Diploma in Vehicle Accident Repair Paint Principles at SCQF Level 5 (5381-25)

August 2020 Version 1.0

Qualification Handbook

Qualification at a glance

Subject area	**Vehicle Accident Repair**
City & Guilds number	5381-25
Age group approved	16-18, 19+
Entry requirements	None
Assessment	Assignment Online Multiple Choice
Approvals	Fast Track Available
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
Diploma in Vehicle Accident Repair Paint Principles at SCQF Level 5	5381-25	R559 04

Version and date		
V1.0 August 2020		

Contents

1 Introduction

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

Area	Description
Who is the qualification for?	This Diploma in Vehicle Accident Repair Paint Principles at SCQF Level 5 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. The structure and assessment strategy has been produced by the Institute of the Motor Industry, who are the Sector Skills Council for the Automotive Industry.
What does the qualification cover?	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: • Assignment • verbal questioning of essential knowledge • City & Guilds' multiple choice test
What opportunities for progression are there?	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. Candidates may also wish to progress the Diploma in Vehicle Accident Repair Paint Principles at SCQF Level 6 (5381-26). 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).
Is it part of an apprenticeship framework or initiative?	The qualification is part of the Scottish Automotive Maintenance and Repair Modern Apprenticeship Frameworks.

Structure

To achieve the **Diploma in Vehicle Accident Repair Paint Principles at SCQF Level 5**, learners must achieve **14 mandatory units** (001, 003, 051, 053, 301, 302, 304, 306, 309, 351, 352, 354, 356, 359) **plus a pair of optional units** from (303 and 353) or (402 and 452).

City & Guilds unit	Unit title	SCQF level	SCQF credit value
Mandatory			
001	Skills in Health, Safety and Good Housekeeping in the Automotive Environment	5	7
003	Skills in Supporting Job Roles in the Automotive Work Environment	6	5
051	Knowledge of Health, Safety and Good Housekeeping in the Automotive Environment	5	3
053	Knowledge of Support for Job Roles in the Automotive Work Environment	6	3
301	Skills in Tools and Equipment in an Automotive Environment	5	5
302	Skills in Applying Fillers and Foundation Materials in an Automotive Environment	5	5
304	Skills in Preparing Metal and Pre-Painted Substrates in an Automotive Environment	5	5
306	Skills in Repairing Minor Paint Defects on Automotive Vehicles	5	5
309	Skills in Applying Masking Materials to Automotive Vehicles	5	3
351	Knowledge of Tools and Equipment in an Automotive Environment	5	4
352	Knowledge of Applying Fillers and Foundation Materials in an Automotive Environment	5	4
354	Knowledge of Preparing Metal and Pre-painted Substrates in an Automotive Environment	5	5
356	Knowledge of Repairing Minor Paint Defects on Automotive Vehicles	5	5
359	Knowledge of Applying Masking Materials to Automotive Vehicles	5	4
Optional			
303	Skills in Working with Plastic Components in an Automotive Environment	5	5
353	Knowledge of Working with Plastic Components in an Automotive Environment	5	5
402	Skills in Removing and Fitting Non Permanently Fixed Motor Vehicle Body Panels	5	2
452	Knowledge of Removing and Fitting Non Permanently Fixed Motor Vehicle Body Panels	5	2

2 Centre requirements

Approval

Centres already approved to offer the Level 3 Certificate/Diploma in Maintenance and Repair – Paint (4101-57) or Diploma in Vehicle Accident Repair Paint Principles at SCQF Level 5 (4391-52) will be automatically approved to register and certificate candidates on the Diploma in Vehicle Accident Repair Paint Principles at SCQF Level 5 (5381-25) (unless the centre is already subject to sanctions).

New 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.

Assessors and internal verifiers

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

Continuing professional development (CPD)

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

Learner 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

City & Guilds cannot accept any registrations for candidates under 16 as these qualifications are not approved for under 16s.

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

The following resources are available for this qualification:

Description	How to access
Centre handbook	**www.cityandguilds.com**
Practical assessment workbook	**www.cityandguilds.com**

Recording documents

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

City & Guilds endorses several ePortfolio systems, including our own, **Learning Assistant**, an easy-to-use and secure online tool to support and evidence learners' progress towards achieving qualifications. Further details are available at: **www.cityandguilds.com/eportfolios**.

City & Guilds has developed a set of *Recording forms* including examples of completed forms, for new and existing centres to use as appropriate. *Recording forms* are available on the 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 EQA, before they are used by candidates and assessors at the centre. Amendable (MS Word) versions of the forms are available on the City & Guilds website.

4 Assessment

Summary of assessment methods

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

- Assignments (practical assessment workbooks) comprising of practical tasks and knowledge based questions to cover all learning outcomes. Graded Pass only.
- Online multiple choice tests graded as Pass, Merit, Distinction.
- Assignments can be downloaded from **www.cityandguilds.com**. These assessments are carried out in centres and must be completed to current industry standards and practice.

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

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

City & Guilds unit	Unit title	Assessment method
001	Skills in Health, Safety and Good Housekeeping in the Automotive Environment	Assignment
003	Skills in Supporting Job Roles in the Automotive Work Environment	Assignment
051	Knowledge of Health, Safety and Good Housekeeping in the Automotive Environment	Assignment
053	Knowledge of Support for Job Roles in the Automotive Work Environment	Assignment
301	Skills in Tools and Equipment in an Automotive Environment	Assignment
302	Skills in Applying Fillers and Foundation Materials in an Automotive Environment	Assignment
303	Skills in Working with Plastic Components in an Automotive Environment	Assignment
304	Skills in Preparing Metal and Pre-Painted Substrates in an Automotive Environment	Assignment
306	Skills in Repairing Minor Paint Defects on Automotive Vehicles	Assignment
309	Skills in Applying Masking Materials to Automotive Vehicles	Assignment
351	Knowledge of Tools and Equipment in an Automotive Environment	Multiple choice test
352	Knowledge of Applying Fillers and Foundation Materials in an Automotive Environment	Multiple choice test

City & Guilds unit	Unit title	Assessment method
353	Knowledge of Working with Plastic Components in an Automotive Environment	Multiple choice test
354	Knowledge of Preparing Metal and Pre-painted Substrates in an Automotive Environment	Multiple choice test
356	Knowledge of Repairing Minor Paint Defects on Automotive Vehicles	Multiple choice test
359	Knowledge of Applying Masking Materials to Automotive Vehicles	Multiple choice test
402	Skills in Removing and Fitting Non Permanently Fixed Motor Vehicle Body Panels	Assignment
452	Knowledge of Removing and Fitting Non Permanently Fixed Motor Vehicle Body Panels	Multiple choice test

Time constraints

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

- Candidates must complete their assessments within their registration period.

Recognition of prior learning (RPL)

Recognition of prior learning means using a person's previous experience or qualifications which have already been achieved to contribute to a new qualification.

RPL is allowed and is also sector specific.

5 Units

Structure of units

These units each have the following:

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

Unit 001 Skills in Health, Safety and Good Housekeeping in the Automotive Environment

Level:	**5**
Credit value:	7
Relationship to NOS:	This unit is linked to NOS G1 - Contribute to Housekeeping in Motor Vehicle Environment and G2 Reduce Risks to Health and Safety in the Motor Vehicle Environment.
Assessment requirements specified by a sector or regulatory body:	This unit was developed by the IMI, the sector skills council for the automotive retail industry. All assessments have been developed in accordance with the IMI Assessment Requirements.
Aim:	This unit will enable the learner to develop the skills required to: • carry out day to day work area cleaning, clearing away, dealing with spillages and disposal of waste, used materials and debris • identify hazards and risks in the automotive environment and complying with relevant legislation and good practice • work safely at all times within the automotive environment, both as an individual and with others.

Learning outcome
The learner will: 1. be able to use correct personal and vehicle protection within the automotive environment
Assessment criteria
The learner can: 1.1 select and use personal protective equipment throughout activities. to include appropriate protection of a. eyes b. ears c. head d. skin e. feet f. hands 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 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 minimises 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

1. You must be observed by your assessor successfully demonstrating the use of personal and vehicle protection, cleaning the work environment and disposal of waste on 2 separate occasions.

2. You must be observed by your assessor successfully identifying risks which may result from at least 2 of the items listed below:

- the use and maintenance of machinery or equipment
- the use of materials or substances
- working practices which do not conform to laid down policies
- unsafe behaviour
- accidental breakages and spillages
- environmental factors

3. You must be observed by your assessor successfully following at least 2 of the workplace policies listed below:

- the use of safe working methods and equipment
- the safe use of hazardous substances
- smoking, eating, drinking and drugs
- what to do in the event of an emergency
- personal presentation

Unit 003 Skills in Supporting Job Roles in the Automotive Work Environment

Level:	**6**
Credit value:	5
Relationship to NOS:	This unit is linked to NOS G3 - Maintain Working Relationships in the Motor Vehicle Environment.
Assessment requirements specified by a sector or regulatory body:	This unit was developed by the IMI, the sector skills council for the automotive retail industry. All assessments have been developed in accordance with the IMI Assessment Requirements.
Aim:	This unit is about the skills needed to develop and keep good working relationships with all colleagues in the workplace by using effective communication and support skills.

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: 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

You must be observed by your assessor successfully working well with others.

Unit 051 Knowledge of Health, Safety and Good Housekeeping in the Automotive Environment

Level:	**5**
Credit value:	3
Relationship to NOS:	This unit is linked to NOS G1 - Contribute to Housekeeping in Motor Vehicle Environment and G2 - Reduce Risks to Health and Safety in the Motor Vehicle Environment.
Assessment requirements specified by a sector or regulatory body:	This unit was developed by the IMI, the sector skills council for the automotive retail industry. All assessments have been developed in accordance with the IMI Assessment Requirements.
Aim:	This unit enables the learner to develop an understanding of: • routine maintenance and cleaning of the automotive environment and using resources economically • health and safety legislation and duties of everyone in the motor vehicle environment. It will provide an appreciation of significant risks in the automotive environment and how to identify and deal with them. Once completed the learner will be able to identify hazards and evaluate and reduce risk.

Learning outcome	**The learner will:**
1. understand the correct personal and vehicle protective equipment to be used within the automotive environment	
Assessment criteria	
The learner can: 1.1 explain the importance of wearing the types of PPE required for a range of automotive repair activities 1.2 identify vehicle protective equipment for a range of repair activities 1.3 describe vehicle and personal safety considerations when working at the roadside.	

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

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

a. Consumable materials e.g. 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:

a. Health and Safety (Display Screen Equipment) Regulations 1992
b. Health and Safety (First Aid) Regulations 1981
c. Health and Safety (Safety Signs and Signals) Regulations 1996
d. Health and Safety (Consultation with Employees) Regulations 1996
e. Employers Liability (Compulsory Insurance) Act 1969 and Regulations 1998
f. Confined Spaces Regulations 1997
g. Noise at Work Regulations 1989
h. Electricity at Work Regulations 1989
i. Electricity (Safety) Regulations 1994
j. Fire Precautions Act 1971
k. Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1985
l. Pressure Systems Safety Regulations 2000
m. Waste Management 1991
n. Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) 2002
o. Control of Asbestos at Work Regulations 2002

Legislative duties

a. The purpose of a Health and Safety Policy.
b. The relevance of the Health and Safety Executive.
c. The relevance of an initial induction to Health and Safety requirements at your workplace.
d. General employee responsibilities under the HASAWA and the consequences of non-compliance.
e. General employer responsibilities under the HASAWA and the consequences of non-compliance.
f. The limits of authority with regard to Heath 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 of automotive repair activities. To include appropriate protection of:
    i. eyes
    ii. ears
    iii. head
    iv. skin
    v. feet
    vi. hands
    vii. lungs.

Fire and extinguishers

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

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

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

Product warning labels to include:

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

Warning signs and notices

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

Hazards and risks to include:

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

Personal responsibilities

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

Action to be taken in the event of colleagues suffering accidents

a. The typical sequence of events following the discovery of an accident such as:
    i. make the area safe
    ii. remove hazards if appropriate 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

Level:	**6**
Credit value:	3
Relationship to NOS:	This unit is linked to NOS G3 - Maintain Working Relationships in the Motor Vehicle Environment.
Assessment requirements specified by a sector or regulatory body:	This unit was developed by the IMI, the sector skills council for the automotive retail industry. All assessments have been developed in accordance with the IMI Assessment Requirements.
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 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: a. trainee b. skilled technician c. supervisor d. 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 the 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 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 your choice of communication 3.3 explain how the communication of information can change with the target audience to include uninformed and informed people.	

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 verbal communication 4.2 explain the importance of documenting information relating to work carried out in the automotive environment 4.3 explain the importance of working to agreed timescales.	

Learning 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 people's views and opinions. 5.4 explain the importance of making and honouring realistic commitments to colleagues and customers.	

Unit 053 Knowledge of Support for Job Roles in the Automotive Work Environment

Supporting information

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

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. Importance of maintaining positive working relationships:
    i. morale
    ii. productivity
    iii. company image
    iv. customer relationships
    v. colleagues.

Unit 301 Skills in Tools and Equipment in an Automotive Environment

Level:	**5**
Credit value:	5
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. All assessments have been developed in accordance with the IMI Assessment Requirements.
Aim:	This unit allows the learner to develop skills in the correct selection, maintenance and use of tools and equipment used in vehicle refinishing as well as the correct preparation, use and maintenance of vehicle refinishing equipment.

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

Learning outcome	**The learner will:**
2. be able to prepare, select, use and maintain tools and equipment when carrying out vehicle refinishing activities in an automotive environment	
Assessment criteria	
The learner can: 2.1 select, prepare, safely use and maintain suitable tools and equipment when carrying out vehicle refinishing activities in an automotive environment 2.2 report any equipment faults to the appropriate person(s) clearly and promptly 2.3 store tools and equipment in a clean, serviceable and safe manner, which permits ease of access and identification for use.	

Unit 301 Skills in Tools and Equipment in an Automotive Environment

Supporting Information

Evidence requirements

1. You must be observed by an assessor preparing and using all of the tools listed below:
   a. spray gun cleaning machines
   b. plastic sheeting dispenser
   c. flatting block
   d. sponge
   e. squeegee
   f. chamois leather
   g. trimming knife
   h. polishing mop
   i. sealer gun
   j. water traps
   k. pressure gauges
   l. paper/tape dispenser
   m. viscosity measuring equipment
   n. combi-booth
   o. infra-red dryer
   p. air line
   q. vacuum extraction sander
   r. random orbital sander

2. You must be observed by an assessor preparing and using spray application equipment on 2 occasions.

Unit 302 Skills in Applying Fillers and Foundation Materials in an Automotive Environment

Level:	**5**
Credit value:	5
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. All assessments have been developed in accordance with the IMI Assessment Requirements.
Aim:	This unit will help the learner to develop the skills required to carry out the identification of substrates. Mixing and adjusting the viscosity of fillers and foundation materials. 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 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 302 Skills in Applying Fillers and Foundation Materials in an Automotive Environment

Supporting Information

Evidence requirements

You must be observed by an assessor carrying out each of the following listed below, which covers the learning outcomes

a. setting up and using application equipment
b. mixing etch primer
c. applying etch primer
d. mixing wet on wet primer
e. mixing high build primer
f. applying wet on wet primer
g. applying high build primer
h. dry curing foundation materials
i. cleaning application equipment and disposing of waste products.

Unit 303 Skills in Working with Plastic Components in an Automotive Environment

Level:	**5**
Credit value:	5
Relationship to NOS:	This unit is linked to PO03S Demonstrating Skills in Working with Plastic Materials and Components.
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry. All assessments have been developed in accordance with the IMI Assessment Requirements.
Aim:	This unit will help the learner to develop the skills required to carry out the identification of plastic substrates. Mixing and adjusting the viscosity of foundation materials. Applying foundation materials to plastics 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 plastics used in vehicle refinishing	
Assessment criteria	
The learner can: 1.1 use appropriate personal protective equipment when carrying out all surface preparation activities 1.2 protect the vehicle and its content effectively when carrying out all surface perpetration activities and when applying foundation materials to plastics used in vehicle refinishing 1.3 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 plastics in vehicle refinishing 2.2 use technical information to support preparation and application of foundation materials to plastics in vehicle refinishing 2.3 identify the correct repair method as per the vehicle manufacturer's specification.	

Learning outcome	The learner will:
3. be able to use appropriate tools and equipment	
Assessment criteria	
The learner can: 3.1 select and use the appropriate tools and equipment for the type of surface perpetration activities and application of foundation materials to plastics in vehicle refinishing 3.2 ensure that tools and equipment are in safe working condition has been calibrated to meet manufacturers' requirements where necessary 3.3 use the correct tools and equipment in the way specified by manufacturers when carrying out preparation and application of foundation materials to plastics in vehicle refinishing 3.4 leave all application equipment and the work environment in a clean and serviceable condition.	

Learning outcome	The learner will:
4. be able to carry out preparation and application of foundation materials to plastics used in vehicle refinishing	
Assessment criteria	
The learner can: 4.1 identify the plastic components and check compatibility for refinishing prior to undertaking any preparation work 4.2 remove and store safely any components likely to be affected by the preparation process 4.3 keep the work area clean and tidy throughout all preparation activities 4.4 use surface cleaning agents and protect adjacent panels to those being repaired 4.5 leave the prepared areas free from contamination and ready for the application of foundation and topcoats 4.6 dispose of waste material to conform with legal, environmental and workplace requirements 4.7 ensure all completed repairs are finished to an agreed standard and timescale 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 report any unrecorded damage to surfaces and ancillary fittings to the relevant person promptly.	

Unit 303 Skills in Working with Plastic Components in an Automotive Environment

Supporting Information

Evidence requirements

You must be observed by an assessor carrying out each of the following listed below, which covers the learning outcomes.

a. Apply foundation coats including adhesion promoters.
b. Applying top coats.
c. Use appropriate additives.

Unit 304 Skills in Preparing Metal and Pre-Painted Substrates in an Automotive Environment

Level:	**5**
Credit value:	5
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. All assessments have been developed in accordance with the IMI Assessment Requirements.
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: 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 304 Skills in Preparing Metal and Pre-Painted Substrates in an Automotive Environment

Supporting Information

Evidence requirements

1. You must be observed by an assessor preparing metal and pre-painted surfaces on 3 different vehicle body panels out of the 8 listed below, which covers the learning outcomes.
    a. electro-coated panels
    b. repaired panels
    c. original manufacturers' finish
    d. plastic components
    e. zinc coated panels
    f. steel panels
    g. aluminium panels
    h. primed panel.

2. You must be observed by an assessor covering all of the techniques listed below in carrying out the preparation listed above.
    a. feathering out
    b. flatting using guide coats
    c. hand sanding
    d. machine sanding
    e. dry sanding.

Unit 306 Skills in Repairing Minor Paint Defects on Automotive Vehicles

Level:	**5**
Credit value:	5
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. All assessments have been developed in accordance with the IMI Assessment Requirements.
Aim:	This unit will help 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 the appropriate 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 306 Skills in Repairing Minor Paint Defects on Automotive Vehicles

Supporting Information

Evidence requirements

You must be observed by an assessor repairing 3 out of 5 defects listed below, which covers the learning outcomes.

a. loss of gloss
b. scuffs and scratches to the manufacturer's finish
c. dirt inclusion in a newly applied finish
d. runs or sags in a newly applied finish
e. orange peel.

Unit 309 Skills in Applying Masking Materials to Automotive Vehicles

Level:	**5**
Credit value:	3
Relationship to NOS:	This unit is linked to PO02S Demonstrating skills in masking materials to automotive vehicles.
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry. All assessments have been developed in accordance with the IMI Assessment Requirements
Aim:	This unit enables the learner to develop the skills needed to undertake masking activities efficiently and effectively during vehicle body and paint operations.

Learning outcome	**The learner will:**
1. be able select, use, store and maintain masking tools and equipment	
Assessment criteria	
The learner can: 1.1 select, prepare and maintain suitable tools and equipment when carrying out masking activities 1.2 report any faulty / damaged tools or equipment to the relevant person 1.3 store tools and equipment in an appropriate area.	

Learning outcome	**The learner will:**
2. be able to mask a vehicle and its components during vehicle body and paint operations	
Assessment criteria	
The learner can: 2.1 identify safety hazards associated with masking activities and work safely through the tasks 2.2 select and use the correct masking materials for different applications and job specifications clean and prepare surfaces for masking 2.3 use appropriate tools and equipment whilst carrying out accurate masking activities and demonstrate economical use of materials 2.4 assess the standard of masking and rectify any inaccuracies to prevent faults 2.5 remove masking without causing damage and within the appropriate timescale 2.6 assess and rectify masking faults / defects and remove any residue left on any components and trims 2.7 dispose of waste masking materials to conform with legal, environmental and workplace requirements 2.8 complete all masking activities efficiently and to the required standard 2.9 report any anticipated delays in completing masking.	

Unit 309 Skills in Applying Masking Materials to Automotive Vehicles

Supporting Information

Evidence Requirements

You must be observed by an assessor carrying out 3 different masking operations out of the 8 listed below, which covers the learning outcomes:

a. Masking a road wheel / tyre during preparation and painting.
b. Mask / 'sheet' out a full vehicle leaving the panels for priming or painting exposed.
c. Vehicle apertures – 'masking out' doors, boot, bonnet or tailgate.
d. Masking components and trim – e.g. headlight or door moulding.
e. Masking shapes, chevrons or custom designs.
f. Masking front or rear windscreens.
g. Masking areas prior to applying seam sealers and / or textured foundation materials.
h. Masking techniques prior to 'spot priming', or performing localised repairs, blending / fading techniques.

Unit 351 Knowledge of Tools and Equipment in an Automotive Environment

Level:	**5**
Credit value:	4
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. All assessments have been developed in accordance with the IMI Assessment Requirements.
Aim:	This unit allows the learner to develop knowledge in the correct selection, maintenance and use of tools and equipment used in vehicle refinishing as well as the correct preparation, use and maintenance of vehicle refinishing equipment.

Learning outcome	**The learner will:**
1. understand how to select, use and maintain tools and equipment when carrying out vehicle refinishing activities in an automotive environment	
Assessment criteria	
The learner can: 1.1 describe the use of common types of tools and equipment used when carrying out vehicle refinishing activities in an automotive environment 1.2 identify the main components of a spray gun 1.3 describe how to select, prepare and maintain tools and equipment used when carrying out vehicle refinishing activities in an automotive environment 1.4 State the limitations of tools and equipment used when carrying out vehicle refinishing activities in an automotive environment 1.5 State how tools and equipment used in vehicle refinishing should be stored 1.6 describe the methods of adjusting compressed air pressures by use of: a) regulator b) spray gun pressure gauge 1.7 identify the different types of gun cleaning machines to include the use of solvent and water based gun cleaners 1.8 describe the cleaning and maintenance of spray guns 1.9 identify spray gun faults, their cause and how they should be rectified.	

Learning outcome	The learner will:
2. understand how to prepare, test and adjust all relevant equipment when carrying out vehicle refinishing activities in an automotive environment	
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 351 Knowledge of Tools and Equipment in an Automotive Environment

Supporting information

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

Equipment used in Vehicle Refinishing

a. Flatting block
b. Sponge
c. Squeegee
d. Chamois leather
e. Trimming knife
f. Polishing mop
g. De-nibbing 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 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 (Recycling)
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

Unit 352 Knowledge of Applying Fillers and Foundation Materials in an Automotive Environment

Level:	**5**
Credit value:	4
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. All assessments have been developed in accordance with the IMI Assessment Requirements.
Aim:	This unit enables the learner to develop an understanding for identifying substrates. Mixing and adjusting the viscosity of fillers and foundation materials. 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.	

Unit 352 Knowledge of Applying Fillers and Foundation Materials in an Automotive Environment

Supporting information

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

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. 2K 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 contaminates
    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 flatting
    v. corrosion resistance
c. State 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 surfacer
    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

j. Explain the difference between types of paints to include:

k. non-convertible, i.e.
   i. nitro cellulose
   ii. 1k acrylics
   iii. basecoats

l. Convertibles:
   i. two packs
   ii. oil based synthetic enamels

m. 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
n. The characteristics of these undercoats such as:
    i. protection
    ii. corrosion resistance
    iii. flexibility
    iv. build
    v. drying
    vi. flatting
o. 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:
   v. convertible coating
   vi. drying
   vii. 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 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 in thin layers and with adequate flash off
g. That 2K stopper can be applied.
   i. in thicker layers and is cured after 20 minutes (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

Unit 353 Knowledge of Working with Plastic Components in an Automotive Environment

Level:	**5**
Credit value:	5
Relationship to NOS:	This unit is linked to PO03K Knowledge of Working with Plastic Materials and Components
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by the IMI, the Standards Setting Body for the automotive industry. All assessments have been developed in accordance with the IMI Assessment Requirements.
Aim:	This unit enables the learner to develop an understanding for identifying substrates and plastics whilst undertaking paint operations following guidelines and procedures.

Learning outcome	**The learner will:**
1. understand how to identify plastic body surfaces requiring the application of foundation 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 1.4 identify substrate to determine the selection of the preparation process and suitable foundation material 1.5 identify the types of plastic likely to be found in vehicle body manufacturing.	

Learning outcome	**The learner will:**
2. understand how to prepare plastic body surfaces prior to application of foundation materials	
Assessment criteria	
The learner can: 2.1 describe the choice and use of surface cleaning agents prior to applying foundation materials to plastics 2.2 describe how to condition and clean surfaces prior to the application of foundation coatings to ensure adequate adhesion.	

Learning outcome	The learner will:
3. understand how to mix and apply foundation materials onto plastics in vehicle refinishing	
Assessment criteria	
The learner can: 3.1 describe how to mix and check the viscosity of foundation materials 3.2 describe the importance of viscosity and its effects on the surface finish 3.3 describe the properties of the foundation materials 3.4 describe the principles of paint mixing, the importance of the right additive (hardener or thinner) in the correct ratio 3.5 describe the curing and drying recommendations for the various foundation materials to plastics 3.6 describe how to apply foundation coatings 3.7 describe how to find and interpret sources of information relevant to the mixing and application of foundation coatings relating to plastics 3.8 describe how to avoid application defects.	

Unit 353 Knowledge of Working with Plastic Components in an Automotive Environment

Supporting information

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

Methods used in determining vehicle substrates

a. determine substrates to include:
- visual test
- manufacturers' data
- service bulletins

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. 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 contaminates
   vii. environmental pollution
   viii. neutralisation

b. Materials used for conditioning processes such as:
   i. wax and grease removers
   ii. spirit wipes
   iii. water based
   iv. The correct and safe use of the above materials.

The types and properties of foundation materials in common use

a. The types of undercoat in common use to include:
   i. adhesion promoters
   ii. primer surfacer
   iii. primer filler
   iv. stopper/putty
   v. sealers

b. The characteristics of these undercoats such as:
   i. protection

ii. flexibility
iii. build
iv. drying
v. flatting

The factors affecting the choice and use of foundation materials

a. The reasons for using paint to include:
    i. protection
    ii. filling
    iii. decoration
    iv. identification
    v. safety
b. Undercoat materials for plastics to include:
    i. adhesion promoters
    ii. surface modifiers
    iii. flexible additives
    iv. texture additives

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

a. Procedures for mixing undercoats such as:
    i. surfacers
    ii. primer fillers
    iii. plastic adhesion promoters
    iv. elastic primers
    v. sealers
    vi. spraying polyester fillers
b. Listed additives such as:
    i. adhesion promoters
    ii. flexible additives
    iii. texture finishes
    iv. flow aids

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

a. 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

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. 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. 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

Unit 354 Knowledge of Preparing Metal and Pre-painted Substrates in an Automotive Environment

Level:	**5**
Credit value:	5
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. All assessments have been developed in accordance with the IMI Assessment Requirements.
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.

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 354 Knowledge of Preparing Metal and Pre-painted Substrates in an Automotive Environment

Supporting information

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

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 flatting 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 356 Knowledge of Repairing Minor Paint Defects on Automotive Vehicles

Level:	**5**
Credit value:	5
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. All assessments have been developed in accordance with the IMI Assessment Requirements.
Aim:	This unit enables the learner to develop an understanding about the causes and rectification of minor paint defects using a range of tools, equipment and materials.

Learning outcome	**The learner will:**
1. know how to work safely when carrying out the rectification of minor paint defects	
Assessment criteria	
The learner can: 1.1 identify the suitable personal protective equipment and vehicle coverings required when carrying out the rectification of minor paint defects 1.2 describe how to 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. understand how to identify the body surface requiring the rectification of minor paint defects	
Assessment criteria	
The learner can: 2.1 describe how to identify the existing paint surface finish on which the minor paint defect has occurred 2.2 identify the minor paint defects, their cause and methods of rectification suitable for the paint surface finish.	

Learning outcome	**The learner will:**
3. understand how to repair minor paint defects	
Assessment criteria	
The learner can: 3.1 describe how to carry out flatting, burnishing, polishing and touch in techniques to correct minor paint defects 3.2 describe how to use polishing machines, denibbing blocks and flatting equipment 3.3 describe how to select, prepare and use compounds, flatting papers, polishes, pre-prepared paints and glazes	

3.4	Identify the factors affecting the choice and use of materials in the rectification of minor paint defects
3.5	describe how to prevent further paint damage during rectification
3.6	describe the importance of proper cleaning to the vehicle and work area prior to and after rectification work
3.7	describe the importance of keeping equipment and materials clean and free from contamination during rectification work
3.8	identify the requirements for protecting the vehicle and contents from damage before, during and after repairing minor paint defects.

Unit 356 Knowledge of Repairing Minor Paint Defects on Automotive Vehicles

Supporting information

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

Minor surface defects to include:

i. scratches
ii. contamination
iii. blisters (solvent popping)
iv. fading
v. loss of gloss
vi. chalking
vii. runs and sags
viii. orange peel
ix. dry soray

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 flatting sludge (straight colour or c o b)
   iv. VIN plate

Vehicle cleaning and protection procedures during and after paint defect rectification processes

a. Vehicle must be thoroughly washed and cleaned to include:
   i. outside body panels
   ii. under arches
   iii. under bonnet
   iv. all apertures
   v. all vehicle bright work
   vi. all vehicle glazing
b. The reasons for masking components adjacent to repair areas:
   i. Plastic trim
   ii. Adjacent panels
   iii. Swedge lines
   iv. Door handles
   v. Rubbers
   vi. Convertible roof lining

Identification of the common minor paint defects and list their causes

a. The reasons for the defects in vehicle finish such as:
   Paint application defects

i. environmental pollution
ii. 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

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

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. 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

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

Unit 359 Knowledge of Applying Masking Materials to Automotive Vehicles

Level:	**5**
Credit value:	4
Relationship to NOS:	This unit is linked to PO02K Demonstrating Knowledge of applying masking materials to automotive vehicles.
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry. All assessments have been developed in accordance with the IMI Assessment Requirements
Aim:	This unit enables the learner to develop an understanding to undertake masking activities efficiently and effectively during vehicle body and paint operations

Learning outcome	**The learner will:**
1. understand how to select, use, store and maintain masking tools and equipment	
Assessment criteria	
The learner can: 1.1 identify the main tools and equipment used during the masking process 1.2 describe, how to select, prepare and maintain tools and equipment used during masking activities 1.3 state the limitations of tools and equipment used in vehicle masking 1.4 explain appropriate storage methods for masking tools and equipment.	

Learning outcome	**The learner will:**
2. understand how to identify and use appropriate masking materials for different applications	
Assessment criteria	
The learner can: 2.1 compare types of masking materials for different applications 2.2 describe the properties of masking materials and the factors which affect their use 2.3 describe cleaning processes used during masking activities 2.4 describe common masking techniques used to protect panels and components 2.5 explain methods which allow easy removal of masking materials 2.6 explain the types of checks made during masking activities that will prevent faults 2.7 describe a range of masking faults, their cause and methods of rectification 2.8 explain how to avoid wastage during masking activities 2.9 describe how and when to remove masking materials 2.10 state the appropriate methods of disposing used masking materials.	

Learning outcome	The learner will:
3. understand the purpose of quality control checks during and after masking operations	
Assessment criteria	
The learner can: 3.1 explain the implications of not following the correct masking procedures and its effect on the overall quality process 3.2 describe the implications of failing to rectify masking faults 3.3 explain the importance of working to agreed timescales and how masking faults may affect them.	

Unit 359 Knowledge of Applying Masking Materials to Automotive Vehicles

Supporting information

Health and Safety:
The appropriate personal health and safety requirements and legislation must be included in this unit and any specific workplace polices highlighted.

Learning Outcome 1
Tools and Equipment Used in Vehicle Masking

a. Paper and sheeting / tape dispenser – masking machines
b. Trimming knife / safety cutter
c. Templates and shields – alloy wheel masking and paint repair

Equipment Selection

a. Choices and variety available – appropriate for the size of vehicle
b. How to reduce the risk of damage to the panel surface of the vehicle
c. Speed of operation
d. Economical use of materials

Safety – safety cutters and single person operation of masking machines for large areas, ease of trimming masking materials to length

Equipment Preparation:

a. Checks to ensure the equipment is safe, fit for purpose, complete and operational.
b. Cleanliness
c. How to fit masking materials and appropriate widths of tapes to masking dispensers

Equipment Maintenance

a. Training
b. Check moving parts
c. Security of fixings and fittings
d. Disposal of blunt cutters / blades
e. Replacing consumables when they run out
f. Keeping equipment clean to prevent contamination and paint faults
g. Cleaning masking templates and shields

Equipment Limitations

a. Correct size – appropriate for the task
b. Types of equipment available for different applications

Equipment Storage

a. Check cleanliness before use
b. Dry storage areas
c. Dust free environment
d. Organised storage to avoid equipment damage and health and safety issues

Reporting Equipment Faults

a. Responsibilities of reporting equipment faults
b. Persons to report equipment faults to
c. Methods of reporting
d. Logging equipment faults and rectification procedures
e. Out of service procedures

Learning Outcome 2

Masking Materials

a. Cleaning and degreasing consumables
b. Tape variations – purpose, limitations, widths and application
c. Foam tapes, 'smooth transition' tapes / specialist products
d. Lining / striping and flexible tapes
e. Masking templates, stencils and shields
f. Plastic sheeting and papers - purpose, limitations, widths and application
g. Taped masking products – sheeting and paper
h. Windscreen masking systems, cord and trim tapes

Material Properties

a. Flexible, easy to shape around vehicle trims and produce designs
b. Easy to reposition and easy to cut
c. Sheeting which clings to the vehicle
d. Can be used with IR-dryers
e. Avoids moisture staining
f. Masking tape easily removed and repositioned on the film or surface
g. Very fine flip edges – 'smooth transition' tapes
h. Suitable for style lines / swages
i. Leaves no residue
j. Used on a dispenser
k. Water and solvent resistant
l. Holds adhesion even through repeat bake cycles
m. Prevents 'creeping'
n. Colour enables easy identification of the product type and capabilities

Cleaning Processes

a. Techniques used during cleaning, prior to masking
b. Cleaning materials and consumables used during the masking process

Masking Techniques

a. Include techniques that reduce paint edge build up, stop overspray, produce shapes / designs, cover large areas, covering inaccessible areas and intricate components.
b. Roll-back masking
c. Back masking
d. Sheeting
e. Lining out / outlining edges of trim
f. Shaping paper and sheeting around panels, trim and components
g. Preventing overspray in vehicle body apertures
h. Appropriate masking when carrying out, localised repairs, blending and fading topcoats

Masking Checks

a. Adhesion
b. Any gaps
c. Lifting on curves and corners
d. Covering edges of panels and trim
e. Papers and sheeting are the correct way round
f. Positioned correctly on styling / swage lines
g. Excess paper or sheeting that may touch the panels being painted / repaired
h. Materials are fit for purpose
i. Inaccurate masking

Masking Faults, their Cause and Methods of Rectification

a. Paint flaking off masking that is not fit for purpose or used the wrong way round
b. Overspray
c. Paint and primers creeping underneath
d. Lack of adhesion
e. Impression marks
f. Ghosting
g. Deformation and melting from applied heat
h. Lifting on corners or curves
i. Inaccurate masking

Avoiding Wastage During Masking Activities

a. Select masking which is fit for purpose
b. Use masking materials of the correct size and to suit the task
c. Cleaning surfaces prior to masking
d. Accurately shape masking material around panels and components
e. Use sheeting and / or papers to 'fill in' rather than use excessive amounts of tapes
f. Use for intended purposes only – for example not as a substitute for vehicle protection covers
g. Store correctly and avoid damage to materials
h. Use dispensers / machines to aid the masking process
i. Poor techniques - not wrapping masking around cylindrical components

Masking Removal

a. Within the correct timescale
b. Techniques to avoid damage to panel surfaces and trims
c. Angle of removal
d. Methods to remove residue
e. Techniques that promote easy removal of masking materials

Masking Standards and Reporting Delays

a. The importance of accurate masking
b. How to assess masking standards
c. Checking masking against job specifications – logos and designs
d. Masking training
e. How to report delays
f. The importance of reporting delays
g. Who to report expected delays to

Learning Outcome 3

Quality Control Checks and Processes

a. Inspection procedures to identify masking faults
b. How to record and report faults
c. How to arrange for any masking faults to be removed or rectified
d. How to monitor masking faults and improve on performance

Masking Procedures and its Effect on the Quality Process

a. Highlight how masking procedures and standards affect:
    i. Quality
    ii. Timescales
    iii. Reputation
    iv. Cost
    v. Profitability

Implications of Failing to Rectify Masking Faults

a. Customer complaints
b. Effects or rework
c. Reputation

Working to Agreed Timescales and how Masking Faults May Affect Them

a. Include examples of faults that occur through inaccurate masking and estimate:
    i. The increase labour time and costs involved in rectifying the faults
    ii. The importance of working to agreed timescales and who it may affect – for example customers, hire car companies and insurance companies

Unit 402 Skills in Removing and Fitting Non Permanently Fixed Motor Vehicle Body Panels

Level:	**5**
Credit value:	2
Relationship to NOS:	This unit is linked to BP02 Remove and Fit Non Permanently Fixed Motor Vehicle Body Panels.
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry. All assessments have been developed in accordance with the IMI Assessment Requirements.
Aim:	This unit will help the learner to develop skills in order to carry the removal and fitting a range of non-permanently fixed vehicle panels such as wings, doors, bonnets, boot lids and tailgates. 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 non-permanently fixed vehicle panels	
Assessment criteria	
The learner can: 1.1 use suitable personal protective equipment and vehicle coverings throughout all removal and replacement activities 1.2 work in a way which minimises the risk of damage or injury to the vehicle, people and the environment.	

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 motor vehicle removal and recognised fitting activities including: a. vehicle technical data b. removal and fitting procedures c. legal requirements 2.2 use technical information to support motor vehicle removal and recognised 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 non-permanently fixed vehicle 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 non-permanently fixed vehicle panels.	

Learning outcome	The learner will:
4. be able to carry out removal and fitting of non-permanently fixed vehicle panels	
Assessment criteria	
The learner can: 4.1 carry out removal and fitting of non-permanently fixed vehicle panels 4.2 carry out removal and fitting of non-permanently fixed vehicle panels adhering to the correct specifications and tolerances for the vehicle 4.3 ensure that the removal and fitting of non-permanently fixed panels conforms to the vehicle operating specification and any legal requirements 4.4 ensure the components are realigned correctly in a way which regains their original manufactured tolerance 4.5 ensure no damage occurs to other components when removal and fitting of non-permanently fixed vehicle panels 4.6 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 402 Skills in Removing and Fitting Non Permanently Fixed Motor Vehicle Body Panels

Supporting Information

Evidence requirements

You must produce evidence of removing and replacing 3 out of the 5 panels listed below, which covers the learning outcomes.

- wings
- doors
- bonnets
- boot lids
- tailgates

Unit 452 Knowledge of Removing and Fitting Non Permanently Fixed Motor Vehicle Body Panels

Level:	**5**
Credit value:	2
Relationship to NOS:	This unit is linked to BP02 Remove and Fit Non Permanently Fixed Motor Vehicle Body Panels.
Assessment requirements specified by a sector or regulatory body:	This unit is endorsed by IMI, the Standards Setting Body for the automotive industry. All assessments have been developed in accordance with the IMI Assessment Requirements.
Aim:	This unit enables the learner to develop knowledge in order to carry out removal and fitting of non-permanently fixed vehicle panels such as wings, doors, bonnets, boot lids and tailgates. 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 non-permanently fixed motor vehicle body panels.	
Assessment criteria	
The learner can: 1.1 identify the procedures involved in carrying out the systematic removal and fitting of non-permanently fixed vehicle body panels: a. wings b. doors c. bonnets d. boot lids e. tailgates 1.2 identify the procedures involved in working with supplementary safety systems when fitting basic non-permanently fixed vehicle body panels 1.3 explain the methods and procedures for storing removed non-permanently fixed vehicle body panels 1.4 identify the different types of fastenings and fixings used when removing and fitting non-permanently fixed vehicle body panels 1.5 explain the reasons for the use of different types of fastenings and fixings used in non-permanently fixed vehicle body panels 1.6 explain the procedures, methods and reasons for ensuring alignment of non-permanently fixed vehicle body panels 1.7 identify the quality checks that can be used to ensure alignment and operation of non-permanently fixed vehicle body panels 1.8 identify conformity of vehicle systems against vehicle specification and legal requirements on completion 1.9 explain the procedure for reporting damage to vehicle non-permanently fixed vehicle body panels.	

Unit 452 Knowledge of Removing and Fitting Non Permanently Fixed Motor Vehicle Body Panels

Supporting information

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

Removing and Fitting non permanently fixed Body Panels

a. Find, interpret and use sources of information applicable to the removal and fitting of basic non-welded body panels.
b. Select check and use all the tools and equipment required to remove and fit basic non welded body panels
c. The different types of mechanical fixings for non-welded panels and when and why they should be used
d. The correct procedures and processes for removing and fitting of non- welded body panels.
e. The need for correct alignment of panels and methods to achieve this:
f. Aperture gaps
g. Alignment of panel features
h. Best fit of components to panels
i. Operation of openings such as doors, tailgates, bonnets etc.
j. The types of quality control checks that can be used to ensure correct alignment and contour of panels and operation of components to manufacturer's specification.
k. The method of storing removed panels and the importance of storing them correctly.

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**.

City & Guilds Centre Manual 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.

Our Quality Assurance Requirements encompasses all of the relevant requirements of key regulatory documents such as:

- Regulatory Arrangements for the Qualifications and Credit Framework (2008)
- SQA Awarding Body Criteria (2007)
- NVQ Code of Practice (2006)

and sets out the criteria that centres should adhere to pre and post centre and qualification approval.

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 on such things as:

- **Walled Garden**: how to register and certificate candidates on line
- **Events**: dates and information on the latest Centre events
- **Online assessment**: how to register for e-assessments.

Centre Guide – Delivering International Qualifications 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. Specifically, the document includes sections on:

- The centre and qualification approval process and forms
- Assessment, verification and examination roles at the centre
- Registration and certification of candidates
- Non-compliance
- Complaints and appeals
- Equal opportunities
- Data protection
- Frequently asked questions.

Linking to this document from web pages

We regularly update the name of documents on our website, therefore in order to prevent broken links we recommend that you link to our web page that the document resides upon, rather than linking to the document itself.

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Useful contacts

UK learners General qualification information	**E: learnersupport@cityandguilds.com**
International learners General qualification information	**E: intcg@cityandguilds.com**
Centres Exam entries, Certificates, Registrations/enrolment, Invoices, Missing or late exam materials, Nominal roll reports, Results	**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	**E: singlesubjects@cityandguilds.com**
International awards Results, Entries, Enrolments, Invoices, Missing or late exam materials, Nominal roll reports	**E: intops@cityandguilds.com**
Walled Garden Re-issue of password or username, Technical problems, Entries, Results, e-assessment, Navigation, User/menu option, Problems	**E: walledgarden@cityandguilds.com**
Employer Employer solutions including, Employer Recognition: Endorsement, Accreditation and Quality Mark, Consultancy, Mapping and Specialist Training Delivery	**E: business@cityandguilds.com**

If you have a complaint, or any suggestions for improvement about any of the services that we provide, email: **feedbackandcomplaints@cityandguilds.com**

About City & Guilds

As the UK's leading vocational education organisation, City & Guilds is leading the talent revolution by inspiring people to unlock their potential and develop their skills. We offer over 500 qualifications across 28 industries through 8500 centres worldwide and award around two million certificates every year. City & Guilds is recognised and respected by employers across the world as a sign of quality and exceptional training.

City & Guilds Group

The City & Guilds Group is a leader in global skills development. Our purpose is to help people and organisations to develop their skills for personal and economic growth. Made up of City & Guilds, City & Guilds Kineo, The Oxford Group and ILM, we work with education providers, businesses and governments in over 100 countries.

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