  |               |                     |      |
|  | 1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment  |               |                     |      |
| 2 Be able to use relevant information to carry out the task                                    | 2.1 select suitable sources of technical information to support motor vehicle body aluminium MIG welding operation activities including: <ul style="list-style-type: none"> <li>a. vehicle technical data</li> <li>b. welding procedures</li> <li>c. legal requirements</li> </ul> |               |                     |      |
|  | 2.2 use technical information to support motor vehicle body aluminium MIG welding operation activities   |               |                     |      |
| 3 Be able to use appropriate tools and equipment   | 3.1 select the appropriate tools and equipment necessary for carrying out motor vehicle body aluminium MIG welding operations  |               |                     |      |
|  | 3.2 ensure tools and equipment that are required are in a safe working condition   |               |                     |      |

| Learning outcomes  | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
|  | 3.3 set up and use the correct tools and equipment in the way specified by manufacturers when carrying motor vehicle body aluminium MIG welding operations   |               |                     |      |
|  | 3.4 clean and store PPE and equipment in the appropriate manner  |               |                     |      |
| 4 Be able to carry out motor vehicle body aluminium MIG welding operations | 4.1 prepare surface preparation to ensure a good aluminium MIG weld is achieved  |               |                     |      |
|  | 4.2 ensure alignment, and mating and treatment of flanges to enable a suitable joint to be achieved  |               |                     |      |
|  | 4.3 carry out aluminium MIG welding operations including:<br>a. lap seam<br>b. butt joint<br>c. fillet joint   |               |                     |      |
|  | 4.4 carry out aluminium MIG welding operations following:<br>a. manufacturers processes, methods and procedures<br>b. test procedures and providing test coupons on equivalent material in accordance with Industry Standards<br>c. recognised researched repair methods |               |                     |      |

| Learning outcomes | Assessment criteria   | Evidence type | Portfolio reference | Date |
|-------------------|---|---------------|---------------------|------|
|                   | 4.5 dress the weld area without reducing material thickness and protect the area to inhibit corrosion where applicable  |               |                     |      |
|                   | 4.6 identify when the weld is not forming correctly and what action needs to be taken   |               |                     |      |
|                   | 4.7 inspect and assess all aluminium MIG weld quality in accordance with Industry Standards and manufacturers specification                                     |               |                     |      |
|                   | 4.8 ensure the integrity of the weld and record the type of weld achieved on the appropriate paperwork  |               |                     |      |
|                   | 4.9 store and record all weld test pieces   |               |                     |      |
|                   | 4.10 avoid damaging other components, units, panels and surfaces on the vehicle and the surrounding work area. Any damage caused should be correctly reinstated |               |                     |      |
|                   | 4.11 ensure no damage is incurred to other vehicle systems when aluminium MIG welding   |               |                     |      |
|                   | 4.12 work to the specified timescale for the activity   |               |                     |      |

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 5 Be able to record information and make suitable recommendations | 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 identify and report any expected delays in completion to the relevant person(s) promptly in the format required       |               |                     |      |
|   | 5.4 record and report any additional faults noticed during the course of their work promptly in the format required       |               |                     |      |

Learner name: \_\_\_\_\_ Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_ Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_ Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_ Date: \_\_\_\_\_  
(if sampled)



## Unit 56: Competency in Motor Vehicle Body Tungsten Inert Gas (TIG) Welding Operations

Unit reference number: J/601/5404

QCF level: 3

Credit value: 9

Guided learning hours: 90

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### Unit summary

This unit will enable the learner to demonstrate competency in joining materials using TIG welding techniques and procedures. It also covers the evaluation of the completed welded component.

### Assessment requirements/evidence requirements:

This unit must be assessed in accordance with the IMI Assessment Strategy (*Annexe C*) and adhere to the IMI Competency Unit Assessment Requirements as detailed below:

#### You must:

1. produce evidence to show you meet **all** of the Learning Outcomes
2. produce performance evidence resulting from work you have carried out on real vehicles in:
  - a) your normal workplace  
or when naturally occurring performance evidence does not occur at frequent intervals in your normal workplace or when safety is at risk
  - b) in an approved centre as defined within the IMI VCQ Assessment Strategy
3. be observed by an assessor as defined in the IMI VCQ Assessment Strategy
4. produce evidence from your normal workplace of carrying out **all** of the material joining processes listed below, **on at least 2 occasions** using TIG welding techniques
  - lap seam
  - butt joint
  - fillet joint

5. be observed by your assessor completing all of the above welds, **1 of which can be simulated. All** of the observations must be carried out in **your normal workplace**

Evidence from simulated activities **is** acceptable for this unit.

## Learning outcomes and assessment criteria

| Learning outcomes  | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| 1 Be able to work safely when carrying out motor vehicle body TIG welding operations | 1.1 use suitable personal protective equipment and vehicle coverings throughout all motor vehicle body TIG welding operations  |               |                     |      |
|  | 1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment  |               |                     |      |
| 2 Be able to use relevant information to carry out the task                          | 2.1 select suitable sources of technical information to support motor vehicle body TIG welding operation activities including: <ul style="list-style-type: none"> <li>a. vehicle technical data</li> <li>b. welding procedures</li> <li>c. legal requirements</li> </ul> |               |                     |      |
|  | 2.2 use technical information to support motor vehicle body TIG welding operation activities   |               |                     |      |
| 3 Be able to use appropriate tools and equipment                                     | 3.1 select the appropriate tools and equipment necessary for carrying out motor vehicle body TIG welding operations  |               |                     |      |
|  | 3.2 ensure all tools and equipment that are required are in a safe working condition   |               |                     |      |
|  | 3.3 set up and use the correct tools and equipment in the way specified by manufacturers when carrying motor vehicle body TIG welding operations   |               |                     |      |
|  | 3.4 clean and store PPE and equipment in the appropriate manner  |               |                     |      |

| Learning outcomes  | Assessment criteria  | Evidence type | Portfolio reference | Date |
|--|--|---------------|---------------------|------|
| 4 Be able to carry out motor vehicle body TIG welding operations | <p>4.1 prepare surface to ensure a good TIG weld is achieved</p> <p>4.2 ensure alignment and mating and treatment of flanges to enable a suitable joint to be achieved</p> <p>4.3 carry out TIG welding operations including:</p> <ul style="list-style-type: none"> <li>a. lap seam</li> <li>b. butt joint</li> <li>c. fillet joint</li> </ul> <p>4.4 carry out TIG welding operations following:</p> <ul style="list-style-type: none"> <li>a. manufacturers processes, methods and procedures</li> <li>b. test procedures and providing test coupons on equivalent material in accordance with Industry Standards</li> <li>c. recognised researched repair methods</li> </ul> <p>4.5 dress the weld area without reducing material thickness and protect the area to inhibit corrosion where applicable</p> <p>4.6 identify when the weld is not forming correctly and what action needs to be taken</p> <p>4.7 inspect and assess all TIG weld quality in accordance with Industry Standards and manufacturers specification</p> |               |                     |      |

| Learning outcomes   | Assessment criteria   | Evidence type | Portfolio reference | Date |
|---|---|---------------|---------------------|------|
| 5 Be able to record information and make suitable recommendations | 4.8 ensure the integrity of the weld and record the type of weld achieved on the appropriate paperwork  |               |                     |      |
|   | 4.9 store and record all weld test pieces   |               |                     |      |
|   | 4.10 avoid damaging other components, units, panels and surfaces on the vehicle and the surrounding work area. Any damage caused should be correctly reinstated |               |                     |      |
|   | 4.11 ensure no damage is incurred to other vehicle systems when TIG welding   |               |                     |      |
|   | 4.12 work to the specified timescale for the activity   |               |                     |      |
|   | 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 identify and report any expected delays in completion to the relevant person(s) promptly in the format required   |               |                     |      |
|   | 5.4 record and report any additional faults noticed during the course of their work promptly in the format required   |               |                     |      |

Learner name: \_\_\_\_\_  
Learner signature: \_\_\_\_\_  
Assessor signature: \_\_\_\_\_  
Internal verifier signature: \_\_\_\_\_  
(if sampled)

Date: \_\_\_\_\_  
Date: \_\_\_\_\_  
Date: \_\_\_\_\_  
Date: \_\_\_\_\_

## Further information

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Our customer service numbers are:

|                               |               |
|-------------------------------|---------------|
| BTEC and NVQ                  | 0844 576 0026 |
| GCSE                          | 0844 576 0027 |
| GCE                           | 0844 576 0025 |
| The Diploma                   | 0844 576 0028 |
| DiDA and other qualifications | 0844 576 0031 |

Calls may be recorded for training purposes.

## Useful publications

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Related information and publications include:

- *Centre Handbook for Edexcel QCF NVQs and Competence-based Qualifications* published annually
- functional skills publications – specifications, tutor support materials and question papers
- *Regulatory Arrangements for the Qualification and Credit Framework* (published by Ofqual, August 2008)
- the current Edexcel publications catalogue and update catalogue.

Edexcel publications concerning the Quality Assurance System and the internal and standards verification of vocationally related programmes can be found on the Edexcel website.

NB: Some of our publications are priced. There is also a charge for postage and packing. Please check the cost when you order.

## How to obtain National Occupational Standards

To obtain the National Occupational Standards go to [www.ukstandards.org.uk](http://www.ukstandards.org.uk).

## Professional development and training

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Edexcel supports UK and international customers with training related to NVQ and BTEC qualifications. This support is available through a choice of training options offered in our published training directory or through customised training at your centre.

The support we offer focuses on a range of issues including:

- planning for the delivery of a new programme
- planning for assessment and grading
- developing effective assignments
- building your team and teamwork skills
- developing student-centred learning and teaching approaches
- building functional skills into your programme
- building effective and efficient quality assurance systems.

The national programme of training we offer can be viewed on our website ([www.edexcel.com/training](http://www.edexcel.com/training)). You can request customised training through the website or by contacting one of our advisers in the Training from Edexcel team via Customer Services to discuss your training needs.

The training we provide:

- is active
- is designed to be supportive and thought provoking
- builds on best practice
- may be suitable for those seeking evidence for their continuing professional development.



## Annexe A: Progression pathways

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### The Edexcel qualification framework for the Automotive sector

| Level    | BTEC vocationally-related qualifications                        | BTEC specialist qualification / professional | NVQ/ competence |
|----------|---|--|-----------------|
| <b>5</b> | BTEC Level 5 HND Diploma in Vehicle Operations Management (QCF) |  |                 |
| <b>4</b> | BTEC Level 4 HNC Diploma in Vehicle Operations Management (QCF) |  |                 |

| Level    | BTEC vocationally-related qualifications | BTEC specialist qualification/ professional  | NVQ/ competence   |
|----------|--|--|---|
| <b>3</b> |  | <p>Edexcel BTEC Level 3 Diploma in Light Vehicle Maintenance and Repair Principles (QCF)</p> <p>Edexcel BTEC Level 3 Diploma in Heavy Vehicle Maintenance and Repair Principles (QCF)</p> <p>Edexcel BTEC Level 3 Diploma in Auto Electrical and Mobile Electrical Principles (QCF)</p> <p>Edexcel BTEC Level 3 Diploma in Vehicle Fitting Supervisory Principles (QCF)</p> <p>Edexcel BTEC Level 3 Diploma in Vehicle Accident Repair Body Principles (QCF)</p> <p>Edexcel BTEC Level 3 Diploma in Vehicle Accident Repair Paint Principles (QCF)</p> <p>Edexcel BTEC Level 3 Diploma in Lift Truck Maintenance and Repair Principles (QCF)</p> <p>Edexcel BTEC Level 3 Diploma in Motorcycle Maintenance and Repair Principles (QCF)</p> <p>Edexcel BTEC Level 3 Diploma in Vehicle Sales Principles (QCF)</p> <p>Edexcel BTEC Level 3 Diploma in Body Building Principles (QCF)</p> | <p>Edexcel Level 3 Diploma in Light Vehicle Maintenance and Repair Competence (QCF)</p> <p>Edexcel Level 3 Diploma in Heavy Vehicle Maintenance and Repair Competence(QCF)</p> <p>Edexcel Level 3 Diploma in Auto Electrical and Mobile Electrical Competence (QCF)</p> <p>Edexcel Level 3 Diploma in Vehicle Fitting Supervisory Competence (QCF)</p> <p>Edexcel Level 3 Diploma in Vehicle Accident Repair Body Competence (QCF)</p> <p>Edexcel Level 3 Diploma in Vehicle Accident Repair Paint Competence (QCF)</p> <p>Edexcel Level 3 Diploma in Lift Truck Maintenance and Repair Competence (QCF)</p> <p>Edexcel Level 3 Diploma in Motorcycle Maintenance and Repair Competence (QCF)</p> <p>Edexcel Level 3 Diploma in Vehicle Sales Competence (QCF)</p> <p>Edexcel Level 3 Diploma in Body Building Competence (QCF)</p> |

| Level    | BTEC vocationally-related qualifications | BTEC specialist qualification / professional   | NVQ/ competence  |
|----------|--|--|--|
| <b>2</b> |  | <p>Edexcel BTEC Level 2 Diploma in Light Vehicle Maintenance and Repair Principles (QCF)</p> <p>Edexcel BTEC Level 2 Diploma in Heavy Vehicle Maintenance and Repair Principles (QCF)</p> <p>Edexcel BTEC Level 2 Diploma in Auto Electrical and Mobile Electrical Principles (QCF)</p> <p>Edexcel BTEC Level 2 Diploma in Vehicle Fitting Principles (QCF)</p> <p>Edexcel BTEC Level 2 Diploma in Vehicle Accident Repair Paint Principles (QCF)</p> <p>Edexcel BTEC Level 2 Diploma in Vehicle Accident Repair Body Principles (QCF)</p> <p>Level 2 Diploma in Lift Truck Maintenance &amp; Repair Principles (QCF)</p> <p>Edexcel BTEC Level 2 Diploma in Motorcycle Maintenance and Repair Principles (QCF)</p> <p>Edexcel BTEC Level 2 Diploma in Vehicle Sales Principles (QCF)</p> <p>Edexcel BTEC Level 2 Diploma in Vehicle Accident Repair Mechanical, Electrical and Trim (MET) Principles (QCF)</p> <p>Edexcel BTEC Level 2 Diploma in Body Building Principles (QCF)</p> <p>Edexcel BTEC Level 2 Diploma in Heavy Vehicle Trailer Maintenance &amp; Repair Principles (QCF)</p> | <p>Edexcel Level 2 Diploma in Light Vehicle Maintenance and Repair Competence(QCF)</p> <p>Edexcel Level 2 Diploma in Heavy Vehicle Maintenance and Repair Competence (QCF)</p> <p>Edexcel Level 2 Diploma in Auto Electrical and Mobile Electrical Competence (QCF)</p> <p>Edexcel Level 2 Diploma in Vehicle Fitting Competence (QCF)</p> <p>Edexcel Level 2 Diploma in Vehicle Accident Repair Paint Competence (QCF)</p> <p>Edexcel Level 2 Diploma in Vehicle Accident Repair Body Competence (QCF)</p> <p>Edexcel Level 2 Diploma in Lift Truck Maintenance &amp; Repair Competence (QCF)</p> <p>Edexcel Level 2 Diploma in Motorcycle Maintenance and Repair Competence (QCF)</p> <p>Edexcel Level 2 Diploma in Vehicle Sales Competence (QCF)</p> <p>Edexcel Level 2 Diploma in Vehicle Accident Repair Mechanical, Electrical and Trim (MET) Competence (QCF)</p> <p>Edexcel Level 2 Diploma in Body Building Competence (QCF)</p> <p>Edexcel Level 2 Diploma in Heavy Vehicle Trailer Maintenance &amp; Repair Competence (QCF)</p> |

| <b>Level</b> | <b>BTEC vocationally-related qualifications</b> | <b>BTEC specialist qualification/ professional</b> | <b>NVQ/ competence</b> |
|--------------|---|--|------------------------|
| <b>1</b>     |   |  |                        |
| <b>Entry</b> |   |  |                        |

## Annexe B: Centre certification and registration

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Edexcel Standards Verifiers will provide support, advice and guidance to centres to achieve Direct Claims Status (DCS). Edexcel will maintain the integrity of Edexcel QCF NVQs through ensuring that the awarding of these qualifications is secure. Where there are quality issues identified in the delivery of programmes, Edexcel will exercise the right to:

- direct centres to take action
- limit or suspend certification
- suspend registration.

The approach of Edexcel in such circumstances is to work with the centre to overcome the problems identified. If additional training is required, Edexcel will aim to secure the appropriate expertise to provide this.

### **What are the access arrangements and special considerations for the qualifications in this specification?**

Centres are required to recruit learners to Edexcel qualifications with integrity.

Appropriate steps should be taken to assess each applicant's potential and a professional judgement should be made about their ability to successfully complete the programme of study and achieve the qualification. This assessment will need to take account of the support available to the learner within the centre during their programme of study and any specific support that might be necessary to allow the learner to access the assessment for the qualification. Centres should consult Edexcel's policy on learners with particular requirements.

Edexcel's policy on access arrangements and special considerations for Edexcel qualifications aims to enhance access to the qualifications for learners with disabilities and other difficulties (as defined by the Equality Act 2010) without compromising the assessment of skills, knowledge, understanding or competence. Please refer to *Access Arrangements and Special Considerations for BTEC and Edexcel NVQ Qualifications* for further details. [www.edexcel.com](http://www.edexcel.com).

Please refer to Edexcel's Equality Policy for further details, [www.edexcel.co/policies/pages/home.aspx](http://www.edexcel.co/policies/pages/home.aspx)





THE INSTITUTE OF THE MOTOR INDUSTRY

Assessment Strategy  
for

# **Vocational Competency Qualifications (VCQs)**

## Introduction

This document sets out the recommendations of IMI for the assessment of VCQ qualifications based on IMI developed National Occupational Standards. The Strategy is designed to operate across all four nations, bringing parity to all learners. Awarding Organisations wishing to operate VCQs in the retail motor sector must take full part in the IMI Awarding Body Forum.

This is the overarching strategy for the assessment and verification of competency based qualifications (VCQs) that are based upon National Occupational Standards from the IMI and will come into force on the 30th June 2010, it will apply to any new competence based units and qualifications.

## Assessment

VCQs are a type of qualification which reflects the unique needs of the workplace. They should be assessed in a holistic way by technically competent assessors. The primary method of assessment should always be direct workplace observation. Some use of simulation is allowed (please see section on Workplace Assessment/Simulation).

Additionally Awarding Organisations are encouraged to make use of naturally occurring quality assurance and monitoring systems where they exist in workplace assessment environments.

The Institute of the Motor Industry require Awarding Organisations delivering VCQs to participate in an Awarding Body Forum. This will, as a minimum, involve an annual meeting to discuss issues of assessment and verification.

VCQ must attest to competence in an occupational role (where competence is defined as the ability to apply knowledge, understanding, practical and thinking skills to be effective in work: these skills will usually include problem-solving, being flexible to meet changing demands and the ability to work with or alongside others).

Any assessment must attest to competence in an occupational role (where competence is defined as the ability to apply knowledge, understanding, practical and thinking skills to be effective in work: these skills will usually include problem-solving, being flexible to meet changing demands and the ability to work with or alongside others)

## Evidence Requirements for VCQ

Candidates working towards a VCQ must provide evidence from the workplace that covers a minimum of a 4 month, (16 week), period.

All evidence for VCQs must be assessed by suitably qualified assessors and must adhere to the requirements for the QCF units being assessed.



## Rules of combination

Rules of combination must be that determined by the IMI SSC.

## Evidence other than from direct workplace observation

### Workplace Assessment/Simulation

IMI credit based units are work/competency based and therefore candidates are to be assessed under normal workplace conditions. It is recognised however, that there are situations where the workplace may not be appropriate or that waiting for naturally occurring evidence is impractical. In these situations IMI will allow centres to set up or devise assessment situations.

These assessment situations can only be set up after:

- all possible routes for the collection of naturally occurring evidence have been exhausted.
- the exact make up and content of the centre devised assessment has been agreed and approved by the external verifier.
- the assessor can assure that the simulation will provide evidence that is valid reliable and authentic

We suggest that centres seek written confirmation before proceeding with assessment. The need for simulation may result from consideration of:

- Safety
- Legislation
- Regulation
- Contingency
- Cost
- Frequency

In addition, IMI recognises that candidates using these credit based units in the context of a Level 1 qualification may be in a learning environment and not in a workplace. In these situations, centres may set up or devise assessment situations as required, with prior written agreement of the external verifier.

Any simulation must be carried out using actual vehicles; the use of engine rigs or electrical boards is not permitted.

IMI re-iterates that its credit based units have been designed to be capable of assessment in the normal workplace and that subject to the arrangements for simulation described above this should be the case.

Simulation will be monitored by the Awarding Organisations and where it is found to be the 'norm' rather than the exception suitable action will need to be taken.

## Realistic Work Environment

The IMI requires that candidates are assessed within their normal workplace, or in exceptional circumstances as described previously via simulation. The use of approved simulation means therefore that RWE, Realistic Work Environment is not to be used.

## Expert Witnesses

The use of **witness testimony** and **expert witness testimony** are appropriate methods for assessors to collect supplementary evidence on candidates' performance.

**Witness testimonies** can be obtained from people that are occupationally competent and who may be familiar with the national occupational standards, such as the candidate's line manager.

The assessor must judge the validity of the witness testimony and these may vary depending on the source. Witness testimonies can only support the assessment process and may remove or reduce the need to collect supplementary evidence, however, the awarding organisation's/body's quality assurance requirements must be met. Additionally the person or persons providing the Witness Testimony evidence must make themselves available to the External Verifier for confirmation of evidence validity if required.

## Remote Observation

The use of direct observation from a remote location is permitted as long as the centre seeks and receives the approval of their awarding organisation prior to its use and the awarding organisation discusses and agree this with the IMI prior to its use.

## Assessor Requirements

The assessment of VCQs must be carried out by approved industry competent assessors.

Assessors will be responsible for, and accountable for, the validity, reliability and authenticity of evidence.

The primary responsibility of the assessor is to ensure that candidates satisfy the requirements of the national occupational standards. It is important that an assessor can recognise occupational competence as specified by the national occupational standards. Assessors therefore need to have a thorough understanding of assessment and quality assurance practices, as well as have in depth technical competence related to the qualifications for which they are assessing candidates.

It will be the responsibility of the approved centre to select and appoint assessors.

It will be the responsibility of the Awarding Organisation to approve centre selected assessors.

To be an approved assessor the person must:

- have sufficient and relevant technical/occupational competence in the Unit, at or above the level of the Unit being assessed
- have in depth knowledge of the Qualification or credit based unit evidence requirements.
- hold or be working towards a relevant assessors award as specified by the Institute of the Motor Industry. This will include, but not be limited to the Assessor qualifications, Level 3 Award in Assessing Competence in the Work Environment, Level 3 Award in Assessing Vocationally Related Achievement, Level 3 Certificate in Assessing Vocational Achievement. (and by implication legacy Assessor units A1, A2 and D32/33 unit) but may be an appropriate equivalent as defined by the IMI, SSC).
- assessors working towards a relevant assessor qualification must achieve their qualification within 12 months.
- demonstrate knowledge and understanding of the competencies that a learner is required to demonstrate for the qualification that they are undertaking
- provide evidence of completing 5 days working/job shadowing in industry within their professional area in a 24 month period.
- provide evidence of 30 hours of technical/qualification related CPD within a 12 month period.(This is in addition to working/job shadowing).
- be approved by the Awarding Organisation to carry out assessments for the VCQs they are competent in.

Approval of assessors can be **removed**.

Assessors **cannot** assess the VCQ if they are not currently approved by, or have had their approval removed by, the Awarding Organisation.

## Internal Verifier Requirements

VCQs must be underpinned by quality assurance appropriate to workplace based delivery. At a minimum this should reflect the principles outlined below.

Internal Verification of VCQ shall be the responsibility of approved industry competent internal verifiers.

The primary responsibility of the internal verifier is to assure the quality and consistency of assessments by the assessors for whom they are responsible. Internal verifiers therefore need to have a thorough understanding of quality assurance and assessment practices, as well as technical competence related to the qualifications that they are internally verifying.

Internal verifiers will be responsible for, and accountable for consistency, quality and reliability of evidence and assessors.

It will be the responsibility of the approved centre to select and appoint internal verifiers.

It will be the responsibility of the Awarding Organisation to approve centre selected internal verifiers.

To be an approved internal verifier the person must:

- have in-depth knowledge of the occupational standards and credit based unit evidence requirements.
- be occupationally aware of the relevant industry sector being internally verified
- hold or be working towards a relevant verifier award as specified by the Institute of the Motor Industry. This will include, but not be limited to the Quality Assurance qualifications Level 4 Award in the Internal Quality Assurance of Assessment Processes and Practice, Level 4 Certificate in Leading the Internal Quality Assurance of Assessment Processes and Practice, (and by implication legacy Internal Verifier unit V1 D34 unit) but may be an appropriate equivalent as defined by the SSC.
- verifiers working towards a relevant qualification must achieve their qualification within 12 months.
- provide evidence of CPD totalling not less than 30 hours from within their professional area within a 12 month period.
- be approved by the Awarding Organisation to carry out internal verification for relevant VCQ(s)
- demonstrate knowledge and understanding of the quality assurance processes required by the centre and the awarding organisation

Approval of internal verifiers can be **removed**.

Internal Verifiers **cannot** verify the VCQ if they are not approved by, or have had their approval removed by the Awarding Organisation.

## Multi Discipline Assessors and Internal Verifiers

Assessors and Internal Verifiers who work across multi disciplines must agree to a programme of CPD that will, over an agreed period of time, show their competence across all areas that they assess.

The programme of CPD and the timescale must be agreed for each multi discipline assessor by their External Verifier and may be subject to scrutiny by the IMI.

It is the responsibility of the centre to keep a record of these agreements.

## External Verifier Requirements

Awarding Organisations will be responsible for selection and appointment of external verifiers.

To be an approved external verifier or moderator the person must:

- hold or be working towards an appropriate qualification as specified by the Institute of the Motor Industry, confirming their competence to externally verify VCQ assessments This will include, but not be limited to the Level 4 Award in Externally Assuring the Quality of Assessment Processes and Practice, Level 4 Certificate in Leading the External Quality Assurance of Assessment Processes and Practice, (and by

implication legacy External Verifier unit V2 and D35 units) but may be an appropriate equivalent as defined by the SSC.

- external verifiers working towards a relevant qualification must achieve their qualification within 12 months.
- have experience of working within the Automotive Industry gained through current or prior employment in order to have an up to date technical awareness relevant to the VCQ they are seeking to externally verify
- have a sound and in-depth knowledge of the VCQ requirements
- demonstrate their commitment to maintaining their industry knowledge by providing evidence of CPD totalling not less than 30 hours from within their professional area within a 12 month period.

## External Quality Control

It is expected that the awarding of qualifications will be underpinned by quality assurance appropriate to workplace based delivery. At a minimum this should reflect the principles outlined below.

External quality control of assessment is the responsibility of the Awarding Organisations, they must ensure that common approaches are employed and that consistent, high standards are achieved.

External verifiers will be required to implement rigorous risk management strategies consistently across all centres for which they are responsible.

IMI recommends that Awarding Organisations adopt a risk rating and risk management system for centres offering IMI VCQs.

IMI recommend that such systems identify:

- Commercial Risk – is there potential for commercial pressures to ensure that candidates achieve qualifications within unduly short time frames?
- Assessment/Verification risk – are factors apparent in the relationship between candidates, assessors and verifiers that might prejudice a fair and consistent assessment process?

Where risks or potential risks are identified, IMI expects that the Awarding Organisation, via the external verifier takes appropriate action to ensure that the credibility of the assessment process is not prejudiced.

Awarding Organisations will be responsible for and accountable for the quality of VCQs delivered and assessed by their approved assessment centres.

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**For more information on Edexcel and BTEC qualifications please  
visit our website: [www.edexcel.com](http://www.edexcel.com)**

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