

Level 1 Diploma in Accident Repair Paint (4291-21)

May 2011

Version 2.2 (September 2013)





Qualification at a glance

Subject area	Accident Repair Paint
City & Guilds number	4291
Age group approved	16-18, 19+
Assessment	Assignment and Online Multiple Choice
Fast track	Not available. Automatic approval applies in some cases
Support materials	Centre handbook Practical Assessment workbook
Registration and certification	Consult the Walled Garden/online catalogue for last dates

Title and level	City & Guilds number	Accreditation number
Level 1 Diploma in Accident Repair Paint	4291-21	501/1107/3

Version and date	Change detail	Section
1.2 Oct 2011	Deleted incorrect unit	Structure Assessment Units
1.3 June 2012	Amend unit number	Units
1.4 July 2012	Add range – Unit 026/076	Units
2.0 July 2012	Amend ROC	Structure
2.1 Dec 2012	Amend range – General formatting	Units
2.2 Sep 2013	Unit supporting information updated with introductory text	Units



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1 Introduction

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

Area	Description
Who is the qualification for?	<p>This Level 1 Diploma in Accident Repair Paint is for anyone developing a career in the motor industry. This practical qualification demonstrates candidates' skills on the job and in their own workplace showing that they meet national standards for automotive workers.</p> <p>Its structure and assessment strategy have been produced by the Institute of the Motor Industry, who are the Sector Skills Council for the Automotive Industry.</p>
What does the qualification cover?	<p>Candidates cover areas such as preparing, painting and finishing different surfaces, applying fillers and carrying out repairs to motor vehicles paintwork. They are assessed in the workplace by using the following methods:</p> <ul style="list-style-type: none"> • Assignment • City & Guilds' GOLA multiple choice test
Is the qualification part of a framework or initiative?	<p>The qualification is part of the Automotive Maintenance and Repair Intermediate Apprenticeship and Advanced Apprenticeship Frameworks (framework 1) which will replace the current framework 4 from April 2011.</p>
What opportunities for progression are there?	<p>After taking this qualification, candidates will have a qualification that shows employers and customers they have the skills required to carry out paint repairs to paintwork as a result of accidents and will be able to progress into employment.</p> <p>Candidates may wish to progress onto the Level 2 Diploma in Accident Repair Paint Principles (4291-22) or the Level 2 Diploma in Accident Repair Paint Competency (4271-12).</p> <p>In addition, candidates who enjoy leading teams of people at work could also move onto a qualification as a Team Leader or Supervisor such as qualifications at Levels 2, 3 and 4 through the Institute of Leadership and Management (ILM).</p>

Structure

To achieve the **Level 1 Diploma in Accident Repair Paint**, learners must achieve a minimum of **44** credits: **32** credits from the mandatory units and a minimum of **12** credits from the optional units available. A maximum of **6** credits may be achieved from Optional group B. Where a knowledge and skills unit exists on the same topic, both units must be achieved to count towards the qualification.

Unit accreditation number	City & Guilds unit	Unit title	Credit value
Mandatory units			
A/601/6338	001	Skills in health, safety and good housekeeping in the automotive environment	7
L/502/1646	026	Introduction to vehicle technology and workshop methods and processes (Assignment)	3
	076	Introduction to vehicle technology and workshop methods and processes (Multiple Choice)	3
Y/601/6265	031	Skills to support working relationships in the automotive work environment	3
D/601/6171	051	Knowledge in health, safety and good housekeeping in the automotive environment	3
F/601/6180	081	Knowledge to support working relationships in the automotive work environment	3
L/501/3515	109	Valet vehicles (Assignment)	5
	159	Valet vehicles (Assignment)	5
Optional Group A			
Y/601/6153	201	Skills in tools and equipment used in vehicle refinishing	2
J/601/6116	251	Knowledge of tools and equipment used in vehicle refinishing	5
H/601/6267	202	Skills in applying fillers and foundation materials	5
H/601/6141	252	Knowledge of applying fillers and foundation materials	6
T/601/6273	204	Skills in preparing metal and pre-painted surfaces	5
A/601/6145	254	Knowledge of preparing metal and pre-painted surfaces	6
F/601/6244	206	Skills in repairing minor paint defects	5
Y/601/6122	256	Knowledge of repairing minor paint defects	6

Unit accreditation number	City & Guilds unit	Unit title	Credit value
K/601/3869	218	Skills in removing and fitting basic light vehicle mechanical, electrical and trim (MET) components and non permanently fixed vehicle body panels	3
F/601/3747	268	Knowledge of removing and fitting basic light vehicle mechanical, electrical and trim (MET) components and non permanently fixed vehicle body panels	2
T/601/6872	544	Skills in receiving and storing stock	4
Y/601/6086	594	Knowledge of receiving and storing stock	4
Optional Group B			
A/600/4562	712	Introduction to vehicle workshop bench skills	4
K/601/7291	713	Basics of vehicle body fitting	4
M/601/7292	714	Basics of vehicle mechanical electrical trim	4
T/601/7293	715	Fundamental vehicle body repair techniques	4
J/601/7296	718	Introduction to vehicle panel preparation techniques	3
R/601/7298	720	Application of paint materials to vehicles using spray gun techniques	3
T/602/2039	721	Mix foundation coat materials for spray gun application	2
Y/602/2132	723	Prepare vehicle body panels for foundation coat materials using masking materials and techniques	4
L/601/7297	724	Introduction to vehicle refinishing process/ techniques	3

In addition, learners registered for this qualification will be able to take as additional units any of the following (712-715, 718, 720, 721, 723, 724) as part of their foundation learning programme. For more information about these units please check our website **www.cityandguilds.com**.



2 Centre requirements

Approval

If your Centre is approved to offer the Level 1 Certificate/Diploma in Automotive Body and Paint - Refinishing (4101-57) you will be granted automatic approval for the Level 1 Diploma in Accident Repair Paint (4291-21) and will be able to make registrations straight away.

For any other cases, centres will need to gain both centre and qualification approval. Please refer to the *Centre Manual - Supporting Customer Excellence* for further information.

Centre staff should familiarise themselves with the structure, content and assessment requirements of the qualifications before designing a course programme.

Resource requirements

Physical resources and site agreements

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

Centre staffing

Staff delivering this qualification must be able to demonstrate that they meet the following occupational expertise requirements. They should:

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

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

Assessors and internal verifiers

All assessors 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 Sector Skills Council. This will include, but not

be limited to the Assessor qualifications, Level 3 Award in Understanding the Principles and Practices of Assessment, 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 that may be an appropriate equivalent as defined by the 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).

All internal verifiers 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 Sector Skills Council. This will include, but not be limited to the Quality Assurance qualifications Level 4 Award in Understanding the Internal Quality Assurance of Assessment Processes and Practice, 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 Sector Skills Council.
- 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.

Continuing professional development (CPD)

Centres must support their staff to ensure that they have current knowledge of the occupational area, that delivery, mentoring, training, assessment and verification is in line with best practice, and that it takes account of any national or legislative developments.

Candidate entry requirements

City & Guilds does not set entry requirements for this qualification. However, centres must ensure that candidates have the potential and opportunity to gain the qualification successfully.

Age restrictions

There is no age restriction for this qualification unless this is a legal requirement of the process or the environment.



3 Delivering the qualification

Initial assessment and induction

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

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

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

Support materials

City & Guilds will provide the following learning and support resources which will be posted on our website.

www.cityandguilds.com/automotive

- Practical Assessment workbook
- Centre Handbook

Recording documents

Candidates and centres may decide to use a paper-based or electronic method of recording evidence. Candidates and centres may decide to use a paper-based or electronic method of recording evidence.

To support the delivery of vocational qualifications we offer our own ePortfolio, Learning Assistant, an easy to use and secure online tool to support and evidence candidates' progress towards achieving qualifications. Further details are available at:

www.cityandguilds.com/eportfolios.

City & Guilds has developed training and assessment documentation specifically for these qualifications which are available from City & Guilds website. Although new centres are expected to use these forms, centres may devise or customise alternative forms, which must be approved for use by the external verifier, before they are used by candidates and assessors at the centre.

Health and safety

The requirement to follow safe working practices is an integral part of all City & Guilds qualifications and assessments, and it is the responsibility of centres to ensure that all relevant health and safety requirements are in place before candidates start practical assessments.

Should a candidate fail to follow health and safety practice and procedures during an assessment, the assessment must be stopped. The candidate should be informed that they have not reached the standard required to successfully pass the assessment and told the reason why. Candidates may retake the assessment at a later date, at the discretion of the centre. In case of any doubt, guidance should be sought from the external verifier.

Data protection and confidentiality

Centres offering this qualification may need to provide City & Guilds with personal data for staff and candidates. Guidance on data protection and the obligations of City & Guilds and centres are explained in *Providing City & Guilds qualifications*.

Equal opportunities

It is a requirement of centre approval that centres have an equal opportunities policy (see *Centre Manual - Supporting Customer Excellence*). The regulatory authorities require City & Guilds to monitor centres to ensure that equal opportunity policies are being followed.

The City & Guilds equal opportunities policy is set out on the City & Guilds website, in *Centre Manual - Supporting Customer Excellence*, and is also available from the City & Guilds Customer Relations department.

Access to qualifications on the Qualifications Credit Framework is open to all, irrespective of gender, race, creed, age or special needs. The centre co-ordinator should ensure that no candidate is subject to unfair discrimination on any ground in relation to access to assessment and the fairness of the assessment.

Access to assessment

City & Guilds' guidance and regulations on access to assessment are designed to facilitate access to assessments and qualifications for candidates who are eligible for adjustments to assessment arrangements. Access arrangements are designed to allow attainment to be demonstrated. For further information, please see *Access to assessment and qualifications*, available on the City & Guilds website.

Appeals

Centres must have their own, auditable, appeals procedure that must be explained to candidates during their induction. Appeals must be fully documented by the quality assurance co-ordinator and made available to the external verifier or City & Guilds.

Further information on appeals is given in *Centre Manual - Supporting Customer Excellence*. There is also information on appeals for centres and learners on the City & Guilds website or available from the Customer Relations department.



4 Assessment

Assessment of the qualification

Candidates must:

- successfully complete one assignment for each skills unit as stated below
- successfully complete one multiple choice test for each knowledge unit as stated below.

Time constraints

There are no time constraints applied to the assessment of this qualification. If centres have queries regarding the length of time required to complete a particular task, they should contact their external verifier in the first instance who will advise accordingly and feed this information back to City & Guilds where appropriate.

Recognition of prior learning (RPL)

Recognition of prior learning means using a learner's previous experience, or qualifications which have already been achieved to contribute to a new qualification. RPL is allowed and is also sector specific.

Unit	Title	Assessment method
001	Skills in health, safety and good housekeeping in the automotive environment	Portfolio
026	Introduction to vehicle technology and workshop methods and processes (assignment)	Assignment
031	Skills to support working relationships in the automotive work environment	Assignment
051	Knowledge in health, safety and good housekeeping in the automotive environment	Portfolio
076	Introduction to vehicle technology and workshop methods and processes (multiple choice)	Multiple Choice
081	Knowledge to support working relationships in the automotive work environment	Multiple Choice
109	Valet vehicles	Assignment
159	Valet vehicles	Assignment
201	Skills in tools and equipment used in vehicle refinishing	Assignment
251	Knowledge of tools and equipment used in vehicle refinishing	Multiple Choice
202	Skills in applying fillers and foundation materials	Assignment

Unit	Title	Assessment method
252	Knowledge of applying fillers and foundation materials	Multiple Choice
204	Skills in preparing metal and pre-painted surfaces	Assignment
254	Knowledge of preparing metal and pre-painted surfaces	Multiple Choice
206	Skills in repairing minor paint defects	Assignment
256	Knowledge of repairing minor paint defects	Multiple Choice
218	Skills in removing and fitting basic light vehicle mechanical, electrical and trim (MET) components and non permanently fixed vehicle body panels	Assignment
268	Knowledge of removing and fitting basic light vehicle mechanical, electrical and trim (MET) components and non permanently fixed vehicle body panels	Multiple Choice
544	Skills in receiving and storing stock	Assignment
594	Knowledge of receiving and storing stock	Multiple Choice
712	Introduction to vehicle workshop bench skills	Assignment
713	Basics of vehicle body fitting	Assignment
714	Basics of vehicle mechanical electrical trim	Assignment
715	Fundamental vehicle body repair techniques	Assignment
718	Introduction to vehicle panel preparation techniques	Assignment
720	Application of paint materials to vehicles using spray gun techniques	Assignment
721	Mix foundation coat materials for spray gun application	Assignment
723	Prepare vehicle body panels for foundation coat materials using masking materials and techniques	Assignment
724	Introduction to vehicle refinishing process/ techniques	Assignment



5 Units

Availability of units

The following units can also be obtained from the centre resources section of the City & Guilds website

They are also on The Register of Regulated Qualifications:
<http://register.ofqual.gov.uk/Unit>

Structure of units

These units each have the following:

- City & Guilds reference number
- unit accreditation number (UAN)
- title
- level
- credit value
- unit aim
- relationship to NOS, other qualifications and frameworks
- endorsement by a sector or other appropriate body
- information on assessment
- learning outcomes which are comprised of a number of assessment criteria

Unit 001

Skills in health, safety and good housekeeping in the automotive environment

UAN:	Y/601/7254
Level:	2
Credit value:	7
GLH:	60
Relationship to NOS:	This unit is linked to the NOS G1 Contribute to the housekeeping in motor vehicle environments and NOS G2 Reduce risks to health and safety in the motor vehicle environment.
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry.
Aim:	This unit will enable the learner to develop the skills required to: <ul style="list-style-type: none">• carry out day to day work area cleaning, clearing away, dealing with spillages and disposal of waste, used materials and debris.• identify hazards and risks in the automotive environment and complying with relevant legislation and good practice.• work safely at all times within the automotive environment, both as an individual and with others.

Learning outcome	The learner will:
1.	be able to use correct personal and vehicle protection within the automotive work environment
Assessment criteria	
The learner can:	
1.1	select and use personal protective equipment throughout activities. To include appropriate protection of: <ul style="list-style-type: none">a. eyesb. earsc. headd. skine. feetf. hands

g. lungs
1.2 select and use vehicle protective equipment throughout all activities.

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

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

Learning outcome	The learner will:
4.	be able to conduct themselves responsibly
Assessment criteria	
The learner can:	
4.1	show personal conduct in the workplace which does not endanger the health and safety of themselves or others
4.2	display suitable personal presentation at work which ensures the health and safety of themselves and others at work.

Unit 001 **Skills in health, safety and
good housekeeping in the
automotive environment**

Supporting information

Evidence Requirements

The Evidence Requirements are shown in full in the Assessment Documentation.

Unit 003

Skills in supporting job roles in the automotive work environment

UAN:	J/601/6262
Level:	3
Credit value:	5
GLH:	40
Relationship to NOS:	This unit is linked to the NOS G3 Maintain working relationships in the motor vehicle environment.
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry.
Aim:	This unit will help the learner develop the skills required to keep good working relationships with all colleagues and customers in the automotive work environment by using effective communication and support.

Learning outcome	The learner will:
1.	be able to work effectively within the organisational structure of the automotive work environment
Assessment criteria	
The learner can:	
1.1	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.

Learning outcome	The learner will:
2.	be able to obtain and use information in order to support their job role within the automotive work environment
Assessment criteria	
The learner can:	
2.1	select and use legal and technical information, in an automotive work environment.

Learning outcome	The learner will:
	3. be able to communicate with and support colleagues and customers effectively within the automotive work environment
Assessment criteria	
The learner can:	
3.1 use methods of communication with customers and colleagues which meet their needs	
3.2 give customers and colleagues accurate information	
3.3 make requests for assistance from or to customers and colleagues clearly and courteously.	

Learning outcome	The learner will:
	4. be able to develop and keep good working relationships in the automotive work environment
Assessment criteria	
The learner can:	
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.	

Unit 003 **Skills in supporting job roles
in the automotive work
environment**

Supporting information

Evidence Requirements

The Evidence Requirements are shown in full in the Assessment Documentation.

Unit 026/076 Introduction to vehicle technology and workshop methods and processes

UAN:	L/502/1646
Level:	1
Credit value:	6
GLH:	60
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry.
Aim:	This unit is about carrying out basic routine maintenance and carrying out adjustment or replacement activities of components during the maintenance activity.

Learning outcome	The learner will:
1.	be able to understand the operation and use of workshop equipment
Assessment criteria	
The learner can:	
1.1	identify and use common workshop equipment
1.2	state safety precautions and regular checks for the above.

Learning outcome	The learner will:
2.	be able to understand the use of tools and measuring equipment; identify joining methods and materials
Assessment criteria	
The learner can:	
2.1	identify and use common hand tools
2.2	identify locking and securing devices
2.3	describe the principles of measurement
2.4	identify and use measuring equipment
2.5	identify materials and their properties
2.6	restore threads and remove broken studs.

Learning outcome	The learner will:
3.	be able to understand basic electrical principles and basic use of test equipment
Assessment criteria	
The learner can:	
3.1	describe the principles of electricity and electrical circuits
3.2	identify and use electrical measuring equipment.

Learning outcome	The learner will:
4.	be able to understand vehicle construction materials, components, methods and safety features
Assessment criteria	
The learner can:	
4.1	identify materials used in vehicle construction
4.2	identify the components used in vehicle construction
4.3	describe the types of vehicle chassis and different construction methods
4.4	describe the safety features used in vehicle construction
4.5	state current regulations controlling design, construction and use of vehicles.

Unit 026/076 Introduction to vehicle technology and workshop methods and processes

Supporting information

Evidence Requirements

The Evidence Requirements are shown in full in the Assessment Documentation.

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

Workshop equipment

- a) inspection lamps
- b) trolley jacks
- c) axle stands
- d) ramps and wheel chocks
- e) single post lifts
- f) two post lifts
- g) four post lifts
- h) compressors and air lines
- i) oil drainage equipment
- j) tyre changing machines
- k) wheel balancing equipment
- l) edgreasing and cleaning equipment
- m) cranes, slings and chains
- n) pillar and hand held drills
- o) bench grinders
- p) battery chargers
- q) welding equipment (basics only)
- r) headlamp alignment

Safety precautions

Safety regulations:

- a) Health and Safety at Work etc. Act,
- b) COSHH
- c) RIDDOR

Hand tools

- a) files
- b) saws
- c) hammers
- d) pliers and grips
- e) screwdrivers
- f) drills and drill bits
- g) spanners
- h) punches and chisels
- i) air tools
- j) taps and dies
- k) holding equipment (vices etc.)
- l) sockets.

Locking and securing devices

- a) fixing devices
 - i. nuts
 - ii. bolts
 - iii. screws
 - iv. ties
 - v. rivets
- b) locking and securing devices
 - i. locking nuts
 - ii. split pins
 - iii. locking wire
 - iv. locking washers

Materials

- a) ferrous metals
- b) non ferrous metals
- c) steel
- d) aluminium
- e) brass
- f) copper
- g) lead
- h) cast iron
- i) plastic
- j) kevlar
- k) rubber
- l) carbon fibre
- m) safety glass

Properties

- a) ductility
- b) malleability
- c) hardness

- d) toughness
- e) strength
- f) elasticity
- g) conductivity

Principles

- a) symbols, switches, conductors, insulators and fuses
- b) Ohm's Law and the power equation
 - i. amps
 - ii. watts
 - iii. ohms
 - iv. volts
- c) series and parallel circuits
- d) production of electricity
 - i. alternating current
 - ii. direct current
- e) wiring diagrams
 - i. flow
 - ii. layout
 - iii. destination

Measuring equipment

- a) test lamp
- b) ammeter
- c) voltmeter
- d) ohmmeter

Components

- a) sills, wings and inner wings
- b) scuttle and valances
- c) doors, roof
- d) sub frames and assemblies
- e) spoilers and air dams
- f) wheel arches
- g) bonnet and boot panels
- h) door, bonnet and boot fixings

Vehicle chassis types and construction methods

- a) monocoque
- b) composite
- c) integral types
- d) commercial vehicle ladder and cruciform

Safety features

- a) crumple zones
- b) side impact protection
- c) bumpers
- d) safety glass
- e) seat belts and pre-tensioners
- f) air bags

Regulations

- a) MOT testing frequency of new unused vehicles
- b) minimum requirement for exterior vehicle lighting
- c) statutory standard setting bodies for the motor industry.

Unit 051

Knowledge of health, safety and good housekeeping in the automotive environment

UAN:	D/601/6171
Level:	2
Credit value:	3
GLH:	30
Relationship to NOS:	This unit is linked to the NOS G1 Contribute to the housekeeping in motor vehicle environments and NOS G2 Reduce risks to health and safety in the motor vehicle environment
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by the IMI, the Standards Setting Body for the automotive industry.
Aim:	<p>This unit enables the learner to develop an understanding of:</p> <ul style="list-style-type: none">• routine maintenance and cleaning of the automotive environment and using resources economically and health and safety legislation and duties of everyone in the motor vehicle environment. It will provide an appreciation of significant risks in the automotive environment and how to identify and deal with them. Once completed the learner will be able to identify hazards and evaluate and reduce risk.

Learning outcome	The learner will:
1.	understand the correct personal and vehicle protective equipment to be used within the automotive environment
Assessment criteria	
The learner can:	
1.1	explain the importance of wearing the types of PPE required for a range 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.

Learning outcome	The learner will:
2.	understand effective housekeeping practices in the automotive environment
Assessment criteria	
The learner can:	
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
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.

Learning outcome	The learner will:
3.	understand key health and safety requirements relevant to the automotive environment
Assessment criteria	
The learner can:	
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 outcome	The learner will:
4.	understand about hazards and potential risks relevant to the automotive environment
Assessment criteria	
The learner can:	
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 outcome	The learner will:
5.	understand personal responsibilities
Assessment criteria	
The learner can:	
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.

Unit 051 Knowledge of health, safety and good housekeeping in the automotive environment

Supporting information

Evidence Requirements

The Evidence Requirements are shown in full in the Assessment Documentation.

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

Economic use of Resources

Consumable materials eg grease, oils, split pins, locking and fastening devices.

Requirement to maintain work area effectively

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

Legislation relevant to Health and Safety

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

General regulations to include an awareness of:

- i. Health and Safety (Display Screen Equipment) Regulations 1992
- ii. Health and Safety (First Aid) Regulations 1981
- iii. Health and Safety (Safety Signs and Signals) Regulations 1996
- iv. Health and Safety (Consultation with Employees) Regulations 1996
- v. Employers Liability (Compulsory Insurance) Act 1969 and Regulations 1998
- vi. Confined Spaces Regulations 1997
- vii. Noise at Work Regulations 1989
- viii. Electricity at Work Regulations 1989
- ix. Electricity (Safety) Regulations 1994
- x. Fire Precautions Act 1971
- xi. Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1985
- xii. Pressure Systems Safety Regulations 2000
- xiii. Waste Management 1991
- xiv. Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) 2002
- xv. Control of Asbestos at Work Regulations 2002.

Legislative duties

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

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

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

PPE to include:

- a. typical maintenance procedures for PPE equipment to include:
 - i. typical maintenance log
 - ii. cleaning procedures
 - iii. filter maintenance
 - iv. variation in glove types
 - v. air quality checks.
- b. choice and fitting procedures for masks and air breathing equipment.
- c. typical workplace processes which would require the use of PPE to include:
 - i. welding
 - ii. sanding and grinding
 - iii. filling
 - iv. panel removal and replacement
 - v. drilling
 - vi. cutting
 - vii. chiselling
 - viii. removal of broken glass
 - ix. removal of rubber seals from fire damaged vehicles
 - x. removal of hypodermic needles
 - xi. servicing activities
 - xii. roadside recovery.
- d. unserviceable PPE.

- e. PPE required for a range automotive repair activities. To include appropriate protection of:
 - i. eyes
 - ii. ears
 - iii. head
 - iv. skin
 - v. feet
 - vi. hands
 - vii. lungs.

Fire and extinguishers

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

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

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

Product warning labels to include:

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

Warning signs and notices

- a. Colours used for warning signs:
 - i. red
 - ii. blue
 - iii. green.
- b. Shapes and meaning of warning signs:
 - i. round
 - ii. triangular
 - iii. square.
- c. The meaning of prohibitive warning signs in common use.
- d. The meaning of mandatory warning signs in common use.
- e. e. The meaning of warning notices in common use.

- f. General design of safe place warning signs.

Hazards and risks to include:

- a. the difference between a risk and a hazard.
- b. potential risks resulting from:
 - i. the use and maintenance of machinery or equipment
 - ii. the use of materials or substances
 - iii. accidental breakages and spillages
 - iv. unsafe behaviour
 - v. working practices that do not conform to laid down policies
 - vi. environmental factors
 - vii. personal presentation
 - viii. unauthorised personnel, customers, contractors etc entering the work premises
 - ix. working by the roadside
 - x. vehicle recovery.
- c. the employee's responsibilities in identifying and reporting risks within their working environment.
- d. the method of reporting risks that is outside own limits of authority.
- e. potential causes of:
 - i. fire
 - ii. explosion
 - iii. noise
 - iv. harmful fumes
 - v. slips
 - vi. trips
 - vii. falling objects
 - viii. accidents whilst dealing with broken down vehicles.

Personal responsibilities

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

Action to be taken in the event of colleagues suffering accidents

- a. The typical sequence of events following the discovery of an accident such as:
 - i. make the area safe
 - ii. remove hazards if appropriate i.e. switch off power
 - iii. administer minor first aid
 - iv. take appropriate action to re-assure the injured party
 - v. raise the alarm
 - vi. get help
 - vii. report on the accident.

- b. Typical examples of first aid which can be administered by persons at the scene of an accident:
 - i. check for consciousness
 - ii. stem bleeding
 - iii. keep the injured person's airways free
 - iv. place in the recovery position if injured person is unconscious
 - v. issue plasters for minor cuts
 - vi. action to prevent shock i.e. keep the injured party warm
 - vii. administer water for minor burns or chemical injuries
 - viii. wash eyes with water to remove dust or ingress of chemicals (battery acid)
 - ix. need to seek professional help for serious injuries.
- c. Examples of bad practice which may result in further injury such as:
 - i. moving the injured party
 - ii. removing foreign objects from wounds or eyes
 - iii. inducing vomiting
 - iv. straightening deformed limbs.

Unit 053

Knowledge of support for job roles in the automotive work environment

UAN:	T/601/6175
Level:	3
Credit value:	3
GLH:	20
Relationship to NOS:	This unit is linked to the NOS G3 Maintain working relationships in the motor vehicle environment.
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by the IMI, the Standards Setting Body for the Automotive industry.
Aim:	This unit enables the learner to develop an understanding of how to keep good working relationships with all colleagues in the automotive work environment by using effective communication and support skills.

Learning outcome	The learner will:
1.	understand key organisational structures, functions and roles within the automotive work environment
Assessment criteria	
The learner can:	
1.1	identify the purpose of the 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 an automotive workplace. To include: <ul style="list-style-type: none">a. traineeb. skilled technicianc. supervisord. manager.

Learning outcome	The learner will:
2.	understand the importance of obtaining, interpreting and using information in order to support their job role within the automotive work environment
Assessment criteria	
The learner can:	
2.1	explain the importance of different sources of information in an 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
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.

Learning outcome	The learner will:
3.	understand the importance of different types of communication within the automotive work environment
Assessment criteria	
The learner can:	
3.1	explain where different methods of communication would be used within the automotive environment
3.2	explain the factors which can determine their choice of communication
3.3	explain how the communication of information can change with the target audience.

Learning outcome	The learner will:
4.	understand communication requirements when carrying out vehicle repairs in the automotive work environment
Assessment criteria	
The learner can:	
4.1	explain how to report using written and spoken methods of 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 outcome	The learner will:
5.	understand how to develop good working relationships with colleagues and customers in the automotive workplace
Assessment criteria	
The learner can:	
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 honoring realistic commitments to colleagues and customers.

Unit 053 Knowledge of support for job roles in the automotive work environment

Supporting information

Evidence Requirements

The Evidence Requirements are shown in full in the Assessment Documentation.

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

The structure of a typical vehicle repair business

a. How these areas relate to each other within the business:

- i. body shop
- ii. vehicle repair workshop
- iii. paint shop
- iv. valeting
- v. vehicle parts store
- vi. main office
- vii. vehicle sales
- viii. 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

- c. Methods of communication:
 - i. verbal
 - ii. signs and notices
 - iii. memos
 - iv. telephone
 - v. electronic mail
 - vi. vehicle job card
 - vii. notice boards
 - viii. SMS text messaging
 - ix. letters.
- d Organisational and customer requirements:
 - i. importance of time scales to customer and organisation
 - ii. relationship between time and costs
 - iii. meaning of profit.
- e. Choice of communication
 - i. distance
 - ii. location
 - iii. job responsibility.
- f. How the communication of information can change with the target audience. To include:
 - i. uninformed people
 - ii. informed people.
- e. 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.

Importance of maintaining positive working relationships:

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

Unit 109/159 Valet vehicles

UAN:	L/501/3515
Level:	2
Credit value:	10
GLH:	62
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by the IMI, the Standards Setting Body for the Automotive industry.

Learning outcome	The learner will:
1.	be able to understand the tools, equipment and materials for carrying out a vehicle valet
Assessment criteria	
The learner can:	
1.1	explain the tools and equipment used for vehicle valets
1.2	explain the maintenance requirements for tools and equipment used for vehicle valets
1.3	explain the materials and fluids used for vehicle valets.

Learning outcome	The learner will:
2.	be able to understand legislative and organisational requirements for carrying out a vehicle valet
Assessment criteria	
The learner can:	
2.1	explain the legal requirements relating to vehicle valets
2.2	explain health and safety requirements relating to vehicle valets
2.3	explain information relating to vehicle valets
2.4	explain the organisational requirements relating to vehicle valets.

Learning outcome	The learner will:
3.	be able to understand the procedures for conducting a vehicle valet
Assessment criteria	
The learner can:	
3.1	explain the procedures and sequence for carrying out vehicle valets
3.2	explain the methods for restoring exterior paint work
3.3	describe how the customer requirements can be documented and met
3.4	explain the environmental requirements of vehicle valets
3.5	explain the selection and use of valet accessories
3.6	describe protective measures which can be used to prevent contamination of cleaned areas.

Learning outcome	The learner will:
4.	be able to safely and effectively carry out a vehicle valet
Assessment criteria	
The learner can:	
4.1	select and use appropriate personal and vehicle protection equipments
4.2	locate and use correct technical information to conduct vehicle valet
4.3	correctly and safely carryout valet of vehicle exterior and interior
4.4	record and report vehicle valet and any problems or delays
4.5	dispose of waste materials and substances to conform to safety and environmental requirements.

Unit 109/159 Valet vehicles

Supporting information

Evidence Requirements

The Evidence Requirements are shown in full in the Assessment Documentation.

Unit 201

Skills in tools and equipment used in vehicle refinishing

UAN:	Y/601/6153
Level:	2
Credit value:	5
GLH:	45
Relationship to NOS:	This unit is linked to P001S Demonstrating skills in tools and equipment used in vehicle refinishing.
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry.
Aim:	This unit allows the learner to develop skills in the correct: <ul style="list-style-type: none">• selection, maintenance and use of hand and power tools used in vehicle refinishing• preparation, use and maintenance of vehicle refinishing equipment.

Learning outcome	The learner will:
1.	be able to select, use and care for hand and power tools used in vehicle refinishing
Assessment criteria	
The learner can:	
1.1	select, prepare, safely use and maintain suitable hand and power tools when vehicle refinishing
1.2	report any faulty or damaged tools to the relevant person(s) clearly and promptly
1.3	store work tools in a clean, serviceable and safe manner, which permits ease of access and identification for use.

Learning outcome	The learner will:
2.	be able to prepare and use vehicle refinishing equipment
Assessment criteria	
The learner can:	
2.1	select, prepare and safely use vehicle refinishing workshop equipment
2.2	report any faulty or damaged equipment to the relevant person(s) clearly and promptly
2.3	store work equipment in a clean, serviceable and safe manner, which permits ease of access and use.

Unit 201 Skills in tools and equipment used in vehicle refinishing

Supporting information

Evidence Requirements

The Evidence Requirements are shown in full in the Assessment Documentation.

Unit 202

Skills in applying fillers and foundation materials

UAN:	H/601/6267
Level:	2
Credit value:	5
GLH:	45
Relationship to NOS:	This unit is linked to PO0205S Demonstrating skills in applying fillers and foundation materials.
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry.
Aim:	This unit will enable the learner to develop the skills required to carry out the identification of substrates, mixing and adjusting the viscosity of fillers and foundation materials and applying fillers and foundation materials following guidelines and procedures.

Learning outcome	The learner will:
1.	be able to work safely when carrying out preparation and application of foundation materials to vehicles
Assessment criteria	
The learner can:	
1.1	use suitable personal protective equipment and vehicle coverings throughout all preparation and application of foundation materials to plastics used in vehicle refinishing
1.2	work in a way which minimises the risk of damage or injury to the vehicle, people and the environment.

Learning outcome	The learner will:
2.	be able to use relevant information to carry out the task
Assessment criteria	
The learner can:	
2.1	select suitable sources of technical information to support preparation and application of foundation materials to vehicles
2.2	use technical information to support preparation and application of foundation materials to vehicles

Learning outcome	The learner will:
	3. be able to use appropriate tools and equipment
Assessment criteria	
The learner can:	
3.1	select the appropriate tools and equipment necessary for carrying out preparation and application of foundation materials to vehicles
3.2	ensure that equipment has been calibrated to meet manufacturers requirements
3.3	use the correct tools and equipment in the way specified by manufacturers when carrying out preparation and application of foundation materials to vehicles
3.4	leave all application equipment in a clean and serviceable condition.

Learning outcome	The learner will:
	4. be able to carry out preparation and application of foundation materials to vehicles
Assessment criteria	
The learner can:	
4.1	identify prior to working on the vehicle the type of substrate
4.2	use surface cleaning agents, fillers and foundation materials
4.3	mix and adjust the viscosity of fillers and foundation materials
4.4	apply all foundation materials
4.5	dry and cure all foundation materials
4.6	ensure all completed repairs are finished to an agreed standard ready for the next process.

Learning outcome	The learner will:
	5. be able to record information and make suitable recommendations
Assessment criteria	
The learner can:	
5.1	produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
5.2	make suitable and justifiable recommendations for cost effective repairs
5.3	record and report any additional faults noticed during the course of their work promptly in the format required.

Unit 202 Skills in applying fillers and foundation materials

Supporting information

Evidence Requirements

The Evidence Requirements are shown in full in the Assessment Documentation.

Unit 204

Skills in preparing metal and pre-painted surfaces

UAN:	T/601/6273
Level:	2
Credit value:	5
GLH:	45
Relationship to NOS:	This unit is linked to PO0408S Demonstrating skills in preparing metal and pre-painted surfaces.
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry.
Aim:	This unit will help the learner to develop the skills required to carry out the preparation of a wide variety of different panels and component surfaces to accept foundation/paint topcoat materials. It also covers the importance of following guidelines and recommended procedures.

Learning outcome	The learner will:
1.	be able to work safely when carrying out the preparation of metal and pre-painted surfaces
Assessment criteria	
The learner can:	
1.1	use suitable personal protective equipment and vehicle coverings throughout the preparation of metal and pre-painted surfaces
1.2	work in a way which minimises the risk of damage or injury to the vehicle, people and the environment.

Learning outcome	The learner will:
2.	be able to use relevant information to carry out the task
Assessment criteria	
The learner can:	
2.1	select suitable sources of technical information to support the preparation of metal and pre-painted surfaces
2.2	use technical information to support the preparation of metal and pre-painted surfaces.

Learning outcome	The learner will:
3.	be able to use appropriate tools and equipment
Assessment criteria	
The learner can:	
3.1	select the appropriate tools and equipment necessary for carrying out the preparation of metal and pre-painted surfaces
3.2	ensure that the equipment is safe and has been calibrated to meet manufacturers requirements
3.3	use the correct tools and equipment in the way specified by manufacturers when carrying the preparation of metal and pre-painted surfaces
3.4	leave all application equipment in a clean and serviceable condition.

Learning outcome	The learner will:
4.	be able to carry out the preparation of metal and pre-painted surfaces to accept foundation materials and paint topcoats
Assessment criteria	
The learner can:	
4.1	identify prior to working on the vehicle the type of substrate
4.2	use surface cleaning agents and protect all surfaces adjacent to those being prepared using the specified method
4.3	remove and store safely any components likely to be affected by the preparation process
4.4	prepare all panel surfaces required following: <ul style="list-style-type: none"> a. vehicle manufacturer technical data b. product data c. recognised methods and techniques
4.5	keep the work area clean and tidy throughout all preparation activities
4.6	dispose of waste materials to conform with legal and workplace requirements
4.7	ensure all preparation is finished to an agreed standard and free from contamination ready for the next process.

Learning outcome	The learner will:
5.	be able to record information and make suitable recommendations
Assessment criteria	
The learner can:	
5.1	produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
5.2	make suitable and justifiable recommendations for cost effective repairs
5.3	record and report any additional faults noticed during the course of their work promptly in the format required.

Unit 204 Skills in preparing metal and pre-painted surfaces

Supporting information

Evidence Requirements

The Evidence Requirements are shown in full in the Assessment Documentation.

Unit 206

Skills in repairing minor paint defects

UAN:	F/601/6244
Level:	2
Credit value:	5
GLH:	45
Relationship to NOS:	This unit is linked to PO06S Demonstrating skills in repairing minor paint defects.
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry.
Aim:	<ul style="list-style-type: none">This unit will enable the learner to develop the skills required to carry out the rectification of minor paint defects using a range of tools, equipment and materials. It also covers the importance of following guidelines and recommended procedures.

Learning outcome	The learner will:
1.	be able to work safely when carrying out the rectification of minor paint defects
Assessment criteria	
The learner can:	
1.1	use suitable personal protective equipment and vehicle coverings when carrying out the rectification of minor paint defects
1.2	work in a way which minimises the risk of damage or injury to the vehicle, people and the environment.

Learning outcome	The learner will:
2.	be able to use relevant information to carry out the task
Assessment criteria	
The learner can:	
2.1	select suitable sources of technical information to support the rectification of minor paint defects
2.2	use technical information to support the rectification of minor paint defects.

Learning outcome	The learner will:
3.	be able to use appropriate tools and equipment
Assessment criteria	
The learner can:	
3.1	select the appropriate tools and equipment necessary for carrying out the rectification of minor paint defects
3.2	ensure that the equipment is safe and has been calibrated to meet manufacturers requirements
3.3	use the correct tools and equipment in the way specified by manufacturers when carrying out the rectification of minor paint defects
3.4	leave all equipment in a clean and serviceable condition.

Learning outcome	The learner will:
4.	be able to carry out the rectification of minor paint defects
Assessment criteria	
The learner can:	
4.1	identify the type of paint defect prior to working on the vehicle
4.2	use surface cleaning agents and protect all surfaces adjacent to those being prepared and rectified using the specified method
4.3	remove and store safely any components likely to be affected by the preparation and rectification process
4.4	correct defects using the approved tools and equipment required
4.5	keep the work area clean and tidy throughout all rectification activities
4.6	dispose of waste materials to conform with legal and workplace requirements
4.7	ensure all minor paint defects are rectified to a commercially acceptable standard.

Learning outcome	The learner will:
5.	be able to record information and make suitable recommendations
Assessment criteria	
The learner can:	
5.1	produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
5.2	make suitable and justifiable recommendations for cost effective repairs
5.3	record and report any additional faults identified during the course of their work promptly in the format required.

Unit 206 **Skills in repairing minor paint defects**

Supporting information

Evidence Requirements

The Evidence Requirements are shown in full in the Assessment Documentation.

Unit 218

Skills in removing and fitting of basic light vehicle mechanical, electrical and trim (MET) components and non permanently fixed vehicle body panels

UAN:	K/601/3869
Level:	2
Credit value:	3
GLH:	20
Relationship to NOS:	This unit is linked to BP01 Remove and fit basic motor mechanical and electrical and trim (MET) components to vehicles.
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry.
Aim:	This unit allows the learner to demonstrate they can carry out a range of removal and fitting of basic mechanical, electrical and trim (MET) components and non-permanently fixed light vehicle body panels. It also covers the evaluation of the operation of the components when fitted.

Learning outcome	The learner will:
1. be able to work safely when carrying out removal and fitting of basic MET components and non-permanently fixed light vehicle body panels	
Assessment criteria	
The learner can	
1.1	use suitable personal protective equipment and vehicle coverings throughout all light vehicle removal and fitting of basic MET components and non-permanently fixed light vehicle body panels
1.2	work in a way which minimises the risk of damage or injury to the vehicle, people and the environment.

Learning outcome	The learner will:
	2. be able to use relevant information to carry out the task
Assessment criteria	
The learner can	
2.1	select suitable sources of technical information to support light vehicle removal and fitting activities including: <ul style="list-style-type: none"> a. vehicle technical data b. removal and fitting procedures c. legal requirements
2.2	use technical information to support light vehicle removal and fitting activities.

Learning outcome	The learner will:
	3. be able to use appropriate tools and equipment
Assessment criteria	
The learner can	
3.1	select the appropriate tools and equipment necessary for carrying out removal and fitting of basic MET components and non-permanently fixed light vehicle body panels
3.2	ensure that equipment has been calibrated to meet manufacturers' and legal requirements
3.3	use the correct tools and equipment in the way specified by manufacturers when carrying removal and fitting of basic MET components and non-permanently fixed light vehicle body panels.

Learning outcome	The learner will:
	4. be able to carry out removal and fitting of basic MET components and non-permanently fixed light vehicle body panels
Assessment criteria	
The learner can	
4.1	remove and fit basic MET components and non-permanently fixed light vehicle body panels
4.2	ensure that the removal and fitting of basic MET components and non-permanently fixed light vehicle body panels conforms to the vehicle operating specification and any legal requirements
4.3	ensure no damage occurs to other components when carrying out removal and fitting of basic MET components and non-permanently fixed light vehicle body panels
4.4	ensure all components and panels are stored safely and in the correct location.

Learning outcome	The learner will:
5.	be able to record information and make suitable recommendations
Assessment criteria	
The learner can	
5.1	produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
5.2	make suitable and justifiable recommendations for cost effective repairs
5.3	record and report any additional faults noticed during the course of their work promptly in the format required.

Unit 218 **Skills in removing and fitting
of basic light vehicle
mechanical, electrical and trim
(MET) components and non
permanently fixed vehicle
body panels**

Supporting information

Evidence Requirements

The Evidence Requirements are shown in full in the Assessment Documentation.

Unit 251

Knowledge of tools and equipment used in vehicle refinishing

UAN:	J/601/6116
Level:	2
Credit value:	5
GLH:	45
Relationship to NOS:	This unit is linked to PO01K Knowledge of tools and equipment used in vehicle refinishing.
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by the IMI, the Standards Setting Body for the automotive industry.
Aim:	This unit enables the learner to develop an understanding for the: <ul style="list-style-type: none">• correct selection, maintenance and use of hand and power tools used in vehicle refinishing• correct preparation, use and maintenance of vehicle refinishing equipment

Learning outcome	The learner will:
1.	understand how to select, use and care for hand and power tools used in vehicle refinishing
Assessment criteria	
The learner can:	
1.1	describe the use of common types of hand and power tools used for vehicle refinishing
1.2	identify the main components of a spray gun
1.3	describe, within the scope of their responsibilities, how to select, prepare and maintain hand and power tools used in vehicle refinishing
1.4	state the limitations of hand and power tools used in vehicle refinishing
1.5	explain how hand and power tools used in vehicle refinishing should be stored
1.6	describe the methods of adjusting compressed air pressures by use of: <ul style="list-style-type: none">a. transformer/regulatorb. spray gun pressure gauge
1.7	describe the operation of gun cleaning machines to include the use of solvent and water based gun cleaners

- | |
|--|
| 1.8 describe the cleaning and maintenance of suction/gravity feed guns |
| 1.9 identify spray gun faults, their cause and how they should be rectified. |

Learning outcome	The learner will:
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- | |
|--|
| 2. understand how to prepare, use and care for vehicle refinishing equipment |
|--|

Assessment criteria

The learner can:

- | |
|---|
| 2.1 identify workshop equipment used in vehicle refinishing |
| 2.2 describe the preparation and safe use of workshop equipment |
| 2.3 describe the maintenance requirements of a compressed air system oil level. |

Unit 251 Knowledge of tools and equipment used in vehicle refinishing

Supporting information

Evidence Requirements

The Evidence Requirements are shown in full in the Assessment Documentation.

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

Equipment used in Vehicle Refinishing

- a. Flattening block
- b. Sponge
- c. Squeegee
- d. Chamois leather
- e. Trimming knife
- f. Polishing mop
- g. Denibbing blocks
- h. Sealer gun
- i. Air duster
- j. Rotary sander
- k. DA random orbital sander
- l. Orbital flat bed sander
- m. Belt sander
- n. Vacuum extraction sander
- o. Specialist extraction for aluminium particles (explosive)
- p. Suction feed spray gun
- q. Gravity feed spray gun
- r. Pressure feed spray gun
- s. HVLP spray guns
- t. Identify spray gun cleaning machines

Workshop equipment

- a. Combi-booth
- b. Separate oven
- c. Infra-red drying
- d. Compressor
- e. Main air line
- f. Transformer/regulator
- g. Water traps
- h. Flexible air and fluid hoses
- i. Pressure gauges
- j. Automatic paper/tape dispenser

- k. Plastic sheeting dispenser
- l. Complete car covers dispenser
- m. Wheel covers dispenser
- n. Viscosity measuring equipment
- o. Paint mixing schemes
- p. Air feed breathing equipment
- q. Smart scales

Paint Gun Cleaning and Maintenance

- a. Loading
- b. Cleaning cycle
- c. Coagulant (water-based paints only)
- d. Filtration of solids
- e. Partial strip of paint spaying gun
- f. Complete strip of paint spraying gun
- g. Washer cycle
- h. Blow through
- i. Re-assembly
- j. Lubrication

Main parts of a Spray gun:

- a. Trigger
- b. Body
- c. Packing gland
- d. Air valve
- e. Fluid needle
- f. Fluid tip (nozzle)
- g. Air cap
- h. Paint volume control
- i. Fan width control
- j. Material cup
- k. Filters

Compressed air systems:

- a. tank drainage
- b. ring drainage
- c. regular maintenance and service logs
- d. air quality checks (breathable air)
- e. Air filter/cartridge changes (breathable air)

Unit 252

Knowledge of applying fillers and foundation materials

UAN:	H/601/6141
Level:	2
Credit value:	6
GLH:	45
Relationship to NOS:	This unit is linked to PO0205K Knowledge of applying fillers and foundation materials.
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry.
Aim:	This unit will enable the learner to develop an understanding for identifying substrates, mixing and adjusting the viscosity of fillers and foundation materials and applying fillers and foundation materials following guidelines and procedures.

Learning outcome	The learner will:
1.	understand how to identify body surfaces requiring the application of foundation materials in vehicle refinishing
Assessment criteria	
The learner can:	
1.1	state the types of substrate likely to be found in vehicle refinishing
1.2	identify the main methods used to determine the vehicle substrate
1.3	identify the properties of the substrate
1.4	describe why the substrate will determine the selection of a suitable foundation material.

Learning outcome	The learner will:
2.	understand how to identify, mix and apply fillers and foundation materials in vehicle refinishing
Assessment criteria	
The learner can:	
2.1	describe the choice and use of surface cleaning agents, fillers and foundation materials
2.2	describe how to condition and clean surfaces prior to the application of foundation coatings to ensure adequate adhesion
2.3	describe how to mix and check the viscosity of fillers and foundation materials
2.4	describe the importance of viscosity and its effects on the surface finish
2.5	describe the properties of the foundation materials
2.6	describe the principles of filler and paint mixing, the importance of the right additive (hardener or thinner) in the correct ratio
2.7	describe the curing and drying recommendations for the various fillers and foundation materials
2.8	describe how to apply foundation coatings
2.9	describe how to find and interpret sources of information relevant to the mixing and application of foundation coatings
2.10	describe how to avoid application defects
2.11	describe the masking procedures, methods and techniques for part or whole vehicles
2.12	describe how to carry out masking procedures to avoid material wastage and vehicle contamination for each stage of the process
2.13	identify the requirements for protecting the vehicle and contents from damage before, during and after preparing and applying foundation materials.

Unit 252 Knowledge of applying fillers and foundation materials

Supporting information

Evidence Requirements

The Evidence Requirements are shown in full in the Assessment Documentation.

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

The types of substrates likely to be found in vehicle refinishing

- a. List types of substrate to include:
 - i. steel
 - ii. aluminium
 - iii. all plastics
 - iv. coated steels
 - v. high bake Enamels (O E finishes)
 - vi. 2 K Paints
 - vii. 1K Paints
 - viii. clear over bases
 - ix. polyester fillers
 - x. repaired panels
 - xi. primed panels (E coat)
- b. Identify substrates to determine selection of undercoat with reference to:
 - i. condition of surface
 - ii. type of substrate
 - iii. process requirements
 - iv. material requirement
- c. List the physical properties of a substrate to include:
 - i. surface condition
 - ii. adhesion
 - iii. flexibility
 - iv. porosity
 - v. texture

Methods used in determining vehicle substrates

- a. Workshop tests to determine substrates to include:
 - i. visual test for aluminium, plastics
 - ii. magnet test for steel
- b. For determination of paint type:
 - i. compound small area
 - ii. solvent wipe test (1k or 2k)

- iii. colour of flatting sludge (straight colour or C O B)

The properties and correct use of conditioning materials

- a. State that a vehicle must be thoroughly washed and cleaned prior to refinishing to include:
 - i. outside body panels
 - ii. under arches
 - iii. under bonnet
 - iv. all apertures
 - v. degreased
- b. State the reasons for masking components adjacent to repair areas.
- c. State the correct preparation of parts prior to painting to include products used for the removal of:
 - i. wax
 - ii. grease
 - iii. skin oils
 - iv. dust
 - v. water
 - vi. abrasive contaminants
 - vii. environmental pollution
- d. Identify materials used for conditioning processes such as:
 - i. wax and grease removers
 - ii. spirit wipes
 - iii. acid based
 - iv. water based
- e. The correct and safe use of the above materials.
- f. State the properties of pre-preparation material to include:
 - i. neutralisation
 - ii. ability to alter the surface
 - iii. reaction with oxide

The types and properties of fillers and foundation materials in common use

- a. State what the ingredients of paint are to include:
 - i. pigment
 - ii. binder/vehicle
 - iii. solvent/thinner/reducer
 - iv. additives
- b. Properties of pigments to include:
 - i. opacity
 - ii. colour
 - iii. build
 - iv. easy flattening
 - v. corrosion resistance
- c. State that the forms of pigments that are:
 - i. natural ground powders
 - ii. synthetic powders and dyes
- d. The uses of pigments in paints such as:
 - i. stoppers/putties

- ii. etch primers
- iii. primer surfacers
- iv. primer filler
- e. The properties of binders to include:
 - i. film forming
 - ii. binding
 - iii. cohesion
 - iv. adhesion
 - v. flexibility
- f. State the forms of binder which dry by the following methods:
 - i. solvent evaporation only
 - ii. oxidation
 - iii. polymerisation
- g. The properties of solvent/thinners to include:
 - i. speed of evaporation
 - ii. its ability to dissolve the binder
 - iii. its ability to be tolerated by a binder
- h. The use of solvent/thinner:
 - i. to make the paint fluid in the tin
 - ii. to reduce the paint to a spraying/ application viscosity
- i. State the meaning of paint terms such as:
 - i. activator
 - ii. adhesion
 - iii. build
 - iv. cohesion
 - v. compatibility
 - vi. curtains
 - vii. degreaser
 - viii. drier
 - ix. enamel
 - x. etch
 - xi. flash off
 - xii. floating
 - xiii. gloss
 - xiv. hardener
 - xv. lacquer
 - xvi. opacity
 - xvii. pigment
 - xviii. polymerization
 - xix. pot life
 - xx. shelf life
 - xxi. substrate
 - xxii. thermoplastic
 - xxiii. thermosetting
 - xxiv. thixotropic
 - xxv. two pack
 - xxvi. viscosity

Explain the difference between types of paints to include:

non convertible, i.e.

- i. nitro cellulose
- ii. 1k acrylics
- iii. basecoats

i. convertibles:

- i. two packs
- ii. oil based synthetic enamels

- a. List the types of undercoat in common use to include:
 - i. etch primer
 - ii. primer surfacer
 - iii. primer filler
 - iv. stopper/putty
 - v. sealers
 - vi. anti stone chip
 - vii. polyester fillers
- b. The characteristics of these undercoats such as:
 - i. protection
 - ii. corrosion resistance
 - iii. flexibility
 - iv. build
 - v. drying
 - vi. flattening
- c. List the types and characteristics of common protective coatings such as:
 - i. zinc rich primers
 - ii. bitumen based
 - iii. anti stone chip
 - iv. etch primer
 - v. PVC

The factors affecting the choice and use of fillers and foundation materials

- a. State the reasons for using paint to include:
 - i. protection
 - ii. filling
 - iii. decoration
 - iv. identification
 - v. safety
- b. Use process data sheets to determine information such as:
 - i. material description
 - ii. material properties
 - iii. material characteristics
 - iv. limitations
 - v. related materials
 - vi. mixing ratios
 - vii. viscosity

- viii. build film thickness
- ix. pot life
- c. Describe the procedure for the preparation of minor damage to include:
 - i. paint removal
 - ii. feather edge
 - iii. surface condition
 - iv. substrate identification
 - v. cleanliness
 - vi. achieving correct contour
- d. Describe the problems of over catalysed body filled areas
- e. Identify the correct Health and Safety procedures associated with body fillers
- f. Describe aids and techniques which can be used to achieve the correct contour of a filled area
- g. List undercoat materials for plastics to include:
 - i. adhesion promoters
 - ii. surface modifiers
 - iii. flexible additives
 - iv. texture additives

The procedures for the mixing, application and curing of single and 2-pack fillers and stoppers

- a. The properties of 2k stoppers to include:
 - i. convertible coating
 - ii. drying
 - iii. build
- b. The properties of 1K stoppers to include:
 - i. non convertible coating
 - ii. drying
 - iii. build
- c. The use of 2K and 1K stoppers to include:
 - i. 2k used for the filling of minor imperfections in 2K system
- d. That 1K stopper is ready for use.
- e. That 2k stopper is mixed with activator just prior to use.
- f. That 1K stopper has to be applied:
 - i. in thin layers and with adequate flash off
- g. That 2K stopper can be applied.
 - i. in thicker layers and is cured after 20 mins (quicker with heat)
 - ii. 1K used for the filling of minor imperfections in 1K system

The procedures for mixing foundation materials to the correct ratio with hardeners and thinners

- a. Describe procedures for mixing undercoats such as:
 - i. etch primers
 - ii. anti-stone chip primers
 - iii. surfacers
 - iv. wash fillers
 - v. primer fillers
 - vi. plastic adhesion promoters
 - vii. elastic primers

- viii. sealers
- ix. spraying polyester fillers

The importance of checking and adjusting paint viscosity and its effect on surface finish

- a. State why the viscosity of a paint is important to application to include:
 - i. build
 - ii. surface finish
 - iii. speed of application
 - iv. describe the procedure for checking viscosity
 - v. describe the effects on viscosity of:
 - vi. temperature
 - vii. additions of thinner/reducer

Filler and foundation material technical data sheets to extract listed information. The importance of correctly interpreting and following manufacturers' instructions and the consequences of failing to do so

- a. Use the process data sheets to determine information such as:
 - i. mixing ratios
 - ii. viscosity
 - iii. number of coats
 - iv. flash off times
 - v. build film thickness
 - vi. spray gun type
 - vii. spray gun set up
 - viii. air pressure requirements
 - ix. substrate requirements
 - x. suitability as a substrate
 - xi. drying times
 - xii. suitability to be applied by methods other than spraying
- b. Define the main information sourced from data sheets to include:
 - i. product identification
 - ii. product description
 - iii. substrate suitability
 - iv. pre-treatment requirement
 - v. mixing ratio
 - vi. pot life
 - vii. method of application
 - viii. spray viscosity
 - ix. nozzle/air cap set up
 - x. number of coats
 - xi. flash off times
 - xii. drying times
 - xiii. recoatability
- c. List common pictograms and state their meaning including those for:
 - i. cleaning information
 - ii. mixing ratios
 - iii. use a measuring stick
 - iv. addition of hardener

- v. application viscosity
- vi. type of spray gun
- vii. spray coats information
- viii. application with spatula
- ix. application with brush
- x. application with roller
- xi. flash-off
- xii. drying time
- xiii. drying with infrared
- xiv. sanding
- xv. polishing
- xvi. technical data required
- xvii. hand stirring

Masking procedures for part and whole vehicles. Describe masking processes and techniques

- a. List common masking systems, materials and techniques to include:
 - i. masking paper
 - ii. plastic sheeting
 - iii. masking tape
 - iv. foam tape
 - v. wheel covers
 - vi. liquid Masking
 - vii. roll-back masking
- b. Identify the characteristics of a quality masking tape to include:
 - i. ability to turn corners
 - ii. non-aggressive adhesive/non-drying
 - iii. clean edges to painted areas
- c. Describe the properties of these masking materials such as:
 - i. economy of use
 - ii. costs per unit
 - iii. absorption
 - iv. flexibility
- d. Identify where and how these masking materials and systems should be used.
- e. Describe the masking procedures for listed items such as:
 - i. door glass and windscreens
 - ii. handles
 - iii. lights
 - iv. mirrors
 - v. wheels
- f. Describe a masking schedule for the type of repair to include:
 - i. time efficiency
 - ii. material costs
 - iii. given protection
- g. Identify faults which are caused by careless masking such as:
 - i. flash lines
 - ii. bridging
 - iii. creep
 - iv. hard edges

Unit 254

Knowledge of preparing metal and pre-painted surfaces

UAN:	A/601/6145
Level:	2
Credit value:	6
GLH:	45
Relationship to NOS:	This unit is linked to PO0408K Knowledge of preparing metal and pre-painted surfaces
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by the IMI, the Standards Setting Body for the automotive industry.
Aim:	This unit enables the learner to develop an understanding for preparing a wide variety of different panels and component surfaces to accept foundation/paint topcoat materials. It also covers the importance of following guidelines and recommended procedures.

Learning outcome	The learner will:
1.	understand how to identify body surfaces requiring the application of foundation/paint topcoat materials in vehicle refinishing
Assessment criteria	
The learner can:	
1.1	identify the types of substrate likely to be found in vehicle refinishing
1.2	identify the main methods used to determine the vehicle substrate
1.3	identify the properties of the substrate.

Learning outcome	The learner will:
2.	understand how to prepare new and repaired panels for the application of foundation/paint topcoat materials in vehicle refinishing
Assessment criteria	
The learner can:	
2.1	describe the choice and use of surface cleaning agents, including wax and grease remover to ensure adequate adhesion
2.2	describe the types of materials used to prepare the surface and the factors governing their use
2.3	describe how to prepare new and repaired panels
2.4	describe the factors governing the choice of panel preparation methods
2.5	describe how to prepare panels and parts adjacent to the area being painted
2.6	identify the methods of protecting panels and parts adjacent to the areas being painted and the circumstances in which they should be used
2.7	identify the requirements for protecting the vehicle and contents from damage before, during and after preparing panel surfaces.

Unit 254 Knowledge of preparing metal and pre-painted surfaces

Supporting information

Evidence Requirements

The Evidence Requirements are shown in full in the Assessment Documentation.

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

Types of substrate likely to be found in modern vehicles

- a. Substrates to determine selection of undercoat with reference to:
 - i. condition of surface
 - ii. type of substrate
 - iii. process requirements
 - iv. material requirements
- b. The physical properties of a substrate to include:
 - i. surface condition
 - ii. adhesion
 - iii. flexibility
 - iv. porosity
- c. The technical properties of a substrate to include:
 - i. type of paint
 - ii. steel
 - iii. aluminium
 - iv. plastic
 - v. coated steels
 - vi. repaired panels
 - vii. OE finish
 - viii. primed panels (including 'E'-coat).

Methods used in determining vehicle substrates

- a. Workshop tests to determine substrates to include:
 - i. solvent wipe test (1k or 2k)
 - ii. colour of flattening sludge (straight colour or C O B).
 - iii. VIN plate

The main stages required in preparing a vehicle for refinishing, including areas adjacent to the painting area

- a. Manufacturers protective coatings and explain their warranty implications such as:
 - i. electrostatic dip
 - ii. under-body compounds
 - iii. cavity wax

- iv. body caulking
- b. A vehicle must be thoroughly washed and cleaned prior to refinishing to include:
 - i. outside body panels
 - ii. under arches
 - iii. under bonnet
 - iv. all apertures
 - v. degreased
- c. The reasons for vehicle masking
- d. The correct preparation of parts prior to painting to include products use for the removal of:
 - i. wax
 - ii. grease
 - iii. skin oils
 - iv. dust
 - v. water
 - vi. abrasive contaminates
 - vii. environmental pollution.

The procedures used in preparing listed substrates

- a. The required preparation for the listed substrates to include:
 - i. steel
 - ii. aluminium alloys
 - iii. GR plastics
 - iv. thermo plastics
 - v. cured 2K materials
- b. The procedures for the preparation of plastics to include:
 - i. identification
 - ii. tempering
 - iii. porefilling
 - iv. release agent removal
 - v. cleaning
 - vi. adhesion promotion
 - vii. elastic primers.

The procedures for the preparation and application of chemical solutions and solvents to remove paint

- a. Materials used for conditioning processes such as:
 - i. wax and grease removers
 - ii. spirit wipes
 - iii. acid based
 - iv. water based
- b. The correct and safe use of the above materials
- c. The properties of pre-preparation materials to include:
 - i. neutralisation
 - ii. ability to alter the surface
 - iii. reaction with oxide
- d. Types of paint stripper available to include:
 - i. aggressive
 - ii. non-aggressive

- e. The procedures for the preparation and application of chemical solutions and solvents to include:
 - i. Health and Safety
 - ii. PPE
 - iii. mixing schedules
 - iv. application schedules
 - v. waste disposal
- f. The process of stripping paint from:
 - i. steel
 - ii. aluminium
 - iii. plastics.

The selection and uses of a range of abrasives in common use

- a. Types and uses of abrasives materials to include:
 - i. aluminium oxide
 - ii. silicon carbide
 - iii. wet and dry types
 - iv. open coat
 - v. closed coat
 - vi. papers, pastes and woven plastics
- b. Forms of abrasive to include:
 - i. pad
 - ii. disc
 - iii. sheet
 - iv. roll
 - v. backing materials
 - vi. methods of attachments
- c. How grit sizes are classified according to the FEPA standards using 'P' grades with regard to:
 - i. the process being carried out
 - ii. the material being abraded
 - iii. the technique being employed
- d. The differences between Open and Closed coat abrasives
 - i. open coat
 - ii. closed coat
 - iii. P Grades.

Define the term 'feather edging' and explain why correct operation is required in achieving the required surface finish

- a. The procedure for the preparation of a repaired area on a large panel in terms of:
 - i. repair edge preparation
 - ii. surrounding area
 - iii. bare metal
- b. Why correct preparation is required with reference to:
 - i. surface finish
 - ii. film thickness
 - iii. sinkage
 - iv. mapping
 - v. contouring.

The procedures for the preparation of minor damage prior to the application of body fillers

- a. The procedure for the preparation of minor damage to include:
 - i. paint removal
 - ii. feather edge
 - iii. surface condition
 - iv. substrate identification
 - v. cleanliness
 - vi. achieving correct contour
- b. The problems of over catalysed body filled areas.
- c. The correct Health and Safety procedures associated with body fillers.
- d. Aids and techniques which can be used to achieve the correct contour of a filled area.

Unit 256

Knowledge of repairing minor paint defects

UAN:	Y/601/6122
Level:	2
Credit value:	6
GLH:	45
Relationship to NOS:	This unit is linked to PO06K Knowledge of repairing minor paint defects.
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry.
Aim:	This unit will enable the learner to develop an understanding about the causes and rectification of minor paint defects using a range of tools, equipment and materials. It also covers the importance of following guidelines and recommended procedures.

Learning outcome	The learner will:
1.	understand how to identify the body surface requiring the rectification of minor paint defects
Assessment criteria	
The learner can:	
1.1	describe how to identify the existing paint surface finish on which the minor paint defect has occurred
1.2	identify the minor paint defects, their cause and methods of rectification suitable for the paint finish.

Learning outcome	The learner will:
2.	understand how to repair minor paint defects
Assessment criteria	
The learner can:	
2.1	describe how to carry out flattening, burnishing, polishing and touch in techniques to correct minor paint defects
2.2	describe how to use polishing machines, denibbing blocks and flattening equipment
2.3	describe how to use compounds, flattening papers, polishes, pre-prepared paints and glazes
2.4	identify the factors affecting the choice and use of materials in the rectification of minor paint defects
2.5	describe how to prevent further paint damage during rectification
2.6	describe the importance of proper cleaning to the vehicle and work area prior to and after rectification work
2.7	describe the importance of keeping equipment and materials clean and free from contamination during rectification work
2.8	identify the requirements for protecting the vehicle and contents from damage before, during and after repairing minor paint defects.

Unit 256 Knowledge of repairing minor paint defects

Supporting information

Evidence Requirements

The Evidence Requirements are shown in full in the Assessment Documentation.

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

Minor surface defects to include:

- i. scratches
- ii. chips
- iii. dents
- iv. corrosion
- v. contamination
- vi. blisters (including micro-blisters)
- vii. fading
- viii. loss of gloss
- ix. chalking

Types of paint finishes likely to be found in modern vehicles

- a. Types of substrate to include:
 - i. steel
 - ii. aluminium
 - iii. all plastics
 - iv. coated steels
 - v. high bake enamels (o e finishes)
 - vi. 2 k paints
 - vii. 1k paints
 - viii. clear over bases
 - ix. polyester fillers
- b. Substrates to determine selection of undercoat with reference to:
 - i. condition of surface
 - ii. type of substrate
 - iii. process requirements
 - iv. material requirement
- c. The physical properties of a substrate to include:
 - i. surface condition
 - ii. adhesion
 - iii. flexibility
 - iv. porosity
 - v. texture

Methods used in determining types of vehicle paint finishes

- a. Workshop tests to determine paint substrates to include:
 - i. compound small area
 - ii. solvent wipe test (1k or 2k)
 - iii. colour of flattening sludge (straight colour or c o b)
 - iv. VIN plate

Vehicle cleaning and protection procedures during paint defect rectification processes

- a. Vehicle must be thoroughly washed and cleaned prior to refinishing to include:
 - i. outside body panels
 - ii. under arches
 - iii. under bonnet
 - iv. all apertures
 - v. degreased
- b. The reasons for masking components adjacent to repair areas.
- c. The correct preparation of parts prior to painting to include products used for the removal of:
 - i. wax
 - ii. grease
 - iii. skin oils
 - iv. dust
 - v. water
 - vi. abrasive contaminants
 - vii. environmental pollution
- d. Materials used for conditioning processes such as:
 - i. wax and grease removers
 - ii. spirit wipes
 - iii. acid based
 - iv. water based
- e. The correct and safe use of the above materials.
- f. The properties of pre-preparation material to include:
 - i. neutralisation
 - ii. ability to alter the surface
 - iii. reaction with oxide

Identification of the common minor paint defects and list their causes

- a. Methods used to identify minor surface defects to include:
 - i. scratches
 - ii. chips
 - iii. dents
 - iv. corrosion
 - v. contamination
 - vi. blisters (including micro-blisters)
 - vii. fading
 - viii. loss of gloss
 - ix. chalking

- b. The reasons for the defects in vehicle finish such as:
 - i. environmental pollution
 - ii. ultra violet reaction
 - iii. industrial pollution
 - iv. accidental damage

Which rectification procedure to use for each of the minor paint defects

- a. The procedures for the rectification of minor defects to include:
 - i. compound/polish surface
 - ii. flat/polish surface
 - iii. local paint removal/repaint
 - iv. panel/edge-to-edge repaint

Tools and equipment used for the rectification of minor paint defects

- a. The hand tools and equipment used by a paint refinisher to include:
 - i. flattening block
 - ii. squeegee
 - iii. leather
 - iv. trimming knife
 - v. masking dispensers
 - vi. rotary
 - vii. DA random orbital
 - viii. orbital flat bed
 - ix. belt
 - x. polishing equipment
 - xi. spray guns
 - xii. sealer guns
 - xiii. air dusters
 - xiv. vacuum extraction
 - xv. compressed air systems

The selection, operation and maintenance of listed tools and equipment for paint defect rectification

- a. The above tools and equipment with regard to their:
 - i. selection
 - ii. correct and safe use
 - iii. adjustment
 - iv. maintenance
 - v. accessories
- b. The function and correct use of each of the sanders listed:
 - i. rotary
 - ii. DA random orbital
 - iii. orbital flat bed
 - iv. belt
- c. Comparison of the above sanders in terms of:
 - i. selection
 - ii. abrasive pattern produced
 - iii. aggressiveness
 - iv. heat produced

- v. adjustment
- vi. abrasive change
- d. The equipment required for polishing to include:
 - i. air polisher
 - ii. electric polisher
 - iii. foam compound mop
 - iv. foam polishing mop
 - v. lambs-wool mop
 - vi. types of paste compound
 - vii. types of liquid compound
 - viii. types of polishing cloth
 - ix. lubricants
 - x. specialist de-nib equipment
- e. The maintenance requirement of these tools.

Adjust, set up and use listed tools and equipment for paint defect rectification

- a. The process of using a polishing machine to refurbish paint work to include:
 - i. speed of polishing machine
 - ii. application of the machine to the surface
 - iii. application of compound to the surface
 - iv. operation of polishing machine
 - v. awareness of polishing near to edges and swage lines
 - vi. avoiding burn marks
 - vii. removal of dried polish
- b. the process of using sanders to prepare surface defects to include:
 - i. choosing correct sander for job in hand
 - ii. selection of appropriate grade of abrasive
 - iii. correct technique with regard to pressure applied
 - iv. avoiding sanding to bare metal on edges
 - v. use of dust extraction
- c. The methods of paint application for defect repair to include:
 - i. touch-up brushes
 - ii. coloured film patches
 - iii. aerosols
 - iv. touch-up spray guns and air brushes
 - v. standard spray guns
 - vi. adjusting spray guns for optimum atomisation

Tools and equipment must be kept free from contamination to avoid further defects

- a. The methods of cleaning tools and equipment after use:
 - i. washing polishing/compound heads to remove residues
 - ii. cleaning spray guns and brushes with appropriate solvents
- b Explain that failure to carry out these procedures may lead to defects to include:
 - i surface scratches
 - ii surface contamination
 - iii silicone cratering

- iv staining of painted surfaces
- v equipment malfunction

Materials used for the rectification of minor paint defects

- a. Types and uses of abrasives to include:
 - i. aluminium oxide
 - ii. silicon carbide
 - iii. wet and dry types
 - iv. open coat
 - v. closed coat
 - vi. p grades
 - vii. papers, pastes and woven plastics
- b. The properties of compounds used to refurbish paintwork including:
 - i. cutting compounds
 - ii. cutting creams
 - iii. surface polishes
 - iv. protective waxes
 - v. sponge cutting heads
 - vi. polishing mops
 - vii. polishing cloths
- c. Types and uses of filler materials to include:
 - i. 2k polyester filler paste
 - ii. 2k and 1k stopper
- d. Types and uses of paints to include:
 - i. touch-up pots
 - ii. self-adhesive coloured paint film
 - iii. aerosols
 - iv. standard 2k and 1k paints

Select the correct materials for rectifying listed paint defects

- a. Selection of materials for rectification will depend on:
 - i. type of surface defect to be repaired
 - ii. severity of defect
 - iii. size of area to be repaired
 - iv. equipment available
 - v. expertise of operator
 - vi. customer preference

Correct preparation and use of materials for rectifying paint defects

- a. The preparation of listed materials for defect rectification to include:
 - i. replacing worn or used abrasive papers, pads and discs
 - ii. checking compound and polish pastes for contamination
 - iii. mixing of 2k fillers and stoppers to correct ratios
- b. The preparation required prior to paint application to include:
 - i. stirring/shaking paint containers
 - ii. mixing touch-up and standard paints to correct ratios
 - iii. carrying out viscosity checks on mixed paint materials

Touch-in techniques as required for the rectification of some paint defects

- a. Touch-in techniques:
 - i. may not exactly match factory (OE) finish
 - ii. may be viewed as a temporary repair
 - iii. should be confined to small areas

Procedures for the safe disposal of waste material and the consequences of failing to follow disposal regulations

- a. How the disposal of products is influenced by the duty of care regulations.
- b. The disposal procedures for used products to include:
 - i. waste paper and card
 - ii. empty containers
 - iii. waste thinners
 - iv. body filler dust
 - v. spray booth filters
 - vi. soiled rags
 - vii. body panels
 - viii. damaged vehicle parts
- c. Documentation required for correct disposal of the above items.
- d. The penalties for non compliance.
- e. The effects on the environment of non compliance.

The importance of correctly interpreting and following manufacturers' instructions, workplace maintenance procedures, and the consequences of failing to do so

- a. Main sources of information to include:
 - i. vehicle identity plate
 - ii. colour directory
 - iii. micro-fiche
 - iv. electronically held data
 - v. hazard/technical data sheets
- b. The main purposes of the vehicle identification plate:
 - i. Identify the types of information available from this plate
 - ii. Identify the method of designating year of registration

Unit 268

Knowledge in removing and fitting of basic light vehicle mechanical, electrical and trim (met) components and non permanently fixed vehicle body panels

UAN:	F/601/3747
Level:	2
Credit value:	2
GLH:	20
Relationship to NOS:	This unit is linked to BP01 Remove and fit basic motor mechanical and electrical and trim (MET) components to vehicles.
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry.
Aim:	This unit enables the learner to develop an understanding of carrying out a range of removal and fitting of basic mechanical, electrical and trim (MET) components and non-permanently fixed light vehicle body panels. It also covers the evaluation of the operation of the components when fitted

Learning outcome	The learner will:
1.	understand how to carry out removal and fitting of basic light vehicle mechanical electrical and trim (MET) components
Assessment criteria	
The learner can:	
1.1	identify the procedures involved in carrying out the systematic removal and fitting of basic light vehicle MET components to the standard required including: <ul style="list-style-type: none">a. bumpersb. headlamp unitsc. road wheelsd. batteriese. bonnet and boot trimf. interior trim componentsg. exterior trim components
1.2	identify the procedures involved in working with supplementary safety systems when fitting basic light vehicle MET components

1.3	identify the procedures involved in working with gas discharge headlamp systems when fitting basic light vehicle MET components
1.4	explain the methods and procedures for storing removed light vehicle MET components
1.5	identify the different types of fastenings and fixings used when removing and fitting light vehicle MET components
1.6	explain the reasons for the use of different types of fastenings and fixings used in light vehicle MET components
1.7	explain the procedures, methods and reasons for ensuring correct alignment of light vehicle MET components
1.8	identify the quality checks that can be used to ensure correct alignment and operation of light vehicle MET components
1.9	identify correct conformity of vehicle systems against light vehicle specification and legal requirements on completion
1.10	explain the procedure for reporting cosmetic damage to light vehicle MET components and units.

Learning outcome	The learner will:
2.	understand how to carry out removal and fitting of basic light vehicle non permanently fixed vehicle body panels
Assessment criteria	
The learner can:	
2.1	identify the procedures involved in carrying out the systematic removal and fitting of basic light vehicle non-welded, non-structural body panels to the standard required including: <ul style="list-style-type: none"> a. wings b. doors c. bonnets d. boot lids and tailgates e. bumper bars, covers and components
2.2	identify the procedures involved in working with supplementary safety systems when fitting basic light vehicle non-welded, non-structural body panels
2.3	explain the methods and procedures for storing removed light vehicle non-welded, non-structural body panels
2.4	identify the different types of fastenings and fixings used when removing and fitting light vehicle non-welded, non-structural body panels
2.5	explain the reasons for the use of different types of fastenings and fixings used in light vehicle non-welded, non-structural body panels
2.6	explain the procedures, methods and reasons for ensuring correct alignment of light vehicle non-welded, non-structural body panels
2.7	identify the quality checks that can be used to ensure correct alignment and operation of light vehicle non-welded, non-structural body panels
2.8	identify correct conformity of vehicle systems against light vehicle specification and legal requirements on completion
2.9	explain the procedure for reporting cosmetic damage to light vehicle non-welded, non-structural body panels.

Unit 268

Knowledge in removing and fitting of basic light vehicle mechanical, electrical and trim (met) components and non permanently fixed vehicle body panels

Supporting information

Evidence Requirements

The Evidence Requirements are shown in full in the Assessment Documentation.

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

Describe procedures to prevent damage to the vehicle, components and contents when removing, storing and refitting basic MET components

- a. The methods that can be used to protect undamaged items to ensure they are removed and refitted without causing unnecessary damage:
 - i. bumpers
 - ii. headlamp units
 - iii. road wheels
 - iv. batteries
 - v. bonnet and boot trim
 - vi. interior trim components
 - vii. exterior trim components
- b. The procedures for the correct storage of vehicle contents
- c. The process for the reporting of extra damage and items that may have broken when removed or refitted.

The processes involved when handling batteries

- a. The procedure for the removal, storage and refitting of lead acid batteries.
- b. The procedure for the disposal of lead acid batteries
- c. Battery checks:
 - i. electrolyte
 - ii. discharge
 - iii. specific gravity
- d. The charging process and procedures:
 - i. trickle charge
 - ii. normal charge
 - iii. boost / start

- e. The health and safety issues involved when charging (explosive gasses).

Types of clips and fixings

- a. The following types of clips and identify reasons and limitations for their use:
 - i. speed
 - ii. 'c'
 - iii. 'd'
 - iv. 'j' type captive nut
 - v. 'r'
 - vi. 'u' type captive nut
 - vii. cable clip
 - viii. trim clips
- b. The following types of fixings and identify reasons and limitations for their use:
 - i. pop rivet
 - ii. plastic rivet
 - iii. plastic capture nut
 - iv. nut and bolt
 - v. soulder bolt
 - vi. 'Nyloc' type nuts
 - vii. washers
 - viii. 'Spring' type washers
 - ix. self tapping screws and bolts
 - x. quick release plastic trim fastenings
 - xi. trim tapes
 - xii. adhesives and sealers.

The processes involved when carrying out quality checks

- a. Items that may have been 'workshop' soiled and describe processes for rectifying:
 - i. door cards
 - ii. seats
 - iii. carpets
 - iv. boot and bonnet trims
- b. Methods for checking gaps.
- c. The process for checking and aligning headlamps:
 - i. address handling procedures for halogen bulbs
 - ii. address handling and health and safety issues relating to
 - iii. xenon bulbs and systems
- d. Operational checks and rectification methods to include:
 - i. lights
 - ii. washers and wipers
 - iii. SRS systems (checking not rectification)
 - iv. charging system (checking not rectification)
 - v. horn
 - vi. fluid levels
 - vii. interior switches
 - viii. operation of door lock mechanisms.

Unit 544

Skills in receiving and storing stock

UAN:	T/601/6872
Level:	1
Credit value:	4
GLH:	34
Relationship to NOS:	This unit is linked to VF44S Demonstrating Skills in Receiving and Storing Stock.
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry.
Aim:	This unit enables the learner to develop skills in: <ul style="list-style-type: none">• receiving parts into storage• putting parts into the required location• updating stock control systems• completing documentation in a dealership, fast fit centre, parts distribution centre or similar situation.

Learning outcome	The learner will:
1.	be able to accept parts deliveries
Assessment criteria	
The learner can:	
1.1	ensure that parts delivered conform to the type, quality and quantity expected
1.2	report any discrepancies in deliveries and storage to the relevant person promptly
1.3	identify and use location systems and place parts in the appropriate location for storage
1.4	store parts in a way that makes the best use of the space available and conforms to relevant regulations and practice and conforms with stock rotation requirements
1.5	follow relevant safe working practices associated with receiving of parts and the storage of parts.

Learning outcome	The learner will:
	2. be able to deal with stock control systems and documentation
Assessment criteria	
The learner can:	
2.1 record details of stock received accurately	
2.2 complete storage documentation accurately.	

Unit 544 **Skills in receiving and storing stock**

Supporting information

Evidence Requirements

The Evidence Requirements are shown in full in the Assessment Documentation.

Unit 594

Knowledge of receiving and storing stock

UAN:	Y/601/6086
Level:	1
Credit value:	4
GLH:	28
Relationship to NOS:	This unit is linked to VF44K Knowledge of Receiving and Storing Stock.
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry.
Aim:	This unit enables the learner to develop knowledge of: <ul style="list-style-type: none">• receiving parts into storage• putting parts into the required location• updating stock control systems• completing documentation in a dealership, fast fit centre, parts distribution centre or similar situation.

Learning outcome	The learner will:
1.	know about parts management systems and procedures
Assessment criteria	
The learner can:	
1.1	state systems and procedures for: <ul style="list-style-type: none">a. the receipt and storage of goods, including 'special order' partsb. parts storage, rotation and managementc. update of stock recordsd. completion of parts receipt and storage documentation.e. reporting damage or incomplete deliveries
1.2	describe to whom discrepancies and storage problems should be reported
1.3	give examples of the differing security, safety (COSHH) and environmental conditions required for parts storage
1.4	state the requirements for and the importance of, wearing personal protective equipment when handling and moving parts
1.5	state the costs associated with damaged parts and why it is important that damaged parts are reported promptly.

Learning outcome	The learner will:
2.	know about parts handling and storage
Assessment criteria	
<p>The learner can:</p> <ul style="list-style-type: none"> 2.1 give examples of how to perform visual and physical quality checks at the time of receipt of parts 2.2 give examples of how to locate where parts are stored using the parts information system in operation in your organisation 2.3 give examples of how to handle and move parts safely 2.4 give examples of how to use the mechanical handling equipment available in their parts operation 2.5 state how to store parts to make best use of available space and to adhere to regulations 2.6 state how to store parts to conform with any stock rotation requirements 2.7 identify when and where handling equipment should be used 2.8 state the storage requirements for special and or easily damaged parts and consumables. 	

Unit 594 Knowledge of receiving and storing stock

Supporting information

Evidence Requirements

The Evidence Requirements are shown in full in the Assessment Documentation.

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

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

- a. adjustable storage racking
- b. tyre racking
- c. exhaust racking
- d. drawers
- e. wall bins
- f. battery storage
- g. lockable cabinets.

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

Reasons for stock rotation

Methods of identifying stock location

Storage of:

- a. tyres
- b. exhaust components
- c. batteries
- d. brake parts
- e. oil.

Workplace procedures for receipt of parts

- a. Routine deliveries
- b. Shortages
- c. Damage.
- d. Heavy or bulky items.

Administrative procedures

- a. Updating stock records
- b. Reporting damage or incomplete deliveries

- c. Special order parts.

Unit 712 Introduction to vehicle workshop bench skills

UAN:	A/600/4562
Level:	Entry Level 3
Credit value:	4
GLH:	26
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry.
Aim:	This unit is an introduction to the vehicle workshop bench skills needed to work in the automotive maintenance and repair industry.

Learning outcome	The learner will:
1.	be able to follow approved and safe procedures when working on engine systems
Assessment criteria	
The learner can:	
1.1 correctly use required PPE	
1.2 follow approved workplace procedures	
1.3 identify potential health and safety hazards and risks	
1.4 identify the relevant information sources	
1.5 state the importance of keeping records.	

Learning outcome	The learner will:
2.	be able to carry out vehicle workshop bench skill techniques
Assessment criteria	
The learner can:	
2.1 identify the correct equipment and check it is fit for purpose	
2.2 correctly use equipment	
2.3 state why materials properties are important	
2.4 draw simple sketches	
2.5 carry out vehicle workshop bench skills and manufacturing techniques.	

Unit 712 Introduction to vehicle workshop bench skills

Supporting information

Evidence Requirements

The Evidence Requirements are shown in full in the Assessment Documentation.

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

Approved workplace procedures

Safely handle and dispose of used and waste components, and fluids
Safely start and run engines in a confined space

Equipment

Hand tools, centre punch, measuring equipment, specialist, hammer, files, taps, dies, drills, vice

Bench skills and manufacturing techniques

Joining techniques, making threads, cutting metals, measuring, bending, folding, filing

Simple sketches

Dimensions, materials, joining, thread.

Unit Guidance

This unit can be adapted to suit a range of vehicle and engine types.

- Light vehicle
- Heavy vehicle
- Motorcycle
- Quad bike
- Horticulture vehicles

It is important that candidates have a good understanding of:

- sketches and simple engineering drawings
- how to use tools and equipment correctly and safely
- how to carry out manufacturing techniques using bench skills.

UAN:	K/601/7291
Level:	Entry Level 3
Credit value:	4
GLH:	38
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry.
Aim:	This unit is about demonstrating the skills and knowledge required to remove and refit vehicle body components that are fixed using threaded fasteners. Learners will carry out adjustments as instructed, and with appropriate support and guidance take some responsibility for the outcomes of the activities.

Learning outcome	The learner will:
1.	be able to follow approved and safe procedures when removing and refitting detachable vehicle body panels
Assessment criteria	
The learner can:	
1.1	correctly use required PPE
1.2	follow approved workplace procedures
1.3	identify potential health and safety hazards and risks
1.4	identify the relevant information sources
1.5	state the importance of keeping records.

Learning outcome	The learner will:
2.	be able to carry out the removal and replacement of detachable vehicle body components
Assessment criteria	
The learner can:	
2.1	identify the correct hand tools and check they are fit for purpose
2.2	correctly use hand tools
2.3	identify vehicle body panels using the correct terminology
2.4	correctly align detachable vehicle body components.
2.5	identify the different types of fasteners
2.6	securely fix detachable vehicle body components
2.7	follow prescribed quality checks to ensure correct alignment and secure fixing.

Unit 713 Basics of vehicle body fitting

Supporting information

Evidence Requirements

The Evidence Requirements are shown in full in the Assessment Documentation.

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

Workplace procedures

- a. minimising the risk of damage to self and others and their property, the vehicle, its systems, the environment.
- b. complying with good housekeeping practices and correctly store workshop hand tools during and after use.

Detachable vehicle body components

- a. bonnets
- b. doors
- c. tailgates
- d. bolt on wings.

Fasteners and fixings

- a. hexagonal head bolts
- b. nuts; plain hexagonal
- c. washers; plain and spring.

Hand tools should include:

- a. spanners; open end, ring and combination
- b. ratchet, strong bar, sockets and extension bars
- c. screwdrivers; cross point and plain.

Unit 714

Basics of vehicle mechanical electric trim

UAN:	M/601/7292
Level:	Entry Level 3
Credit value:	4
GLH:	36
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry.
Aim:	This unit is about demonstrating the skills and knowledge required to remove and refit vehicle mechanical, electrical and trim components. Learners will carry out adjustments as instructed, and with appropriate support and guidance take some responsibility for the outcomes of the activities.

Learning outcome	The learner will:
1.	be able to follow approved and safe procedures when removing and refitting detachable vehicle body panels
Assessment criteria	
The learner can:	
1.1	correctly use required PPE
1.2	follow approved workplace procedures
1.3	identify potential health and safety hazards and risks
1.4	identify the relevant information sources
1.5	state the importance of keeping records.

Learning outcome	The learner will:
2.	be able to able to remove and replace MET components
Assessment criteria	
The learner can:	
2.1	identify the correct hand tools and check they are fit for purpose
2.2	correctly use hand tools
2.3	identify the different types of vehicle
2.4	identify vehicle MET components using the correct terminology
2.5	correctly align MET components.
2.6	identify the different types of fasteners
2.7	securely fix detachable vehicle body components
2.8	follow prescribed quality checks to ensure correct alignment and secure fixing.

Unit 714 Basics of vehicle mechanical electric trim

Supporting information

Evidence Requirements

The Evidence Requirements are shown in full in the Assessment Documentation.

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

Approved workplace procedures

- a. Minimising the risk of damage to self and others, their property, the vehicle, its systems, the environment.
- b. Complying with good housekeeping practices and correctly storing workshop hand tools during and after use.

MET components

- a. Bumpers front and rear
- b. Rear lamps
- c. Front grille/trim
- d. Road wheel

Fasteners and fixings

- a. Hexagonal head bolts
- b. Nuts; plain hexagonal, wheel lock and plastic insert (nyloc)
- c. Washers; plain and spring
- d. Trim clips

Hand tools

- a. Spanners; open end, ring and combination
- b. Ratchet, strong bar, sockets and extension bars
- c. Screwdrivers; cross point and plain
- d. Torque wrench
- e. Vehicle jacks
- f. Axle stands
- g. Wheel brace
- h. Wheel chocks

Types of vehicle

- a. Saloon
- b. Hatchback
- c. Sports
- d. Estate.

Unit 715

Fundamental vehicle body repair techniques

UAN:	T/601/7293
Level:	Entry Level 3
Credit value:	4
GLH:	38
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry.
Aim:	This unit is about demonstrating the skills and knowledge required to; complete preliminary vehicle body repair activities, identify the materials used, and with appropriate guidance take some responsibility for the quality of the work.

Learning outcome	The learner will:
1.	be able to follow approved and safe procedures when carrying out preliminary body panel repairs
Assessment criteria	
The learner can:	
1.1	correctly use required PPE
1.2	follow approved workplace procedures
1.3	identify potential health and safety hazards and risks
1.4	identify the relevant information sources
1.5	state the importance of keeping records.

Learning outcome	The learner will:
2.	be able to able to carry out body repair techniques
Assessment criteria	
The learner can:	
2.1	identify the correct hand and power tools and check they are fit for purpose
2.2	correctly use hand and power tools
2.3	identify the panel/substrate material
2.4	rough out small dents using a variety of hand tools
2.5	mix and apply plastic body filler in an economical manner
2.6	rub down body filler to the correct profile
2.7	follow prescribed quality checks to ensure acceptable profile of repair.

Unit 715 Fundamental vehicle body repair techniques

Supporting information

Evidence Requirements

The Evidence Requirements are shown in full in the Assessment Documentation.

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

Approved workplace procedures:

- a. Minimising the risk of damage to self and others, their property, the vehicle, its systems, the environment.
- b. Complying with good housekeeping practices and correct storage of workshop tools and equipment during and after use.

Materials:

- a. carbon steels
- b. plastic body filler
- c. flatting papers

Hand and power tools:

- a. hammers
- b. dollies
- c. filler applicators
- d. flatting blocks
- e. sanders; disc, and DA.

Unit 718

Introduction to vehicle panel preparation techniques

UAN:	J/601/7296
Level:	Entry Level 3
Credit value:	3
GLH:	28
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry.
Aim:	This unit is about demonstrating the skills and knowledge required to prepare vehicle body panels for subsequent paint coats while working under clear guidelines.

Learning outcome	The learner will:
1.	be able to follow approved and safe procedures when preparing vehicle body panels
Assessment criteria	
The learner can:	
1.1	correctly use required PPE
1.2	follow approved workplace procedures
1.3	identify potential health and safety hazards and risks
1.4	identify the relevant information sources
1.5	state the importance of keeping records.

Learning outcome	The learner will:
2.	be able to prepare vehicle body panels
Assessment criteria	
The learner can:	
2.1	identify the correct hand, power tools and equipment and check they are fit for purpose
2.2	correctly use hand, power tools and equipment
2.3	hand flat vehicle body panels
2.4	flat vehicle body panels using power tools
2.5	feather edge a repaired body panel
2.6	clean tools and equipment and obtain confirmation that that they are left in a clean and serviceable condition.

Learning outcome	The learner will:
3. know the materials used in vehicle body panel preparation	
Assessment criteria	
The learner can:	
3.1 identify the types and grades of abrasive materials used for vehicle body panel preparation	
3.2 list the different types of paint material	
3.3 list the different types of paint coat.	

Unit 718 Introduction to vehicle panel preparation techniques

Supporting information

Evidence Requirements

The Evidence Requirements are shown in full in the Assessment Documentation.

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

Approved workplace procedures

- a. Minimising the risk of damage to self and others their property, the vehicle, its systems, the environment including the disposal of waste materials.
- b. Complying with good housekeeping practices and correct storage of workshop tools and equipment during and after use.

Hand, power tools and equipment

- a. power sanders, pneumatic and electric
- b. dust extraction equipment
- c. airlines and power leads.
- d. flattening blocks

Abrasive materials

- a. scouring pads
- b. flattening papers.

Paint materials

- a. thinners
- b. activators
- c. primers
- d. undercoats.

Paint coats

- a. primers
- b. undercoats.

Unit 720

Application of paint materials to vehicles using spray gun techniques

UAN:	M/601/7292
Level:	Entry Level 3
Credit value:	3
GLH:	28
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry.
Aim:	In this unit learners will be able to demonstrate the skills and knowledge required to apply foundation coat materials using a previously prepared and set spray gun.

Learning outcome	The learner will:
1.	be able to follow approved and safe procedures when applying foundation coat materials
Assessment criteria	
The learner can:	
1.1	correctly use required PPE
1.2	follow approved workplace procedures
1.3	identify potential health and safety hazards and risks
1.4	identify the relevant information sources
1.5	state the importance of keeping records
1.6	state the need for fume extraction when applying foundation coat materials.

Learning outcome	The learner will:
2.	be able to apply foundation coat materials
Assessment criteria	
The learner can:	
2.1	use a pre-prepared spray gun to apply foundation coat materials
2.2	identify the correct spray gun pattern
2.3	clean tools and equipment and obtain confirmation that they are left in a clean and serviceable condition.

Unit 720 Application of paint materials to vehicles using spray gun techniques

Supporting information

Evidence requirements

The Evidence Requirements are shown in full in the Assessment Documentation

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

Approved workplace procedures:

- a. Minimising the risk of damage to self, others and their property, the vehicle, its systems, the environment including the disposal of waste materials.
- b. Complying with good housekeeping practices, maintaining a clean working environment and correct storage of workshop tools and equipment during and after use.

Foundation coat materials:

- a. etch primers
- b. primers
- c. thinners
- d. activators

Unit 721

Mix foundation coat materials for spray gun application

UAN:	T/601/7293
Level:	Entry Level 3
Credit value:	2
GLH:	18
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry.
Aim:	In this unit learners will be able to demonstrate the skills and knowledge required to mix foundation coat materials for application by spray gun.

Learning outcome	The learner will:
1.	be able to follow approved and safe procedures when preparing vehicle body panels
Assessment criteria	
The learner can:	
1.1	correctly use required PPE
1.2	follow approved workplace procedures
1.3	identify potential health and safety hazards and risks
1.4	state the importance of controlling paint shop substances which may be hazardous to health
1.5	identify the relevant information sources
1.6	state the importance of keeping records.

Learning outcome	The learner will:
2.	be able to mix foundation coat materials
Assessment criteria	
The learner can:	
2.1	use pre-selected technical information to support the mixing of foundation coat materials
2.2	use hand tools for mixing foundation coat materials
2.3	use measuring equipment for mixing foundation coat materials
2.4	mix foundation coat materials
2.5	clean tools and equipment and obtain confirmation that that they are left in a clean and serviceable condition.

Unit 721 Mix foundation coat materials for spray gun application

Supporting information

Evidence requirements

The Evidence Requirements are shown in full in the Assessment Documentation

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

Approved workplace procedures:

- a. Minimising the risk of damage to self and others their property, the vehicle, its systems, the environment including the disposal of waste materials.
- b. Complying with good housekeeping practices and correct storage of workshop tools and equipment during and after use.

Hand tools:

- a. mixing sticks
- b. measuring sticks
- c. mixing containers

Foundation coat materials:

- a. etch primers
- b. primers.
- c. thinners
- d. activators

Unit 723

Prepare vehicle body panels for foundation coat materials using masking materials and techniques

UAN:	T/601/7293
Level:	Entry Level 3
Credit value:	4
GLH:	36
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry.
Aim:	This unit is about demonstrating the skills and knowledge required to prepare vehicles for foundation coat materials using masking materials and techniques.

Learning outcome	The learner will:
1.	be able to follow approved and safe procedures when applying masking methods
Assessment criteria	
The learner can:	
1.1	correctly use required PPE
1.2	follow approved workplace procedures
1.3	identify potential health and safety hazards and risks
1.4	identify the relevant information sources
1.5	state the importance of keeping records.

Learning outcome	The learner will:
2.	be able to use masking materials and techniques to prepare vehicle body panels for foundation coat materials
Assessment criteria	
The learner can:	
2.1	use suitable masking materials to mask up vehicle parts and components
2.2	mask vehicle parts and components
2.3	remove masking materials after foundation coat application
2.4	use suitable masking materials to mask up vehicle parts and components.

Learning outcome	The learner will:
3.	understand the methods and techniques used in masking up vehicle panels and components
Assessment criteria	
<p>The learner can:</p> <p>3.1 list the materials used to mask vehicle parts and components:</p> <ol style="list-style-type: none"> a. masking tape b. masking paper c. plastic masking sheets <p>3.2 state the importance of accurate application of masking materials.</p> <p>3.3 state the importance of using the correct masking material for the application.</p> <p>3.4 remove masking materials without damaging the vehicle</p> <p>3.5 state the importance of timely removal of masking materials.</p>	

Unit 723 Prepare vehicle body panels for foundation coat materials using masking materials and techniques

Supporting information

Evidence requirements

The Evidence Requirements are shown in full in the Assessment Documentation

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

Approved workplace procedures:

- a. Minimising the risk of damage to self and others their property, the vehicle, its systems, the environment including the disposal of waste materials.
- b. Complying with good housekeeping practices and correct storage of workshop tools and equipment during and after use.

Unit 724

Introduction to vehicle refinishing process/techniques

UAN:	L/601/7297
Level:	Entry Level 3
Credit value:	3
GLH:	26
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry.

Learning outcome	The learner will:
1.	be able to follow approved and safe procedures when preparing vehicle body panels
Assessment criteria	
The learner can:	
1.1	correctly use required PPE
1.2	follow approved workplace procedures
1.3	identify potential health and safety hazards and risks
1.4	state the importance of controlling paint shop substances which may be hazardous to health
1.5	identify the relevant information sources
1.6	state the importance of keeping records.

Learning outcome	The learner will:
2.	be able to mix foundation coat materials
Assessment criteria	
The learner can:	
2.1	use pre-selected technical information to support the mixing of foundation coat materials
2.2	use hand tools for mixing foundation coat materials
2.3	use measuring equipment for mixing foundation coat materials
2.4	mix foundation coat materials
2.5	clean tools and equipment and obtain confirmation that that they are left in a clean and serviceable condition.

Unit 724 Introduction to vehicle refinishing process/techniques

Supporting information

Evidence requirements

The Evidence Requirements are shown in full in the Assessment Documentation.



Appendix 1 Sources of general information

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

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

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

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

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

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

Useful contacts

UK learners General qualification information	T: +44 (0)844 543 0033 E: learnersupport@cityandguilds.com
International learners General qualification information	T: +44 (0)844 543 0033 F: +44 (0)20 7294 2413 E: intcg@cityandguilds.com
Centres Exam entries, Certificates, Registrations/enrolment, Invoices, Missing or late exam materials, Nominal roll reports, Results	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 E: centresupport@cityandguilds.com
Single subject qualifications Exam entries, Results, Certification, Missing or late exam materials, Incorrect exam papers, Forms request (BB, results entry), Exam date and time change	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 F: +44 (0)20 7294 2404 (BB forms) E: singlesubjects@cityandguilds.com
International awards Results, Entries, Enrolments, Invoices, Missing or late exam materials, Nominal roll reports	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 E: intops@cityandguilds.com
Walled Garden Re-issue of password or username, Technical problems, Entries, Results, GOLLA, Navigation, User/menu option, Problems	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 E: walledgarden@cityandguilds.com
Employer Employer solutions, Mapping, Accreditation, Development Skills, Consultancy	T: +44 (0)121 503 8993 E: business@cityandguilds.com
Publications Logbooks, Centre documents, Forms, Free literature	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413

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City & Guilds Group

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