



INSTITUTE
OF THE MOTOR
INDUSTRY

IMI QUALIFICATION



QUALIFICATION SPECIFICATION

Part B:

Assessment Criteria

For

IMI Level 1 Certificate in SMART Repair

QUALIFICATION NO.:

601/8873/X

*To be used in conjunction with learner guidance and
candidate assessment summary*

For assessor only: Assessor and Verifier Guidance

CENTRE INFORMATION

Please be aware that any **legislation** referred to in this qualification may be subject to amendment/s during the life of this qualification. Therefore IMI Approved Centres must ensure they are aware of and comply with any amendments, e.g. to health and safety legislation and employment practices.

Please be aware that **vehicle technologies** referred to in this qualification reflect current practice, but may be subject to amendment/s, updates and replacements during the life of this qualification. Therefore IMI Approved Centres must ensure they are aware of the latest developments and emerging technologies to ensure the currency of this qualification.

Please note: the relevance of the information contained in the **unit content** will vary depending upon the vehicle types being worked upon. The unit content is for guidance only and is not meant to be prescriptive.

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Requests should be made in writing and addressed to:
Institute of the Motor Industry (IMI)
Fanshaws, Brickendon, Hertford SG13 8PQ



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Qualification Structure

IMI Level 1 Certificate in SMART Repair

In order to achieve this qualification, learners must achieve the following:

Group A – All units

Group B – Minimum 1 unit to be selected

Group C – Minimum 2 units to be selected

Group D – Minimum 2 unit to be selected

Group E – Minimum 5 units to be selected

TQT: 224

GL: 168-249 Hours

Group A – Mandatory Units

Unit Ref	Unit Title and ID Number	Level	TQT	GL
L1MV01	Health and Safety in the Workplace (F/508/3612)	1	29	21
L1MV02	Locating, Interpreting and Using Technical Information (J/508/3613)	1	17	12
L1MV03	Applying Engineering Techniques in an Automotive Environment (L/508/3614)	1	17	13
L1MV87	Knowledge Relating to Corrosion Protection (J/508/3658)	1	12	10

Group B – Foundation Skills

Unit Ref	Unit Title and ID Number	Level	TQT	GL
L1MV04	Knowledge Relating to Automotive Foundation Skills (R/508/3615)	1	25	17
ET133	Introduction to Low Carbon Technologies in the Automotive Industry (K/505/4248)	1	28	20
L1MV66	Moving Loads and Vehicle Lifting (R/508/3646)	1	22	15
L1MV50	Accident Repair Core Knowledge and Skills (H/508/4610)	1	25	20
L1MV85	Vehicle Materials and Joining Methods (A/508/3656)	1	21	17
L1MV86	The Retail Motor Industry (F/508/3657)	1	14	13

Group C – PSD

Unit Ref	Unit Title and ID Number	Level	TQT	GL
L1MV06	Preparation to Become a Vehicle Driver (Y/508/3616)	1	10	9
L1MV07	Preparation for Riding a Motorcycle or Moped (D/508/3617)	1	10	7
L1MV08	Reducing Risks When Driving Vehicles (H/508/3618)	1	17	14
L1MV09	Introduction to Mobile Automotive Repair Trades (K/508/3619)	1	11	10
L1MV10	Introduction to Business Enterprise (D/508/3620)	1	20	12

**Group D – Health, Safety, Tools and Equipment**

Unit Ref	Unit Title and ID Number	Level	TQT	GL
L1MV13	Health and Safety in an Accident Repair Environment (K/508/4611)	1	12	11
L1MV14	Tools, Equipment and Materials for Accident Repair (A/508/4628)	1	23	19
L1MV15	Health and Safety Practices in a Valeting and Detailing Environment (M/508/3623)	1	18	13
L1MV16	Tools, Equipment and Consumable Materials Used for Valeting and Detailing (T/508/3624)	1	21	15
L1MV53	Spray guns and Their Components (F/508/4629)	1	22	18
L1MV59	Cleaning and Maintaining a Spray Gun (K/508/4639)	1	21	16

Group E – Specialist

Unit Ref	Unit Title and ID Number	Level	TQT	GL
ET136	Electric Vehicle Awareness (M/505/4249)	1	8	4
L1MV51	Vehicle Paint Preparation (H/507/8709)	1	18	13
L1MV52	Application of a Topcoat and Minor Defect Rectification (J/508/4695)	1	26	19
L1MV54	Spraying Techniques (T/508/4630)	1	24	19
L1MV55	Primers and Sealers (A/508/4631)	1	24	19
L1MV56	Applying Primers and Sealers (J/508/4633)	1	21	13
L1MV57	Surface Preparation (L/508/4634)	1	26	21
L1MV58	Vehicle Masking (Y/508/4636)	1	31	23
L1MV60	Interior Cosmetic Repair Techniques (T/508/4644)	1	28	22
L1MV62	Removing and Applying Graphics and Lettering (F/508/4646)	1	17	13
L1MV63	Vehicle Damage Assessment (L/508/4648)	1	26	22
L1MV70	Reshaping Minor Panel Damage (H/508/4655)	1	21	16
L1MV71	Application of Body Fillers (K/508/4656)	1	27	22
L1MV74	Paintless Dent Removal Techniques (T/508/4658)	1	24	19



UNIT REF: L1MV01	UNIT TITLE: HEALTH AND SAFETY IN THE WORKPLACE
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Level: 1	GL: 21 Hours	TQT: 29 Hours
<p>Overview: This unit introduces learners to the health and safety knowledge requirements when carrying out simple maintenance and repair tasks in the workplace. This unit covers the general requirements of health and safety in the workplace including personal responsibilities, common hazards and risks, manual handling, health and safety information, fire prevention and emergency evacuation procedures.</p> <p>Learners are required to complete a plan of the workplace highlighting the Health and Safety information, equipment and notices.</p>		

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1. Know health and safety requirements and information used in the workplace	1.1 State their personal responsibilities for health and safety in the workplace 1.2 Identify common hazards and risks when working in the workplace 1.3 Identify the need to be aware of the actions of others in the working environment 1.4 Locate the main health and safety information and notices provided in the workplace
2. Know the safe manual handling techniques to be used in the workplace	2.1 State safe manual handling practices and procedures 2.2 Identify common manual handling equipment used in the workplace
3. Know the local legislation procedures associated with working in the workplace	3.1 Identify the main substances hazardous to health in the workplace 3.2 State the appropriate methods to dispose of waste materials in the workplace
4. Know about fire prevention and emergency procedures	4.1 Identify the three elements that produce a fire 4.2 Identify different types of fire extinguisher and their uses 4.3 State the procedures to follow in an emergency and the evacuation of the premises
5. Be able to identify the main health and safety information, equipment and notices in the workplace	5.1 Identify the main health and safety information in the workplace 5.2 Identify the main health and safety equipment in the workplace 5.3 Identify the main health and safety notices in the workplace

Evidence Requirements
You must be observed by your assessor completing all of the activities listed below on at least one occasion:
Locating and recording the location of the main health and safety information in the workplace
Locating and recording the location of the main health and safety equipment in the workplace
Locating and recording the location of the main health and safety notices in the workplace



Unit Content	Assessment Criteria
<p>Personal responsibilities to include:</p> <ul style="list-style-type: none"> • following health and safety notices and instructions • complying with instructions and procedures • using PPE and VPE equipment • behaving responsibly and safely • being aware of others <p>Common hazards and risks associated with:</p> <ul style="list-style-type: none"> • electrical equipment and trailing leads • airlines and air powered tools • hazardous substances such as: fuels, de greasers, cleaners, thinners • movement of vehicles • waste materials • loose tools and equipment • lifting, jacking and supporting vehicles • inappropriate behaviour • failing to use appropriate PPE and VPE <p>Awareness of others to include:</p> <ul style="list-style-type: none"> • the risk posed by the action and conduct of colleagues in immediate vicinity • the possible risks to others posed by your own actions and conduct • the risks posed by the type of work being carried out by colleagues <p>Main health and safety information and notices to include:</p> <ul style="list-style-type: none"> • fire and emergency exits • actions in the event of a fire or emergency • health and safety instructions • use of health and safety equipment 	<p>1.1, 1.2, 1.3, 1.4</p>
<p>Safe manual handling practices and procedures to include:</p> <ul style="list-style-type: none"> • use of PPE • correct lifting technique • carrying technique • how to find current manual handling information <p>Manual handling equipment to include:</p> <ul style="list-style-type: none"> • jacking equipment • cranes • hoists • chains, slings, chains and wire ropes • vehicle lifts and stands • skates and dollies • trollies and sack trucks 	<p>2.1, 2.2</p>
<p>Common hazardous substances include:</p> <ul style="list-style-type: none"> • liquids – petrol, diesel, oil, brake fluid, cleaners, paint, thinners • gases – exhaust, welding and heating equipment • solids – used and contaminated components <p>Procedures for disposing of waste materials to include:</p> <ul style="list-style-type: none"> • waste oil and filters • old units and components • cleaning materials • volatile materials – petrol filters, petrol engine components • used vehicle body materials, paint, thinners 	<p>3.1, 3.2</p>



<p>Fire prevention and emergency procedures to include: THREE elements necessary for a fire</p> <ul style="list-style-type: none">• Oxygen• Fuel• Ignition source <p>Fire extinguishers to include:</p> <ul style="list-style-type: none">• water• powder• gas - CO2 <p>Procedures to follow in an emergency to include:</p> <ul style="list-style-type: none">• in the event of a colleague suffering an electric shock• in the event of a serious accident• sounding alarm• use of appropriate fire extinguisher• evacuation of premises	<p>4.1, 4.2, 4.3</p>
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UNIT REF: L1MV02	UNIT TITLE: LOCATING, INTERPRETING & USING TECHNICAL INFORMATION
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Level: 1	GL: 12 Hours	TQT: 17 Hours
<p>Overview: This unit provides the learners with the basic knowledge in how to identify and access the technical information required to complete maintenance and repair activities. Learners will be expected to locate, interpret and use the technical information required for effective maintenance and repair procedures and activities.</p>		

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1. Know where to find technical information	1.1 State the reasons for accessing technical information used in maintenance and repair 1.2 State the reasons for using technical information used in maintenance and repair
2. Know the different types and location of technical information	2.1 Identify the range of technical information types available for maintenance and repair 2.2 Locate and interpret technical information required for maintenance and repair
3. Know how to locate identification numbers on vehicles and components	3.1 Identify the vehicle registration number 3.2 Identify the location of the chassis/frame number 3.3 Identify the location of the engine number 3.4 Identify component part numbers
4. Be able to access, interpret and use technical information	4.1 Access and use technical information to locate identification and component numbers 4.2 Interpret and use technical information to carry out maintenance and repair activities

Evidence Requirements
You must be observed by your assessor completing all of the tasks below on at least one occasion: (Note: the tasks can be referenced to other appropriate units within the qualification)
Accessing and using technical information to locate identification numbers.
Interpreting and using technical information to carry out maintenance and repair activities



Unit Content	Assessment Criteria
<p>Reasons for accessing technical information could include:</p> <ul style="list-style-type: none">• Manufacturers updates• Service and maintenance information and procedure's• Technical details• Component manufacturers information• Service and repair times <p>Reasons for using technical information to include:</p> <ul style="list-style-type: none">• Service and repair times• Settings and capacities• Service routines• Diagnostic information• Wiring diagrams• Service and repair information	1.1, 1.2
<p>Identifying, locating and interpreting the range of technical information sources to include:</p> <ul style="list-style-type: none">• Manufacturer online facilities• Component manufacturers information, including Web site information• Parts books and references• Service recalls• Computer-based service and repair information• Service manuals• Different types of service publications• Wall charts	2.1, 2.2
<p>Location of identification numbers could include:</p> <ul style="list-style-type: none">• Vehicle registration number• Vehicle Identification Numbers (VIN)• Identification numbers• Engine• Transmission• Chassis/frame plates• Part numbers• Paint codes• Component part numbers	3.1-3.4



UNIT REF: L1MV03	UNIT TITLE: APPLYING ENGINEERING TECHNIQUES IN AN AUTOMOTIVE ENVIRONMENT
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Level: 1	Total Unit Hours: 17
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Overview: This unit will provide the learner with the knowledge and skills to use engineering techniques to include: measuring, marking out, and drilling. The learner will use a variety of fixing methods to accurately fit vehicle number plates.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1 Know how to select and wear the correct PPE and work safely	1.1 Identify and wear the correct PPE and work safely throughout the task
2 Know about vehicle materials	2.1 Use suitable methods to identify vehicle materials to include: a. Steels b. Aluminium c. Plastics
3 Know how to use templates, and automotive/engineering tools	3.1 List tools for: a. Measuring b. Marking out c. Drilling d. Fixing and securing mechanical fastenings 3.2 State the advantages of preparing and using templates, prior to fitting vehicle number plates.
4 Know a variety of mechanical and adhesive fixings and fastenings	4.1 List different types of fixings and fastenings, which are suitable to secure vehicle number plates to include: a. Mechanical b. Adhesive
5 Be able to use templates, and automotive / engineering tools to fit vehicle number plates	5.1 Demonstrate how to carry out checks to tools prior to their use 5.2 Demonstrate how to clean and prepare surfaces prior to fitting vehicle number plates 5.3 Demonstrate the use of templates and automotive/engineering tools
6 Be able to clean the work area and leave it in a safe condition	6.1 Use appropriate equipment and methods to clean the work area and leave it in a safe condition

Evidence Requirements
You must be observed by your assessor completing the task listed below on at least one occasion:
measuring, marking out and drilling
fitting a set of vehicle number plates



Unit Content	Assessment Criteria
PPE for the workshop include: <ul style="list-style-type: none">• overalls• boots• skin protection• eye protection• ear protection Include safe working practices specific to this unit	1.1
Vehicle material to include: <ul style="list-style-type: none">• identification of materials – visual, identification codes and technical data / repair research method information• materials – vehicle steels, thermoplastic, thermoset plastic and aluminium	2.1-2.2
Know and use of templates, and automotive / engineering tools to include: <ul style="list-style-type: none">• tools and equipment to include- Tape measure, ruler, masking tape, marking equipment, hand drill (electric, air, battery) screwdrivers, rivet gun• techniques to avoid damage to vehicle paintwork, components and trim• quality checks• ensure all tools are in good condition and suitable for the job• the use of prepared templates to aid accurate fitting• legal requirements• alignment• securing	3.1-3.2
Fixings and fastenings to include: <ul style="list-style-type: none">• suitable fixing tapes and adhesives• plastic screws, nuts, security fastenings and rivets / rivet nuts	4.1



UNIT REF: L1MV87	UNIT TITLE: KNOWLEDGE RELATING TO CORROSION PROTECTION
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Level: 1	GL: 10 Hours	TQT: 12 Hours
Overview: This unit will provide the learner with the knowledge of how to protect vehicle bodies from corrosion by applying suitable products to areas such as: the backside of panels and vehicle body cavities.		

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1 Know the purpose of the corrosion protection process.	1.1 State the reasons for applying corrosion protection materials 1.2 Identify areas where corrosion protection materials are used
2 Know the tools and equipment which are used to apply corrosion protection materials.	2.1 Identify tools and equipment which are used to apply corrosion protection materials 2.2 State the uses for tools and application equipment 2.3 Outline how to set up corrosion protection application equipment
3 Know how to apply corrosion protection materials.	3.1 Identify information which supports the application of corrosion protection materials 3.2 Identify corrosion protection materials and their appropriate uses 3.3 Outline different methods of applying corrosion protection materials
4 Know how to prevent damage to corrosion protection materials.	4.1 Give examples of how corrosion protection materials may become damaged 4.2 Outline how to prevent corrosion protection materials from becoming damaged

Unit Content	Assessment Criteria
Reasons for applying corrosion protection materials to include: <ul style="list-style-type: none"> • protecting vehicle body cavities • repelling water and moisture • replacing the original protection after completing body repairs • maintain manufacturers warranties • protecting the underbody of the vehicle 	1.1, 1.2
Areas where corrosion protection materials are used to include: <ul style="list-style-type: none"> • vehicle body cavities • internal sill sections • the backside of body panels, such as doors and tailgates • the underbody of the vehicle • under the wheel arches • welded seams • under the bonnet 	
Tools and equipment which are used to apply corrosion protection materials to include: <ul style="list-style-type: none"> • different types of compressed air spray gun • a selection of interchangeable lances • attachments 	2.1, 2.2, 2.3



<ul style="list-style-type: none"> • paint brushes <p>Uses for tools and application equipment to include:</p> <ul style="list-style-type: none"> • applying the corrosion protection materials • lances providing 360° spraying and long reach capabilities • accessing internal and restricted areas <p>How to set up application equipment to include:</p> <ul style="list-style-type: none"> • setting the spraying pressure • adjusting the fan • fitting the attachments • attaching the lances • adjusting the flow of the material • testing prior to use 	
<p>Information which supports the application of corrosion protection materials to include:</p> <ul style="list-style-type: none"> • material safety data sheets • technical data sheet • manufacturers guidance and instructions • researched repair methods <p>Corrosion protection materials and their appropriate uses to include:</p> <ul style="list-style-type: none"> • underbody seal types ('Schutz') • cavity wax types • suitability and where to use different materials • different coloured and clear materials • vehicle manufactures recommendations and material specifications <p>Different methods of applying corrosion protection materials to include:</p> <ul style="list-style-type: none"> • paint brush • spray gun • aerosol 	<p>3.1, 3.2, 3.3</p>
<p>Examples of how corrosion protection materials may become damaged to include:</p> <ul style="list-style-type: none"> • stones and rough ground • collision damage • jacking a vehicle • raising a vehicle on a lift / ramp • using 'wheel free' lift arrangements • during panel repair and replacement <p>How to prevent corrosion protection materials from becoming damaged to include:</p> <ul style="list-style-type: none"> • carrying out checks to ensure lifting and jacking equipment has suitable pads and protection • using protection between the underbody panels and 'wheel free' lifting arrangements • protecting the coatings from intense heat • protecting the surrounding areas during repair • removing the minimum amount of the protective coating during repairs 	<p>4.1, 4.2</p>



UNIT REF: L1MV04	UNIT TITLE: KNOWLEDGE RELATING TO AUTOMOTIVE FOUNDATION SKILLS
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Level: 1	GL: 17 Hours	TQT: 25 Hours
<p>Overview: This unit will enable the learner to develop the knowledge for tools, equipment, measuring devices and materials used in simple repair, servicing, maintenance activities and the materials used in vehicle construction: Learning outcome 1 relates to the knowledge required when using a range of mechanical measuring and electrical equipment, locking and securing devices, hand tools and workshop equipment used within a workplace environment. Learning outcome 2 introduces the learners to the range of materials and their applications used in vehicle construction.</p>		

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1. Know the basic tools, equipment and measuring devices used within a workplace environment	1.1 State the main units of measurement related to automotive repair 1.2 Identify the main measuring equipment used in an automotive environment 1.3 State the basic principles of electrical circuits and components 1.4 Identify electrical measurement equipment used in an automotive environment 1.5 Identify locking and securing devices used in an automotive environment 1.6 Identify common hand tools used in an automotive environment 1.7 Identify common workshop equipment used in the automotive environment
2. Know the materials used in vehicle construction	2.1 Identify the ferrous, non-ferrous and non-metallic materials used in vehicle construction 2.2 Identify the applications of ferrous and non-ferrous materials used in vehicle construction 2.3 State the common terms applied to the materials used in vehicle construction

Unit Content	Assessment Criteria
<p>The main units of measurement related to vehicle repair include:</p> <ul style="list-style-type: none"> Length, Area, Volume, Mass, Force, Velocity, Pressure, Temperature, Torque <p>Measuring equipment include:</p> <ul style="list-style-type: none"> Rule/Tape, Calliper, Feeler Gauge, Volume Measures, Vernier Calliper, Micrometer, Dial Gauges, Torque Wrenches, Multimeter, Pressure gauge <p>The basic principles of electricity and electrical circuits include:</p> <ul style="list-style-type: none"> Basic electrical units; volts, amps, ohms, watts The basic principle of alternating and direct current. Ohms law to resolve simple electrical problems. Series and parallel circuits. The main electrical symbols; battery, switch, fuse, lamp, cables joined, cables crossed, relay, resistor Simple electrical wiring diagrams. Electrical conductors e.g. gold, silver, copper, brass Electrical insulators e.g. rubber, Bakelite, plastic, paper, air <p>Electrical measurement equipment include:</p> <ul style="list-style-type: none"> The difference between analogue and digital electrical meters. The advantage and uses of digital and analogue meters. The use of ammeter, voltmeter, ohmmeter and multi-meter. Multi-meters for simple electrical measurements; voltage, volt drop, current flow, circuit/component resistance <p>Locking devices and securing devices include:</p> <ul style="list-style-type: none"> Fixing devices; nuts, bolts and screws, Locking and securing devices; lock nuts, split pins, locking wire, tab washers, chemical thread locking Screw threads, types and applications. <p>Common hand tools to include:</p> <ul style="list-style-type: none"> Files, hacksaw, hammers, screwdrivers, pliers, types of spanner, sockets, torque wrenches, feeler gauge, micrometer, punches, air drill, electrical hand drill, drill bits, vices, taps and dies, broken stud removers, The use and care of common hand tools <p>Workshop equipment include:</p> <ul style="list-style-type: none"> Common workshop equipment: hydraulic jacks /scissor jacks, axle stands / paddock stands, pillar drills, air tools, vehicle lifts, cranes, hoists, dollies, skates The preparation and use of workshop equipment. 	<p>1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7</p>
<p>Materials and applications used in light vehicle construction include:</p> <p>Ferrous and non-ferrous metals:</p> <ul style="list-style-type: none"> carbon steel, steel alloys, cast iron, aluminium, brass, copper, lead <p>Non- metallic materials:</p> <ul style="list-style-type: none"> Glass, safety glass, reinforced plastic, Kevlar, rubber <p>Applications of materials in vehicle construction include:</p> <ul style="list-style-type: none"> Vehicle bodies, bumpers, wheels, interior components, steering and suspension components <p>Terms relating to metals:</p> <ul style="list-style-type: none"> Hardness, toughness, ductility, elasticity, tenacity, malleability, plasticity <p>Terms relating to vehicle components:</p> <ul style="list-style-type: none"> tensile stress, compressive stress, yield stress, shear force 	<p>2.1, 2.2, 2.3</p>



UNIT REF: ET133	UNIT TITLE: INTRODUCTION TO LOW CARBON TECHNOLOGIES IN THE AUTOMOTIVE INDUSTRY
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Level: 1	GL: 20 Hours	TQT: 28
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Mapping: Based on IMI SSC Electric vehicle NOS 2011.

Overview: This unit aims to encourage learners to realise how their actions in driving vehicles can impact the environment and some of the measures vehicle manufacturers are taking to reduce carbon outputs.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner should be taught:
1 Know how their own actions can affect the environment	1.1 Examples of driving styles that harm the environment to include: <ul style="list-style-type: none"> a excessive acceleration b excessive deceleration c driving at high speed d idling engine whilst stopped e incorrect gear selection f use of auxiliary equipment e.g. air conditioning 1.2 Examples how they can reduce carbon emissions when travelling to include: <ul style="list-style-type: none"> a carefully planned routes b use motor transport less- walk, cycle c car sharing d use public transport e more efficient vehicles- lower engine size, alternative fuel vehicles f correctly inflated tyres g properly serviced and maintained vehicles h do not carry excessive loads e.g. empty boot i keep windows closed to reduce drag
2 Know the impact that a conventional vehicle has on the environment	2.1. The exhaust emissions that a conventional vehicle produces to include: <ul style="list-style-type: none"> a carbon monoxide b carbon dioxide c oxides of nitrogen d sulphur dioxide e soot particles f hydrocarbons 2.2 The impact of exhaust emissions on people and the environment to include: <ul style="list-style-type: none"> a carbon monoxide – colourless, odourless, poisonous to animal life b carbon dioxide – greenhouse gas that contributes to global warming c oxides of nitrogen – can cause respiratory conditions, smog and acid rain d sulphur dioxide – pollution and acid rain e soot particles – causes respiratory problems and cancers f hydrocarbons - causes respiratory problems, liver damage and cancers 2.3 The meaning of ‘carbon footprint’ to include: <ul style="list-style-type: none"> a the amount of greenhouse gases b most commonly carbon dioxide c produced over the life time of a vehicle d during the manufacture, running and disposal of the vehicle at the end of its working life.



<p>3 Know some of the actions vehicle manufacturers' are taking to reduce carbon emissions</p>	<p>3.1 The common vehicle parts that may be recycled to include:</p> <ul style="list-style-type: none">a metalsb plasticsc oilsd other fluids e.g. brake fluid and antifreezee batteriesf refrigerant from air conditioning systemsg glassh tyres <p>3.2 The new types of propulsion available in modern and future vehicles to include:</p> <ul style="list-style-type: none">a low emission conventional engineb alternative fuels including LPG and bio-fuel enginesc hybridd electrice hydrogen powered vehicles <p>3.3. The benefits of alternative fuel types and propulsion methods for the user and environment to include:</p> <ul style="list-style-type: none">a low emission conventional engine, e.g. lean burn-improvement on normal engines, but not vastlyb alternative fuels including LPG and bio-fuel engines - normally uses a mixture of normal fuels and gas, or fuels produced from vegetable or plant extracts resulting in reduced engine emissions, renewable, and less processing required than crude oilc hybrid vehicles using a combination of power sources such as conventional engine and electric motors - resulting in reduced emissions, improved fuel consumptiond electric vehicles using solely electric motors to propel the vehicle. Benefits are zero emissions and low running cost, but expensive at present and limited range - expected to increase in numbers considerably over the next few yearse hydrogen powered vehicles- zero emissions but limited availability and hazardous <p>3.4 How bio-fuels can reduce carbon emissions to include:</p> <ul style="list-style-type: none">a potential to reduce greenhouse gases because the carbon in the plant matter from which the fuel is produced comes from the carbon dioxide absorbed by the plants over the course of its life, unlike fossil fuels where the carbon has been locked up under ground for millions of years and then released to the atmosphere as carbon dioxide when burnt during combustion.b impact on land being used for growing fuel crops instead of food crops.
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No Content or Evidence Requirements



UNIT REF: L1MV66	UNIT TITLE: MOVING LOADS AND VEHICLE LIFTING
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Level: 1	GL: 15 Hours	TQT: 22 Hours
<p>Overview: This unit introduces the learner to the knowledge and skills essential for the safe working operations when manually lifting, moving loads and when using manual handling equipment. The unit also covers the use of vehicle lifting and securing equipment, learners are required to use effective and safe working practices whilst using this equipment.</p>		

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1. Know the risks of manual handling and moving loads.	1.1 Identify the PPE to be used when using moving and lifting equipment 1.2 Outline local manual handling guidelines and regulations. 1.3 Identify personal hazards and risks associated with lifting and moving heavy objects and loads. 1.4 Identify hazards and risks with lifting and moving heavy objects and loads using appropriate equipment.
2 Know appropriate methods of lifting, moving and securing heavy loads.	2.1 Identify a range of equipment for lifting, moving and securing loads. 2.2 State the purpose of different types of equipment for lifting, moving and securing loads. 2.3 State the safe use of lifting and moving load equipment. 2.4 Identify the visual checks to be made on lifting, moving and securing equipment prior to use..
3 Know safe manual handling procedures.	3.1 Outline the methods and precautions to be taken when lifting, moving and securing loads manually. 3.2 Outline the methods and precautions to be taken when lifting, moving and securing loads using lifting/moving equipment. 3.3 Outline the methods and precautions to be taken when lifting and supporting a vehicle.
4 Be able to use safe manual handling procedures.	4.1 Locate the information to lift and secure the vehicle safely. 4.2 Demonstrate the methods to manually lift, move and secure an engine / transmission component. 4.3 Demonstrate the methods to lift, move and secure an engine / transmission using lifting/moving equipment. 4.4 Use appropriate lifting and supporting equipment to raise and secure a vehicle safely.
5 Be able to clean the work area and leave in a safe condition.	5.1 Use appropriate equipment and methods to clean the work area and leave in a safe condition.



Evidence Requirements
You must be observed by your assessor completing the following tasks below on at least one occasion: (Note: this tasks can be referenced to other appropriate units within the qualification.)
Locating the information to lift and secure the vehicle safely
Lifting, moving and securing an engine / transmission component using safe manual handling guidelines.
Lifting, moving and securing an engine / transmission using lifting/moving equipment safely.
Lifting and supporting a vehicle using appropriate equipment safely.

Unit Content	Assessment Criteria
<p>PPE to include:</p> <ul style="list-style-type: none"> • Safety boots, safety hat, overalls, safety gloves, reflective jacket/tabard <p>Manual handling guidelines to include:</p> <ul style="list-style-type: none"> • Local manual handling operating regulations and guidelines that individuals and employers need to follow. Risk assessments. <p>The risks of lifting and moving heavy objects including pain and injury to:</p> <ul style="list-style-type: none"> • Arms, legs and joints, slips, trips, and repetitive strain injuries of various sorts. <p>The risks of lifting and moving heavy objects using mechanical equipment include:</p> <ul style="list-style-type: none"> • Using equipment in a safe manor • Not putting others at risk whilst moving heavy objects • Maintaining mechanical equipment used for moving loads • No unauthorised use of mechanical equipment 	1.1, 1.2, 1.3, 1.4
<p>Range and purpose of equipment to lift, move and secure loads include:</p> <ul style="list-style-type: none"> • trolley • engine hoist • jacks • crane • hoists • sack and pallet truck • axle stands • vehicle lifts • dollies and skates • air jacks • chains, slings and wire ropes <p>Safe use of equipment for lifting and moving loads to include:</p> <ul style="list-style-type: none"> • use of PPE • safe working loads (SWL) lifting capacity • care when moving loads over uneven surfaces • appropriate selection of equipment for the task • avoiding obstructions and floor based obstacles- cables and leads • safe working environment for equipment being used • stability of loads whilst being moved • condition and well maintained equipment <p>Visual checks include:</p> <ul style="list-style-type: none"> • leaks and mechanical condition • physical damage • seized or broken components • correct operation of components • damaged wiring • cuts and frayed straps • cracks and bent structures • certificates of conformity (insurance) 	2.1, 2.2, 2.3, 2.4



Unit Content Contd.	Assessment Criteria
<p>Moving loads manually to include:</p> <ul style="list-style-type: none">• safe personal lifting limits• use of PPE• planning the lift• adopting a safe position• feet position• where is the load going to• will I need help with lifting the load• removal of obstructions from packaging• will I need to change grip in moving the load <p>Lifting and moving loads using mechanical equipment to include:</p> <ul style="list-style-type: none">• working within the Safe Working Limits (SWL) of the equipment• training and authorised to use mechanical equipment• equipment condition• follow safe procedures when using mechanical equipment• informing others• reporting of faults of equipment to authorised persons• safe, secure and level ground loads will be transported across• using equipment risk assessments <p>Lifting and supporting a vehicle to include:</p> <ul style="list-style-type: none">• inspect the floor jack or lift for fluid leaks before use• using vehicle manufacturer specifications for vehicle weight.• using manufacturer specifications for axle stand capacity.• following correct procedure when using floor jacks and vehicle lifts• ensure the vehicle is placed on a hard, level surface• raising the vehicle using manufacturer specified lifting points• when the vehicle is raised, it must be supported• chock wheels before removing the jack• use vehicle manufacturer specifications for vehicle weight.	3.1, 3.2, 3.3



UNIT REF: L1MV50	UNIT TITLE: ACCIDENT REPAIR CORE KNOWLEDGE AND SKILLS
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Level: 1	GL: 20 Hours	TQT: 25 Hours
Overview: This unit will provide the learner with the knowledge and skills to locate and interpret vehicle and technical information. In addition to this, the learner will be able to identify and use different forms of measurements which are used in the accident repair environment.		

KNOWLEDGE LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1. Know how to find and interpret information	1.1. Identify vehicle information 1.2. Interpret vehicle information
2. Know how to isolate vehicle electrical circuits	2.1. Identify the hazards involved with isolating vehicle electrical systems 2.2. Outline the process involved in isolating vehicle electrical system
3. Know a range of vehicle body shapes	3.1. Identify a range of vehicle body shapes 3.2. Identify the names of vehicle panels and their location
4. Know the types of measurements which are used in accident repair environment	4.1. Identify units of measurements which are used in accident repair environment 4.2. Give examples of how measurements relate to vehicle accident repair tasks
5. Be able to locate and use vehicle information	5.1. Locate and use vehicle information
6. Be able to use measurements within accident repair tasks	6.1. Demonstrate how to use different measurements when carrying out accident repair tasks

Evidence Requirements
You must be observed by your assessor completing all of the following tasks on at least one occasion.(The evidence requirements can be referenced to other units)
Locating and interpreting vehicle information
Carrying out tasks which incorporates the use of all the forms of measurement below.
<ul style="list-style-type: none"> • length • volume • pressure • temperature • torque • weight
These tasks may be referenced to other units within the qualification.



Unit Content	Assessment Criteria
<p>Identify vehicle information to include:</p> <ul style="list-style-type: none"> • the vehicle identification number • paint type and codes • year of registration <p>Interpret vehicle information to include:</p> <ul style="list-style-type: none"> • referencing information such as: <ul style="list-style-type: none"> • registration plates to the year of the vehicle, colour codes to the paint name and paint type, vehicle body type and trim types 	<p>1.1,1.2</p>
<p>The risks involved with isolating vehicle electrical systems to include:</p> <ul style="list-style-type: none"> • electric shock • burns • fire <p>The processes involved with isolating vehicle electrical systems to include:</p> <ul style="list-style-type: none"> • variations in different manufacturers methods • safety • following instructions and repair methods • recognising own limitations and knowing when to refer the process to someone who is specialised or more experienced • how to recognise of high voltage systems 	<p>2.1, 2.2</p>
<p>A range of vehicle body shapes will include:</p> <ul style="list-style-type: none"> • two and four door saloon • three and five door hatchback • estate • coupe • convertible / cabriolet • sport Utility Vehicle (SUV) • multi-purpose vehicles (MPV) • 4x4 • car based van • pickup • wheelchair accessible vehicles <p>Vehicle panel names and their location will include:</p> <ul style="list-style-type: none"> • floor • sill • A, B, C & D posts • cant rail • roof • chassis • bonnet • boot lid • tailgate • doors • wings • quarter panel • bumper 	<p>3.1, 3.2</p>



<p>Units of measurements which are used in accident repair environment include:</p> <ul style="list-style-type: none">• meters and millimeters• volume• pressure• temperature• torque• weight <p>Examples of how measurements relate to vehicle accident repair tasks to include:</p> <ul style="list-style-type: none">• panel gaps, panel cuts and vehicle body measurements• foundation material and topcoat amounts• mixing ratios• spraying pressure and setting up air operated tools and equipment• flash off and curing temperatures of accident repair materials• spray booth clearance times• the tightening of fastenings to secure vehicle panels and trim• safe working loads on lifting equipment• marking out panel designs	<p>4.1, 4.2</p>
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UNIT REF: L1MV85	UNIT TITLE: VEHICLE MATERIALS AND JOINING METHODS
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Level: 1	GL: 17Hours	TQT: 21 Hours
Overview: This unit will provide the learner with the knowledge and skills to identify and locate a range of vehicle materials, joining methods and chassis layouts.		

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1 Know different vehicle construction materials and their applications	1.1 Identify vehicle construction materials 1.2 State applications for different vehicle construction materials
2 Know different methods of constructing vehicles	2.1 Identify different methods of assembling vehicles 2.2 Identify methods of joining vehicle panels and structures
3 Know the properties of vehicle construction materials	3.1 State the properties of vehicle construction materials
4 Know different types of chassis design	4.1 Identify types of vehicle chassis
5 Be able to use researched repair methods to identify different construction materials	5.1 Demonstrate how to use researched repair methods to identify vehicle materials

Evidence Requirements
You must be observed by your assessor completing all of the following tasks on at least one occasion.
Using research repair methods to identify the:
body panel material
type of plastic used for the bumpers
the joining methods used on the rear quarter panel



Unit Content	Assessment Criteria
<p>Identify vehicle construction materials to include:</p> <ul style="list-style-type: none"> • glass • plastic • mild steel • high strength steel • aluminium • carbon fibre • fibreglass / glass reinforced plastic <p>Applications for different vehicle construction materials to include:</p> <ul style="list-style-type: none"> • glass - vehicle windscreens, roofs and side windows, rear quarter light window • plastic - bumpers and trims • mild steel - body panels and chassis • high strength and ultra-high strength steel - passenger cell, structural panels, and body panels • aluminium - body panels and trim • carbon fibre - body panels and trims • SMC / fibreglass / glass reinforced plastic - vehicle bodies, panels and aftermarket spoilers and body kits 	<p>1.1-1.2</p>
<p>Different methods of assembling vehicles to include:</p> <ul style="list-style-type: none"> • vehicle manufactures - assembly lines and factories • handmade <p>Methods of joining vehicle panels and structures:</p> <ul style="list-style-type: none"> • welding • brazing • a range of mechanical fastenings which are appropriate to secure vehicle panels • clinching, and folded edges • structural adhesives (single and 2 pack) 	<p>2.1-2.2</p>
<p>The properties of vehicle construction materials to include:</p> <ul style="list-style-type: none"> • lightweight • corrosion resistance • strength • joining • moulding • flexibility • behaviour when involves in a collision 	<p>3.1</p>
<p>Identify vehicle chassis types to include:</p> <ul style="list-style-type: none"> • separate chassis / ladder chassis • monocoque 	<p>4.1</p>



UNIT REF: L1MV86	UNIT TITLE: THE RETAIL MOTOR INDUSTRY
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Level: 1	GL: 13 Hours	TQT: 14 Hours
Overview: This unit will provide the learner with the knowledge of organisations within the retail motor industry, in addition to this, the learner will identify trade associations and how to qualify for professional registers.		

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1 Know vehicle repair organisations within the retail motor industry	1.1 Identify the different types of vehicle repair organisations 1.2 Outline the basic structure of a typical vehicle repair business 1.3 Outline the function of a franchised dealership compared with an independent workshop 1.4 State the main procedures which are involved when receiving a vehicle for repair 1.5. Give examples of communication methods in a workshop / dealership and when they may be appropriate 1.6 Indicate sources of information used in vehicle repair
2 Know different trade associations	2.1 Identify a range of trade associations 2.2 State the benefits of trade associations
3 Know the benefits of automotive professional registers	3.1 Identify the purpose of automotive professional registers 3.2 State how to qualify for professional registers 3.3 Outline the benefits of professional registers

Unit Content	Assessment Criteria
Different types of vehicle repair organisations <ul style="list-style-type: none"> • franchise dealer • Independent repairer • fast fit • fleet operator • specialist repairers - SMART repair, automatic transmissions • body repairer • vehicle valeting • breakdown services - AA, RAC Definition of terms to include : <ul style="list-style-type: none"> • approved repairer • multi-franchise dealer • aftersales The basic structure of a typical vehicle repair business to include: <ul style="list-style-type: none"> • manger • assistant manager 	1.1-1.6

- quality control
- reception staff
- vehicle damage assessor
- technician
- valeter
- driver
- parts person
- service staff
- administration
- sales
- cleaners
- supervisors
- security staff

The functions of the main sections of a typical vehicle repair business to include:

- service reception
- bodyshop
- vehicle repair workshop
- MOT bay
- SMART repair
- vehicle recovery
- vehicle valeting
- parts department
- main office
- vehicle sales
- warranty
- how these areas must connect to provide service to the customer

The function and benefits of a Franchise Dealership to include:

- differences between a franchise dealership and independent repairer
- expert staff answering the customers questions
- support from a manufacturer for repairs and warranty work
- experts on a particular brand
- latest deals
- part-exchange deals
- a range of demonstrators models
- finance
- leasing facility / deals

The main procedures when receiving a vehicle for repair to include:

- carrying out pre and post work checks
- organising, issuing and monitoring courtesy vehicles
- locating and using correct documentation and information
- specific procedures for carrying out repairs and servicing
- identifying vehicle specifications and component specifications
- identifying oil and fluid specifications
- identifying and locating specialist equipment and tools
- referencing vehicle and component identification codes
- recording vehicle repairs and maintenance – job cards, completion of service books

Identify procedures for:

- the referral of problems
- the reporting of delays
- authorising additional work which has been identified during repair or maintenance
- accessing help or assistance

Workshop procedures which promote:

- care of the customer's vehicle
- care of the customer's personal possessions
- the vehicle presentation when returning it to the customer



Methods of communication in a workshop/dealership to include:

- word of mouth
- discussions
- passing on information
- carrying out instructions
- drawings/sketches and repair methods
- telephone
- vehicle job cards
- posted communication (i.e. notice boards)
- vehicle manufacturer’s bulletins
- email
- internet
- text
- video conferencing
- internet communication -Skype, FaceTime
- online manufacturers data / subscriptions, for example repair methods

The effectiveness of each of the above forms of communication in terms: conveying information:

- accurately
- enough information
- promptly

Include how distance, location or job responsibility can determine lines of communication

How communication of information may change when given to informed and un-informed people

Outline the importance of:

- listening skills
- asking questions
- requesting assistance or advice
- developing relationships with colleagues
- courtesy
- politeness
- listening skills
- tone and attitude

Sources of information used in vehicle repair to include:

- vehicle and equipment manuals
- parts lists
- diagnostic - scopes and graphs
- internet based
- technical data sheets
- health and safety data sheets
- repair methods
- drawings
- printouts - emissions
- job cards
- checklists

Identify and provide examples of trade associations which represent the motor industry

Benefits of trade associations to include:

- the representation of franchised car and commercial vehicle dealers, independent garages, bodyshops, motorcycle dealers and providers of sales and services to motorists and businesses
- their influence on motor trade matters
- their focus on raising quality and standards throughout the industry
- how they guide and support members
- how they aid in promoting best practice

2.1-2.2



<ul style="list-style-type: none">• their campaigning for the retail motor industry, and includes lobbying parliament / government• how they help and provide advice on customer or employee problems, legal issues, compliance and trading standards• how they assist members with finance, insurance, warranties, energy, tools etc.	
<p>Identify the purpose of automotive professional registers</p> <ul style="list-style-type: none">• professional registers identifies individuals in the automotive industry who have been recognised for their experience, professionalism and commitment to ethical working practices and for continually keeping their knowledge and skills up to date with industry training <p>State how to qualify for professional registers by:</p> <ul style="list-style-type: none">• levels of qualification / achievements• being employed in the motor industry and have a certain amount of industry experience• application• providing evidence of continual learning and development activities to remain on the register• industry professional body membership (post nominal letters) <p>The benefits of professional registers:</p> <ul style="list-style-type: none">• assists in raising standards within the motor trade• displays professional knowledge, skills and competence• provides assurance to customers of a quality service• increases public and consumer confidence in the industry	<p>3.1-3.3</p>



UNIT REF: L1MV06	UNIT TITLE: PREPARATION TO BECOME A VEHICLE DRIVER
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Level: 1	GL: 9 Hours	TQT: 10 Hours
Overview: This unit will provide the learner with the knowledge which learner drivers need to know before they begin to drive. This includes applying for their first driving licence, becoming familiar with the Highway Code, arranging driving lessons and the booking a driving test.		

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1. Know the process of applying for their first driving licence	1.1. State the name given to a 'first' driving licence 1.2. Identify an organisation that deals with driving licence applications 1.3. Identified the age of which a person can apply for their first driving licence 1.4. List reasons why a person may be refused a first licence
2. Know the purpose of the Highway Code	2.1. Outline the purpose of the Highway Code 2.2. Give examples of the content in the Highway Code 2.3. List various formats of the Highway Code
3. Know the meaning of a sample of road safety signs	3.1. State the meaning of a sample of common road signs
4. Know how to identify an approved driving school and instructors	4.1. Give examples of things to consider when choosing a driving school and instructor 4.2. State who to contact regarding poor service or behaviour from: a. A driving school b. Driving instructor
5. Know the content of both the theory and practical driving tests	5.1. Use simple research methods to identify the content and timescale of the: a. Driving theory test b. Practical driving test 5.2. Locate a driving test centre 5.3. List different methods of booking a driving test 5.4. State what documents must be produced at the driving test 5.5. Identify vehicle problems and faults that may prevent it being used for the driving test

Please note: This unit is intended for those individuals that have not yet applied for a driving licence. If a learner has already obtained a full driving licence this cannot be used as evidence to meet the learning outcomes of this unit.



The content below is a guide, therefore, the latest driving standards must be consulted to ensure the information delivered to the learners is accurate and up to date.

Unit Content	Assessment Criteria
<p>Applying for your first driving licence to include:</p> <ul style="list-style-type: none"> • how to apply – various stages / process • provisional licence – restrictions, use of red L plates, supervision when driving (include requirements of the person supervising) and motorways etc. • requirements to qualify for a provisional licence – reasons for being prevented from driving • where to apply for a provisional licence • methods of application – post, online etc. • when / age to apply 	1.1-1.4
<p>Recognise the Highway Code and its content to include:</p> <ul style="list-style-type: none"> • why it is essential – help reduce road casualties • who it applies to - road users and pedestrians • legal implications in the Highway Code – may be prosecuted if disobeyed and used in evidence • content – information for road users, pedestrians, and road signs • formats: audiobook, app, paperback book, etc. <p>Know a range of road signs to include:</p> <ul style="list-style-type: none"> • shapes • colours • meanings • mandatory • warning • regulatory • speed limits 	2.1- 3.1
<p>Driving lessons and learning to drive to include:</p> <ul style="list-style-type: none"> • driver and Vehicle Standards Agency • L plates rules – colour and positioning • finding driving lessons and instructors – display badges, pricing, offers, reputation and courses. • complaints about an approved instructor - Trading Standards Office and Citizens Advice Bureau (for poor service) Driver and Vehicle Standards Agency (for unacceptable behaviour and illegal instructors) • rules for practising with family and friends - see current rules for supervising learner drivers 	4.1, 4.2
<p>The driving test to include:</p> <p>The theory test:</p> <ul style="list-style-type: none"> • how to book a driving test – indicate any additional needs or requirements prior to the test, for example dyslexia. • content of the test – timescale, format and practise material • how to locate a theory test centre – research methods, Government websites <p>The driving test:</p> <ul style="list-style-type: none"> • booking the test – highlight any additional needs or requirements before the test • the purpose of the test – drive safely in different road and traffic conditions, know the Highway Code and meet the standard required. • documents to take to the test – theory test certificate and driving licence • what happens during the test – timescale, manoeuvres, types of instruction, routes and know current driving standards • car rules and suitability if used during a driving test – correct documentation, meet the required speed limits, correctly fitted L plates, no warning lights illuminated (e.g., airbag warning light permanently illuminated), check current requirements 	5.1- 5.5



UNIT REF: L1MV07	UNIT TITLE: PREPARATION FOR RIDING A MOTORCYCLE OR MOPED
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Level: 1	GL: 7 Hours	TQT: 10 Hours
<p>Overview: This unit will provide the learner with the knowledge which learner riders will need to know before they begin to ride a motorcycle on a public highway. This includes applying for their first driving licence, becoming familiar with the Highway Code, arranging riding lessons and booking the riding test.</p>		

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1. Know the process of applying for their first driving licence	1.1 State the name given to a 'first' driving license 1.2 Identify an organisation that deals with driving license applications 1.3 Identified the age of which a person can apply for their first driving license 1.4 List reasons why a person may be refused a first license
2. Know the purpose of the Highway Code	2.1 Outline the purpose of the Highway Code 2.2 Give examples of the content in the Highway Code 2.3 List various formats of the Highway Code
3. Know the meaning of a sample of road safety signs	3.1 State the meaning of a sample of common road signs
4. Know how to identify an approved training body school and instructors	4.1 Give examples of things to consider when choosing an approved training body school and instructor 4.2 State who to contact regarding poor service or behaviour from: a. An approved training body school b. Riding instructor
5. Know the content of both the theory and practical riding tests	5.1 Use simple research methods to identify the content and timescale of the: a. Riding theory test b. Practical riding test 5.2 Locate an approved training body test centre 5.3 List different methods of booking a riding test 5.4 State what documents must be produced at the riding test 5.5 Identify motorcycle problems and faults that may prevent it being used for the riding test



The content below is a guide, therefore, the latest driving standards must be consulted to ensure the information delivered to the learners is accurate and up to date.

Unit Content	Assessment Criteria
<p>Applying for your first driving licence to include:</p> <ul style="list-style-type: none"> • how to apply – various stages / process • provisional licence – restrictions, use of red L plates, no carrying of unqualified passengers and motorways etc. • requirements to qualify for a provisional licence – reasons for being prevented from riding • where to apply for a provisional licence • methods of application – post, online etc. • when / age to apply 	1.1-1.4
<p>Recognise the Highway Code and its content to include:</p> <ul style="list-style-type: none"> • why it is essential – help reduce road casualties • who it applies to - road users and pedestrians • legal implications in the Highway Code – may be prosecuted if disobeyed and used in evidence • content – information for road users, pedestrians, and road signs • formats: audiobook, app, paperback book, etc. 	2.1- 3.1
<p>Know a range of road signs to include:</p> <ul style="list-style-type: none"> • shapes • colours • meanings • mandatory • warning • regulatory • speed limits 	3.1
<p>Riding lessons and learning to ride to include:</p> <ul style="list-style-type: none"> • legal safety equipment for riding a motorcycle, crash helmet, visors and goggle safety standards approval • suggested PPE for riding a motorcycle • Compulsory Basic Training (CBT) , valid duration of CBT • CBT limits of engine capacity and power output restrictions (DL196) • driver and Vehicle Standards Agency • L plates rules – colour and positioning • finding riding lessons and instructors – display badges, pricing, offers, reputation and courses. • complaints about an approved instructor - Trading Standards Office and Citizens Advice Bureau (for poor service) Driver and Vehicle Standards Agency (for unacceptable behaviour and illegal instructors) • rules for practising with family and friends - see current rules for supervising learner riders 	4.1, 4.2
<p>The riding test to include:</p> <p>The theory test:</p> <ul style="list-style-type: none"> • how to book a riding test – indicate any additional needs or requirements prior to the test, for example dyslexia. • content of the test – timescale, format and practise material • how to locate a theory test centre – research methods, Government websites <p>The riding test:</p> <ul style="list-style-type: none"> • booking the test – highlight any additional needs or requirements before the test • purpose of the test – ride safely in different road and traffic conditions, know the Highway Code and meet the standard required. • documents to take to the test – theory test certificate and driving licence • what happens during the test – timescale, manoeuvres, types of instruction, routes and know current riding standards • motorcycle rules and suitability if used during a riding test – correct documentation, meet the required speed limits, correctly fitted L plates, no warning lights permanently illuminated - check current requirements 	5.1- 5.5



UNIT REF: L1MV08	UNIT TITLE: REDUCING RISKS WHEN DRIVING VEHICLES
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Level: 1	GL: 14 Hours	TQT: 17 Hours
Overview: This unit is aimed at pre-learner drivers and novice drivers. The unit content will provide the learner with the knowledge and skills, which will aid in them in reducing risks by preparing the vehicle and taking responsibility for their behaviour when planning to learn to drive and driving vehicles.		

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1 Know different types of vehicle pre-use checks	1.1 Identify pre-use vehicle checks
2 Know the consequences of failing to carryout pre-use vehicle checks	1.2 State the different types of fluid and coolant level checks
3 Know the how to reduce risks when driving vehicles	2.1 Give examples of the consequences of failing to carry out pre-use vehicle checks
4 Be able carryout pre-use vehicle checks	3.1 Outline how to reduce risks when driving vehicles
5 Be able to check and adjust vehicle fluid and coolant levels	4.1 Demonstrate how to carry out pre-use vehicle checks
	5.1 Demonstrate how to check and adjust vehicle fluid and coolant levels

Evidence Requirements
You must be observed by your assessor completing the task listed below on at least one occasion:
Carrying out vehicle pre-use checks and reporting any faults
Checking and adjusting the vehicle fluid and coolant levels



Unit Content	Assessment Criteria
<p>Daily pre-use vehicle checks to include checking the vehicle:</p> <ul style="list-style-type: none"> • is checked in one direction • is sitting square and not leaning • for leaks • panels and trims are secure • exhaust is secure and no excessive noise and smoke • number plates • fuel cap • wiper blades • vehicle loads and loading • restraint systems • lights, indicators, hazard lights and reflectors • windows and mirrors • tyres • fluids • access - doors and locks • instruments, dashboard warning lights and controls • interior - controls, obstructions or loose items • tools, spare wheel and high-visibility vest • breakdown services information <p>Different types of fluid and coolant level checks which are required:</p> <ul style="list-style-type: none"> • power steering • windscreen washers and screen wash • cooling system • engine oil 	<p>1.1 -1.2</p>
<p>Examples of the consequences of failing to carryout vehicle pre-use checks will include:</p> <ul style="list-style-type: none"> • component failure • vehicle breakdowns • poor vision • accidents / collisions • fines and convictions • fatality • leaks • unpredictable vehicle handling • be unnoticed by other road users and pedestrians • being stranded with no breakdown cover and a spare wheel • impact from insecure objects within the vehicle interior 	<p>2.1</p>
<p>How to reduce risks when driving vehicles to include:</p> <ul style="list-style-type: none"> • maintain a calm and appropriate attitude • do not let peer pressure affect driving style • recognising a lack of experience and driving limitations • do not drive after consuming alcohol or drugs • check if any prescribed medication is permitted while driving • avoid distractions such as: mobile phones, loud audio, constant communication with passengers, eating and drinking • overloading with passengers, weight and luggage • taking further training • driving within legal limits • building confidence and anticipation skills when driving in the dark, negotiating bends and overtaking • how to ensure the car is in a safe condition. • learning how to carry out vehicle checks. • planning routes in advance • start with short and less demanding drives • rest when tired to prevent losing concentration • adjust all vehicle mirrors 	<p>3.1</p>



UNIT REF: L1MV09	UNIT TITLE: INTRODUCTION TO MOBILE AUTOMOTIVE REPAIR TRADES
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Level: 1	GL: 10 Hours	TQT: 11 Hours
Overview: This unit will provide the learner with the knowledge of different types of mobile vehicle repair services and their role within the automotive industry.		

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1 Know a range of automotive trades which carry out mobile repairs	1.1 Identify a range of automotive trades which carry out mobile repairs 1.2 Give examples of the services which each of the trades provide
2 Know the benefits of mobile repair trades	2.1 State the advantages of mobile repair services
3 Know the limitations of mobile repair trades	3.1 Outline instances where a mobile repair service may not be recommended

Unit Content	Assessment Criteria
<p>Automotive trades which provide mobile repairs include:</p> <ul style="list-style-type: none"> • tyre fitters • paintless dent removal • accident repair services (body and paint) • mechanical, electrical and trim • valeting, detailing and vehicle interior repairs • autoglazing • breakdown services and recovery services / mechanical work <p>Examples of the services which each trade provides:</p> <ul style="list-style-type: none"> • tyre fitters - repair punctures, wheel balancing, remove and replace vehicle tyres. • paintless dent removal - repair panel minor damage without damaging the paint. • accident repair services (body and paint) - remove and refit body panels, repair panel damage and refinish vehicle panels. • MET - removal and replacement of mechanical, electrical and trim components. • valeting, detailing and vehicle interior repairs - clean and enhance the interior and exterior of vehicle surfaces, repair and refinish minor damage to interior upholstery, carpets and trims. • autoglazing - repair vehicle glass, remove and replace vehicle glass and calibrate advanced driver assistance systems. • breakdown services and recovery services / mechanical work - carry out mechanical repairs, tow and recover vehicles from the roadside. 	1.1-1.2
<p>State the advantages of mobile repair services</p> <ul style="list-style-type: none"> • the customer can see the repair taking place • the customer can communicate directly with the Technician • the repair is carried out at a place convenient to the customer • save the customer time and effort 	2.1
<p>Instances where a mobile repair service may not be recommended</p> <ul style="list-style-type: none"> • size and extent of the repair • the working environment • working space / area • legal implications • power sources • equipment • timescales • types of products used • vehicle construction materials • specialist vehicles 	3.1



UNIT REF: L1MV10	UNIT TITLE: INTRODUCTION TO BUSINESS ENTERPRISE
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Level: 1	GL: 12 Hours	TQT: 22 Hours
Overview: This unit will provide learners with the knowledge and skills required to develop business and enterprise ideas.		

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1 Know the behavioural characteristics and qualities that define an entrepreneur	1.1 Outline the common qualities associated with an entrepreneur 1.2 Outline the common behaviours associated with being an entrepreneur
2 Know how to recognise and resource a business idea	2.1 Give examples of business opportunities 2.2 List the types of resources required to develop a business opportunity 2.3 List the advantages of completing a project plan 2.4 List the types of costs associated with a project
3 Be able to develop a project or business idea	3.1 Discuss and agree a business service or product to develop 3.2 Develop the business idea into a simple project plan 3.3 Discuss the costs and resources associated with the project plan 3.4 Develop the agreed business service or product

Evidence Requirements
You must be observed by your assessor completing all of the activities listed below:
Discussing and agreeing a product or service with possible costs
Developing a simple project plan
Developing a service or product



Unit Content	Assessment Criteria
<p>Qualities include:</p> <ul style="list-style-type: none"> • Business focused • Confident • Creative thinking • Delegation skills • Determination • Independent • Risk taker <p>Behaviours include:</p> <ul style="list-style-type: none"> • Positive attitude • Purpose driven • Influencer • Planner • Evaluator • Leader • Objectiveness • Calculating • Self-imposed standards • Enthusiastic 	<p>1.1, 1.2</p>
<p>Identifying business demand and opportunities from, to include:</p> <ul style="list-style-type: none"> • Local and National newspapers • Radio • TV • Internet and social media • Market research • Friends and family • Post office and newsagents • Tendering • Local and regional maps • Scanning economic and social scenes <p>Resources required to develop a business include:</p> <ul style="list-style-type: none"> • human • finances • environment • tools and equipment • results of market research <p>Advantages of project plans to include estimates of:</p> <ul style="list-style-type: none"> • business demand • income • expenditure • profit • time frames for individual elements of plan • staffing needs • workplace needs • training needs of staff • tracking progress <p>Costs associated with a project to include:</p> <ul style="list-style-type: none"> • income • expenditure • profit • marketing • staffing needs • workplace needs 	<p>2.1, 2.2, 2.3, 2.4</p>

Guidance To Assessors:

Due to the diverse nature of individual projects completed by learners undertaking this unit, the assessor is required to develop the assessment documentation materials to meet with the Assessment Criteria.

Examples Of Projects That May Be Undertaken To Meet With The Assessment Criteria, Learners Produce Plans To Carry Out:

- Winter vehicle inspection in a workshop environment.
- Pre-holiday vehicle inspection in a workshop
- Vehicle exterior / interior valet
- Minor vehicle service
- Paint defect repair
- Supplying vehicle spare parts

Scenario:

Learners work individually or in small groups to identify and agree the activity. Learners discuss and develop plans of the individuals responsibility completing the project including; resources, tools, equipment and materials required to provide the service or product.

Learners produce marketing materials with services or products offered and contact details which are then placed in prominent places to advertise their services or products.

Learners deal with customer enquiries efficiently and effectively, recording the services or products required accurately by the customer.

Learners deal with the customer professionally when the service or product, confirming services or products required and personal contact details. **(vehicle is checked by both learner and customer regarding a pre-work inspection).**

Learners complete the services or provide the products and appropriate documentation as per customer directions to a good standard of work.

Learners are polite and courteous when the customer is provided with the service or product, **(a post work check is carried out by both parties, and any queries are dealt with effectively).**

A Selection Of The Following Assessment Types May Be Used To Meet The Evidence Requirement's:

- Direct assessor observations
- Products of work completed by the learner: job cards, inspection check lists
- Professional discussions with assessor / customer
- Knowledge questions produced by the assessor
- Group work activity reports completed by learners
- Witness testimonies completed by customers

Please Note:

The assessor will need to ensure the evidence provided in the learner's portfolio for this unit meets all of the Assessment Criteria, the evidence must be cross referenced to the Assessment Criteria.

AC	Guidance	Examples of Evidence Generated
3.1	Learner makes a questionnaire to gauge interest in the service activity, includes: type of service required, price prepared to pay, day and time they would like the service, the type of service required.	<ul style="list-style-type: none"> • Completed questionnaires.
3.2	Learner develops the business solution in response to the questionnaire, service required, potential: volumes of potential customers, day and time to provide the service, income expected, costs per service incurred, profit from the activities. Learner develops the marketing materials and promotes the service activities to the potential audience. Materials include contact details of how to make an appointment.	<ul style="list-style-type: none"> • Learners analysis of results of the questionnaire • Leaflet the learner has produced
3.3	The learners plans highlight the services required, the number of customers requiring the service, associated costs and resources needed to plan for the demand	<ul style="list-style-type: none"> • Learner calculates the basic forecasted income, expenditure and profit; and the resources from the enquiries resulting from the marketing activity
3.4	The learner develops the agreed business service or product, liaises with the relevant assessor to discuss AC3.2, once the plans are agreed the learner confirms the resources required and contacts the customers to confirm the service or product required. Learner completes the service activity / provides the product. On completion of the activities, the learner analyses the results of the activity and produces a basic report.	<ul style="list-style-type: none"> • Copies of the workshop booking system. • Lists of products supplied • Pre and Post vehicle inspections. • Assessor observation report • Learner analysis of the tasks completed. • Witness testimony from the customer



<p>The processes involved in repairing accident damaged vehicles will include:</p> <ul style="list-style-type: none">• vehicle damage assessment• pre-cleaning and valeting• removing and replacing mechanical, electrical and trim components / fastenings• using lubricants, vehicle fluids and coolants• body / panel repair and replacement• vehicle panel and paint preparation• colour matching and paint mixing• applying adhesives, sealers, foundation materials, topcoats, anti-corrosion materials, waxes and compounds• working on high voltage systems - electric and hybrid vehicles <p>Highlight the precautions to be taken for each of the above processes</p> <p>Additional precautions which will aid in reducing risks and promote safe working to include:</p> <ul style="list-style-type: none">• participate in training and development• working within limitations• using researched repair methods	3.1, 3.2
<p>Accessing accident repair health and safety legislation updates:</p> <ul style="list-style-type: none">• subscriptions to recognised health and safety websites• joining trade associations• subscribing to vehicle researched repair methods• liaising with product manufacturers and accessing their websites• attending industry conferences and working groups	4.1



UNIT REF: L1MV14	UNIT TITLE: TOOLS, EQUIPMENT AND MATERIALS FOR ACCIDENT REPAIR
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Level: 1	GL: 19	TQT: 23 Hours
Overview: This unit will provide the learners with the knowledge and skills to select, check and use the appropriate tools, equipment and materials when repairing damaged vehicle bodies.		

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1. Know a range of accident repair tools and equipment	1.1. Identify a range of accident repair tools and equipment
2. Know how to check tools and equipment prior to use	2.1. State how to access the manufacturers' information for the tools and equipment 2.2. Outline the type of checks which are carried on the tools and equipment prior to use
3. Know a range of accident repair materials / consumables	3.1. Identify a range of accident repair materials /consumables
4. Know how to use a range accident repair materials /consumable	4.1. Identify how to access information relating to accident repair materials 4.2. Outline how to use a range accident repair materials / consumables
5. Be able to select and check a range of accident repair tools and equipment	5.1. Demonstrate how to select and check a range of accident repair tools and equipment 5.2. Demonstrate how to use a range of accident repair tools and equipment
6. Be able to use a range of accident repair materials / consumables	6.1. Demonstrate the use of a range of accident repair materials/consumables

Evidence Requirements
Your assessor must observe you completing the following tasks on one occasion: (Note: the tasks can be referenced to other units within the qualification)
Carrying out checks and using three of the following tools:
<ul style="list-style-type: none"> • ball-peen hammer • sockets • ratchet • panel hammer • torque wrench • clamps / grips • masking dispenser • sanders • polisher • spray gun • pressure washer
Carrying out checks and using two of the following pieces of equipment:
<ul style="list-style-type: none"> • spray booth • infrared drying equipment • spray gun cleaner • air regulator / filter • lifting equipment • panel stands • battery pack or charger • MAG welding equipment • parts cleaner • axel stands • compressor • dust extraction units



Evidence Requirements Cont.
Using two of the following materials / consumables (use of product data sheets must be observed where relevant)
<ul style="list-style-type: none"> • panel / paint degreasing agents • lubricants • vehicle fluids and/or coolants • masking materials • body filler or stopper • weld through primers • seam sealers • paint foundation materials • paint topcoats • anti-corrosion materials • cleaning and valeting products

Unit Content	Assessment Criteria
<p>Identify a range of accident repair tools and equipment to include:</p> <p>Tools:</p> <ul style="list-style-type: none"> • ball-peen hammer • a range of appropriate hand tools (level 1) • sockets • dollies • panel hammers • torque wrench • clamps / grips • ratchet • masking dispenser • sanders • polisher • spray gun • pressure washer • panel gap gauges • cutters and grinders <p>Equipment:</p> <ul style="list-style-type: none"> • spray booth • infrared drying equipment • spray gun cleaner • air regulator / filter • lifting equipment • panel stands • battery pack or charger • MAG welding equipment • parts cleaner • axel stands • compressor • dust extraction units 	1.1
<p>State how to access the tools and equipment manufacturers' information to include:</p> <ul style="list-style-type: none"> • online access • manuals • technical helplines • sales and service representatives <p>Outline the type of checks which are carried on tools and equipment prior to use to include:</p> <ul style="list-style-type: none"> • secure and on even ground • leaks • damage to pipes, cables or connections 	2.1-2.2



<ul style="list-style-type: none">• evidence of damage or abuse• the equipment is appropriate for the task• certification / 'tested' stickers are visible• filters are serviceable / clean• guards are in place• service records are up to date• stop / emergency cut off buttons or devices are working and within the operators reach• tools are lubricated where necessary	
<p>Identify a range of accident repair materials /consumables to include:</p> <ul style="list-style-type: none">• panel / paint degreasing agents• lubricants• vehicle fluids and/or coolants• masking materials• body filler and/or stopper• weld through primers• seam sealers• paint foundation materials• paint topcoats• anti-corrosion materials• cleaning and valeting products	3.1
<p>Identify how to access information relating to accident repair materials / consumables to include:</p> <ul style="list-style-type: none">• product manufacturers websites• manufacturers' representatives• manufacturers' online training videos• technical helplines• promotional brochures• product catalogues• trade shows• product demonstrations <p>Use product and safety data sheets to outline how to use a range of accident repair materials / consumables to include:</p> <ul style="list-style-type: none">• the purpose and limitations of the materials / consumables• the safe use of the materials / consumables• how to prepare the materials / consumables• tools and techniques for successful use and application• the clean-up processes• drying processes• waste disposal procedures	4.1-4.2



UNIT REF: L1MV15	UNIT TITLE: HEALTH AND SAFETY PRACTICES IN A VALETING AND DETAILING ENVIRONMENT
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Level: 1	GL: 13 Hours	TQT: 18 Hours
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Overview: This unit further develops the learner’s awareness of Health and Safety in the workplace by putting into practice the knowledge gained from unit L1MV01. Learners will further develop the knowledge in identifying hazards and risks, and be able to: demonstrate safe working practices using a variety of tools, equipment and consumable materials whilst carrying out vehicle valeting and detailing tasks.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1 Know the hazards and risks associated with working in a valeting and detailing environment.	1.1 List the typical hazards and risks associated with: a. vehicle valeting and detailing b. using cleaning materials 1.2 Identify where to find the health and safety information relating to cleaning products 1.3 State good housekeeping routines associated with vehicle valeting and detailing tasks
2 Know how to work safely in the valeting and detailing environment	2.1 Identify the PPE and VPE used in the valeting and detailing environment 2.2 Identify the safe working practices to be used when carrying out valeting and detailing.
3 Be able to use appropriate health and safety practices	3.1 Use appropriate safe and healthy working practices when carrying out vehicle valeting and detailing. 3.2 Demonstrate good housekeeping practices when working in valeting and detailing environment
4 Be able to use appropriate equipment and consumable materials in line with health and safety guidelines	4.1 Use vehicle valeting equipment in line with health and safety practices and manufactures instructions 4.2 Use valeting and detailing materials following relevant health and safety guidelines and manufactures instructions
5 Be able to work safely when carrying out vehicle valeting and detailing tasks.	5.1 Use appropriate PPE and VPE when carrying out vehicle valeting and detailing tasks 5.2 Use appropriate and safe working practices when carrying out vehicle valeting and detailing tasks.

Evidence Requirements
You must be observed by your assessor completing all of the activities listed below on at least one occasion: (Note: evidence for this unit can be referenced to other appropriate units within the qualification)
Using safe and healthy working practices when carrying out vehicle valeting and detailing tasks.
Demonstrating good housekeeping practices when carrying out vehicle valeting and detailing tasks.
Using valeting tools and equipment in line with health and safety practices and manufactures instructions.
Using appropriate valeting materials following relevant health and safety guidelines and manufactures instructions.
Using appropriate PPE and VPE when carrying out vehicle valeting and detailing tasks.
Using appropriate and safe working practices when carrying out vehicle valeting and detailing tasks.



Unit Content	Assessment Criteria
<p>Common hazards and risks associated with vehicle valeting and detailing tasks, include:</p> <ul style="list-style-type: none"> • slip and trip hazards, hazardous substances, electric shock, poor ventilation, battery charging, falling objects, movement of heavy loads <p>Common hazards and risks associated with cleaners to include:</p> <ul style="list-style-type: none"> • flammable liquids, skin irritation, chemical burns, swallowing fluids, fluid in eyes, fire hazards <p>Know where to find Health and Safety information to include:</p> <ul style="list-style-type: none"> • on packaging of chemicals • manufactures websites • notices issued by local authority's • Health and Safety Executive Web site (HSE) • risk assessments <p>Good housekeeping practices to include:</p> <ul style="list-style-type: none"> • keeping work area clean of debris • floors cleaned • chemicals stored correctly • bins emptied • correct disposal of waste material • prompt disposal and storage of waste materials • prompt cleaning of spillages • regular cleaning of work area • storage of tools and equipment • correct storage of flammable liquids 	<p>1.1, 1.2, 1.3</p>
<p>PPE and VPE for the valeting and detailing environment include:</p> <ul style="list-style-type: none"> • overalls • safety boots • skin protection • eye protection • ear protection • dust masks • steering wheel covers • floor mats • seat covers <p>Health and safety practices to include:</p> <ul style="list-style-type: none"> • use of PPE and VPE • location of fire extinguishers • following safety instructions • correct use of tools and equipment <p>Checking appropriate tools and equipment to include:</p> <ul style="list-style-type: none"> • electrical equipment – blown fuses, damaged cables • identifying unsafe hand tools - damaged hand tools • identifying unsafe equipment – broken / missing components 	<p>2.1, 2.2</p>



UNIT REF: L1MV16	UNIT TITLE: TOOLS, EQUIPMENT AND CONSUMABLE MATERIALS USED FOR VALETING AND DETAILING
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Level: 1	GL: 15 Hours	TQT: 21 Hours
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Overview: This unit will provide learners with the knowledge and skills to be able to select, check and use tools and equipment used for valeting and detailing, the unit also covers the appropriate selection and use of consumable materials used valeting and detailing activities.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1 Know a range of tools and equipment used in valeting and detailing	1.1 Identify a range of valeting and detailing tools and equipment 1.2 Outline how to check valeting and detailing tools and equipment prior to use 1.3 State how to use valeting and detailing tools and equipment correctly
2 Know a range of consumable materials used in valeting and detailing	2.1 Identify consumable materials used in valeting and detailing 2.2 Locate information relating consumable materials used in valeting and detailing 2.3 State how to use consumable materials used in valeting and detailing
3 Be able to select, check and use tools and equipment used in valeting and detailing	3.1 Demonstrate how to select and check valeting and detailing tools and equipment prior to use 3.2 Demonstrate how to use valeting and detailing tools and equipment safely
4 Be able to select and use consumable materials used in valeting and detailing	4.1 Select and use consumable materials to valet and detail vehicles

Evidence Requirements
You must be observed by your assessor completing all of the activities listed below on at least one occasion: (Note: the tasks can be referenced to other appropriate units within the qualification)
Selecting and checking valeting and detailing tools and equipment prior to use.
Using valeting and detailing tools and equipment safely.
Selecting and using consumable materials used in valeting and detailing.



Unit Content	Assessment Criteria
<p>Tools and equipment for valeting and detailing include:</p> <ul style="list-style-type: none"> • water hose (mains pressure) • cleaning brushes for paintwork • wheel brushes or scrubbers • sponges and buckets • chamois leather • polishing cloth • pressure washer • air lines and tools – blow guns • portable electric tools – vacuum cleaners, machine polishers, extension leads, component cleaner • select appropriate and necessary equipment for task • steps and ladders <p>Outline the type of checks which are carried on tools and equipment prior to use to include:</p> <ul style="list-style-type: none"> • secure and on even ground • leaks • damage to pipes, cables or connections • evidence of damage or abuse • the equipment is appropriate for the task • certification / 'tested' stickers are visible • guards are in place • service records are up to date • stop / emergency cut off buttons or devices are working and within the operators reach <p>Using tools and equipment to include:</p> <ul style="list-style-type: none"> • using manufacturer's instructions • safe working procedures • safe working limits • specialist training requirements • legal requirements • reporting of defects 	<p>1.1, 1.2, 1.3</p>
<p>Identify a range of consumable materials used in valeting and detailing to include:</p> <ul style="list-style-type: none"> • shampoo • polish • tyre blackener • glass cleaner • tar remover • chrome cleaner • alloy wheel cleaner • upholstery cleaner • shampoo • glass cleaner • dashboard cleaner • carpet shampoo <p>Locating information relating to consumable materials used in valeting and detailing include:</p> <ul style="list-style-type: none"> • product manufacturers websites • manufacturers' representatives • manufacturers' online training videos • technical helplines • promotional brochures • product catalogues • trade shows • product demonstrations <p>Using consumable materials used in valeting and detailing to include:</p> <ul style="list-style-type: none"> • access and use of product safety information • the purpose and limitations of the materials and consumables • how to prepare the materials and consumables • the safe use of the materials and consumables • tools and techniques for safe use • the clean-up processes • waste disposal procedures 	<p>2.1, 2.2, 2.3</p>



UNIT REF: L1MV53	UNIT TITLE: SPRAY GUNS AND THEIR COMPONENTS
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Level: 1	GL: 18 Hours	TQT: 22 Hours
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Overview: This unit will enable the learners to identify different types of spray guns, their components and how a spray gun works. The learners will dismantle spray guns and locate minor faults.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1. Know different types of spray guns	1.1. Identify the different types of spray guns 1.2. State a variety of applications for different spray guns
2. Know how a spray gun works	2.1. Identify the main components of a spray gun 2.2. Outline the function of spray gun components 2.3. Identify spray gun component faults 2.4. State how the operation of spray guns differs between types 2.5. State how spray gun component faults affect the performance of a spray gun
3. Be able to remove and refit spray gun components	3.1. Demonstrate the removal of spray gun components 3.2. Identify faulty or damaged spray gun components 3.3. Locate components within the spray gun manufacturers information 3.4. Refit spray gun components without causing damage

Evidence Requirements
You must be observed by your assessor completing all of the following tasks on at least one occasion.
Removing and refitting spray gun components
Identifying faulty or damaged spray gun components
Locating components within the spray gun manufacturers information



Unit Content	Assessment Criteria
<p>Different types of spray guns to include:</p> <ul style="list-style-type: none"> • spot repair • pressure feed • gravity feed • suction feed <p>Applications for different types of spray guns to include:</p> <ul style="list-style-type: none"> • minor / small repairs • intricate trims • areas of restricted access • commercial vehicle cabs and chassis • large areas • light vehicles • motorcycles • vehicle body apertures 	<p>1.1-1.2</p>
<p>The main components of a spray gun to include:</p> <ul style="list-style-type: none"> • air cap • needle and spring • cups including disposable liner types • fluid control valve • fan control • trigger • fluid nozzle / tip • air valve • fluid packing nut • the gun body, varying designs and the materials used in its construction <p>Spray gun components to include:</p> <ul style="list-style-type: none"> • the relationship between spray gun components • how to identify and reference component sizes and markings <p>The function of spray gun components to include</p> <ul style="list-style-type: none"> • atomising • metering and regulating material flow • regulating and controlling air flow • spray pattern • flow rate depending on the material viscosity • turning the air cap to alter the fan orientation / direction <p>Spray gun component faults to include:</p> <ul style="list-style-type: none"> • needle wear, tip damage and bending • damaged to the air cap horns and blockages • different types of fluid tip damaged • cracked and damaged fluid cups • blocked vents • damaged and leaking seals • damage to the gun body • sticking and seized controls <p>State how the operation of spray guns differs between types to include:</p> <ul style="list-style-type: none"> • the basic principles of atomisation • how the paint is fed (compare pressure feed, gravity feed and suction feed) <p>How component faults may affect the performance of a spray gun to include:</p> <ul style="list-style-type: none"> • leakage - both compressed air and paint • drips • fluttering spray • spray pattern • starved paint flow • paint finish defects • the gun will not spray • bubbles / blow-back into the cup or pot liner 	<p>2.1-2.5</p>



UNIT REF: L1MV59	UNIT TITLE: CLEANING AND MAINTAINING A SPRAY GUN
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Level: 1	GL: 16 Hours	TQT: 21 Hours
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Overview: This unit will provide the learners with the knowledge and skills to clean and maintain a spray gun.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1. Know how to clean and maintain a spray gun	1.1. Identify sources of information which supports the cleaning and maintenance of a spray gun 1.2. Identify tools and equipment which aids the cleaning of a spray gun 1.3. Outline the cleaning process of a spray gun 1.4. Identify the correct and incorrect spray gun fan patterns 1.5. State the cause of incorrect spray patterns 1.6. Outline how to rectify incorrect spray patterns 1.7. Identify spray gun maintenance tasks
2. Be able to clean and maintain a spray gun	2.1. Use spray gun manufacturers information to support the cleaning and maintenance process 2.2. Dismantle the main spray gun components 2.3. Use tools and equipment to assist the cleaning process 2.4. Reassemble the spray gun 2.5. Test the spray pattern 2.6. Rectify any faults which have caused an incorrect spray pattern 2.7. Replace any faulty components and seals 2.8. Dispose of any waste material, safely and legally

Evidence Requirements
You must be observed by your assessor completing the following tasks on at least one occasion.
Cleaning and maintaining a spray gun
Testing a spray gun
Rectifying two of the following spray pattern faults:
• heavy bottom
• heavy top
• heavy left or right side
• heavy centre
• split fan pattern



Unit Content	Assessment Criteria
<p>Sources of information which supports the cleaning and maintenance of a spray gun to include:</p> <ul style="list-style-type: none"> • the spray gun manufacturers' set up and maintenance information • online information • spray gun manufacturers service bulletins / technical information • exploded diagrams • parts identification chart <p>Tools and equipment which aids the cleaning of a spray gun to include:</p> <ul style="list-style-type: none"> • spray gun cleaning machine • spray gun cleaning kit (expand on the contents of the kit) • air duster / blower • the spray gun manufacturers supplied tools <p>The cleaning process of a spray gun to include:</p> <ul style="list-style-type: none"> • methods of avoiding static build up, for example, use a dampened cloth or antistatic type wipes for manual cleaning in a hazardous area • operating cleaning equipment • pre-washing • dismantling processes • cleaning the air cap and fluid nozzle • cleaning the exterior with suitable brushes • cleaning the fluid passages • removing material from the cup • flushing with gun cleaning agents • drying the gun fluid passages and body • the reassembly processes • methods of testing the spray gun • methods of cleaning to be avoided, such as immersing the spray gun in cleaning solutions because this will cause damage and reduce the life of the spray gun. <p>Spray gun fan patterns to include:</p> <ul style="list-style-type: none"> • the correct pattern (this may vary depending on the manufacturer) • heavy top and bottom • heavy sides • heavy centre • split fan pattern • jerky or fluttering spray <p>The cause of incorrect spray patterns to include:</p> <p>Heavy top, bottom and sides</p> <ul style="list-style-type: none"> • the air cap horn holes blocked • obstruction on the top or bottom of fluid nozzle • the air cap and/or nozzle seat dirty • dirt or damage on the left or right side of the fluid nozzle <p>Heavy centre:</p> <ul style="list-style-type: none"> • the spreader / fan control requires adjustment • the pressure is too low • the material is too thick <p>Split fan pattern:</p> <ul style="list-style-type: none"> • air pressure is set too high • the fluid adjustment is incorrect • incorrect fan adjustment <p>Jerky or fluttering spray</p> <ul style="list-style-type: none"> • loose or damaged fluid nozzle • damaged fluid nozzle seat or seal • paint material level is running low • the spray gun is being positioned at an extreme angle and affecting the material flow • an obstruction in the fluid passage • loose fluid needle packing nut • damaged fluid needle packing 	<p>1.1-1.7</p>



How to rectify incorrect spray patterns to include:

- spray gun adjustments
- pressure adjustments
- cleaning
- replacement parts
- viscosity adjustments
- removing blockages

Spray gun maintenance tasks to include:

- lubrication if it is recommended by the manufacturer
- checking parts for wear
- cleaning
- replacing components
- replacing seals
- checking the tightness of components - take precautions against overtightening



UNIT REF: ET136	UNIT TITLE: ELECTRIC VEHICLE AWARENESS
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Level: 1	GL: 4	TQT: 8
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Mapping: Based on IMI SSC Electric Vehicle NOS 2011

Rationale: This unit is designed for those people who may encounter electric/hybrid vehicles and require safety awareness. It is suitable for non-technical people such as managers, valeters, parts, sales staff; and electric vehicle drivers. It contains the **knowledge** of the dangers surrounding electric/hybrid vehicles and the precautions to avoid potential injury.
Note: *This is a knowledge unit only and does not deem someone competent to work on the high energy electrical system.*

LEARNING OUTCOMES	CONTENT:
The Learner will:	The Learner should be taught:
<p>1. Know about the types of electric vehicles available</p>	<p>1.1 How to identify electric vehicles to include:</p> <ul style="list-style-type: none"> a. construction b. badging <p>1.2 Examples of the electrically propelled vehicles that are currently available to include:</p> <ul style="list-style-type: none"> a. hybrid incl. plug in b. electric c. two wheel moped/scooters d. commercial vehicles e. passenger transport f. car <p>1.3 The main differences between hybrid and electric vehicles to include:</p> <ul style="list-style-type: none"> a. layouts b. components c. batteries d. motors <p>1.4 Examples of the typical voltages used for a range of electrical vehicles to include:</p> <ul style="list-style-type: none"> a. 100-650V
<p>2. Understand the hazards around high energy electrical systems</p>	<p>2.1 The basic hazards associated with high energy electricity to include:</p> <ul style="list-style-type: none"> a. electric shock b. burns c. arc flash d. arc blast e. fire f. explosion g. chemicals h. gases/fumes



	<p>2.1 The hazards that may be present in the event of an accident or suspected overcharging to include:</p> <ul style="list-style-type: none">a. electric shockb. burnsc. arc flashd. arc blaste. firef. explosiong. chemicalsh. gases/fumes <p>2.4 Potential hazards when making connections for charging electric vehicles</p>
<p>3. Know how to work safely around electric vehicles</p>	<p>3.1 Safety precautions to be taken before approaching and working on or around electric vehicles to include:</p> <ul style="list-style-type: none">a. risk assessmentb. awareness of damaged componentsc. dealing with leakaged. isolation of high energy electrical systeme. safe connection when charging <p>3.2 How to identify high energy cabling and associated components to include:</p> <ul style="list-style-type: none">a. colouringb. warning symbols <p>3.3 How the vehicle may be safely charged using an external source.</p>



UNIT REF: L1MV51	UNIT TITLE: VEHICLE PAINT PREPARATION
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Level: 1	GL: 13 Hours	TQT: 18 Hours
Overview: This unit will provide the learner with the knowledge and skills to prepare a previously painted steel surface using hand and machine sanding methods.		

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1. Know how to clean previously painted panels, before, during and after the preparation process	1.1. Outline the appropriate methods of cleaning a previously painted vehicle panel: <ol style="list-style-type: none"> a. before starting the paint preparation b. during the paint preparation process c. after completing the preparation of the surface 1.2. Identify different cleaning agents and the types of consumables used in the cleaning process
2. Know how to prepare a previously painted surface for the next stage of the repair process	2.1. Identify different methods which can be used to determine that the panel is made of steel 2.2. Define how the preparation process may vary depending on the condition of the painted surface and the type of paint 2.3. State the tools and equipment which are required to prepare painted vehicle panels 2.4. Give examples of how to protect vehicle panels and trim which are not being prepared 2.5. Define different sanding methods and paint preparation techniques 2.6. State a selection of abrasives which are required to prepare previously painted panels and minor damage
3. Be able to clean previously painted panels before, during and after the preparation process	3.1. Demonstrate how to clean previously painted panels before, during and after the preparation process
4. Be able to prepare a previously painted surface for the next stage of the repair process	4.1. Use different methods to determine that the panel is made of steel 4.2. Select the appropriate tools and equipment which are suitable to prepare the painted panel 4.3. Demonstrate different methods of protecting vehicle panels, which are not part of the preparation process 4.4. Use the appropriate tools to prepare vehicle paintwork 4.5. Select and use a variety of abrasives suitable for the preparation process 4.6. Demonstrate different sanding and preparation techniques 4.7. Check the quality of the preparation and confirm that the job can progress to the next stages



5. Be able to clean the work area and leave it in a safe condition	5.1. Use appropriate equipment and methods to clean the work area and leave it in a safe condition
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Evidence Requirements
You must be observed by your assessor on at least one occasion preparing a previously painted panel, to include:
Cleaning previously painted panels before, during and after the preparation process
Selecting and using the appropriate abrasives
Using hand and machine sanding methods

Unit Content	Assessment Criteria
<p>The appropriate methods of cleaning a previously painted vehicle panel may include:</p> <ul style="list-style-type: none"> • a vehicle prewash and cleaning areas which hold dirt. • methods of drying the vehicle and removing water ingress from behind trims • the use of water and solvent-based degreasers • removing dust with: an air duster, static removal gun and tack cloths <p>Different cleaning agents and the types of consumables used in the cleaning processes may include:</p> <ul style="list-style-type: none"> • traffic film removers • degreasers • clay bar • tar removers • shampoos • wheel cleaners • bird droppings remover or wipes 	1.1, 1.2
<p>The different methods used to determine that the panel is made of steel</p> <ul style="list-style-type: none"> • consulting vehicle researched repair methods • simple magnet test <p>The preparation process may vary depending on the condition of the painted surface and the type of paint. This may include:</p> <ul style="list-style-type: none"> • minor paint defects and damage may be present • preparation for a blending process • the paint may be aged and / or affected by the environment • there may be paint reactions or degrading of the surface <p>The tools and equipment which is required to prepare painted vehicle panels:</p> <ul style="list-style-type: none"> • cleaning cloth and degreaser dispensers • extraction unit • sanding blocks • machine sanders • masking material dispensers • an air duster or static removal gun • an air line and compressor <p>Examples of how to protect panels and trim which are not being prepared include:</p> <ul style="list-style-type: none"> • masking sheeting and paper • covers • vehicle protection kits • tapes 	2.1, 2.6



Unit Content contd.	Assessment Criteria
<p>Define sanding and paint preparation techniques to include:</p> <ul style="list-style-type: none">• machine sanding• the use of sanding blocks• feather edge techniques• preparing awkward areas• how the sanding machine selection depends on the size of the repair and the appropriate size of the sanding orbit• when to use interface pads and different shaped and sized blocks• variations on different sanding blocks• methods to prepare awkward areas, tight corners and panel creases (under swages and panel lines) <p>Abrasives which are required to prepare previously painted panels and minor chips or scratches may include:</p> <ul style="list-style-type: none">• scuff pads / 'scotchbrite'• liquid abrasives• P240 - P500 abrasives• foam-backed abrasives• methods of extraction incorporated in the abrasive material• types: roll, sheet and discs	2.1, 2.6



UNIT REF: L1MV52	UNIT TITLE: APPLICATION OF A TOPCOAT AND MINOR DEFECT RECTIFICATION
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Level: 1	GL: 19 Hours	TQT: 26 Hours
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Overview: The unit will provide the learner with the knowledge and skills to apply a two-pack direct gloss topcoat. The paint will be applied to a small vehicle panel in a vertical position and in addition to this; the learner will rectify any minor defects which are present in the final finish.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1. Know how to set up spraying equipment	1.1. Identify information which will aid the setting up of spraying equipment 1.2. State the checks which are required when setting up spraying equipment 1.3. Outline how to make adjustments to spraying equipment
2. Know how to apply a direct gloss topcoat	2.1. Identify information which will support the application of a direct gloss topcoat 2.2. State how to mix a direct gloss topcoat 2.3. Outline how to apply a direct gloss topcoat
3. Know how to rectify minor paint defects	3.1. Identify a range of paint defects 3.2. State how to rectify minor paint defects
4. Be able to set up spraying equipment	4.1. Use information which will aid the setting up of spraying equipment 4.2. Carry out checks to spraying equipment prior to use 4.3. Adjust the spraying equipment to achieve an acceptable finish
5. Be able to apply a direct gloss topcoat	5.1. Use information to support the application of a direct gloss topcoat 5.2. Mix the topcoat in accordance with the manufacturers recommendations 5.3. Apply a direct gloss topcoat to a small vehicle panel
6. Be able to rectify minor paint defects	6.1. Rectify minor paint defects without causing permanent damage to the final finish

Evidence Requirements
You must be observed by your assessor completing all of the following tasks on at least one occasion.
Use manufacturers information to aid the application of the topcoat
Applying a direct gloss topcoat to a small vehicle panel in a vertical position
Rectifying at least two of the listed paint defects:
<ul style="list-style-type: none"> • Minor craters / fish eyes • Run / sag • Dirt inclusions • Dry spray • Orange peel



Unit Content	Assessment Criteria
<p>The information which will aid the setting up of spraying equipment:</p> <ul style="list-style-type: none"> • the equipment manufacturers instructions for spray guns, compressors, air filtration systems and spray booths • paint data sheets <p>The checks which are required when setting up spraying equipment will include:</p> <ul style="list-style-type: none"> • examination and identification of air hose sizes and their connection type • examination of the equipment for faults and defects • locating and rectifying any leakages • compressed air / supply pressures • ensuring the equipment is suitable for the application process • identifying the spray equipment set up <p>The adjustments to spraying equipment will include:</p> <ul style="list-style-type: none"> • pressure • spray pattern • changing the set up • fluid control • fan - vertical or horizontal 	<p>1.1, 1.2, 1.3</p>
<p>The information which will support the application of a direct gloss topcoat will include:</p> <ul style="list-style-type: none"> • technical data sheets • the paint manufacturers online information <p>Mixing a direct gloss topcoat will include:</p> <ul style="list-style-type: none"> • protecting the work area • paint manufacturers online information • technical data sheets • estimating the amounts of mixed paint • paint preparation - stirring • viscosity measurements • mixing by weight and volume • mixing cups, containers, mixing sticks, mixing 'stirrers' • hardeners / activators and thinners and their relationship between temperature and the size of the repair • filtering the paint <p>The application of a direct gloss topcoat will include:</p> <ul style="list-style-type: none"> • connecting the air hoses • testing and adjusting the spray pattern at a measured distance • spraying technique and distance • methods of applying the first coat • methods of applying the final coat • coverage of the panel edges • paint thickness and the consequences of the extremes (too much or not enough build) • checking the quality of the finish • how to avoiding defects 	<p>2.1, 2.2, 2.3</p>
<p>A range of paint defects will include:</p> <ul style="list-style-type: none"> • minor craters / fish eyes • run / sag • dirt inclusions • dry spray • orange peel <p>The rectification of minor paint defects will include:</p> <ul style="list-style-type: none"> • protecting areas of the panel and vehicle during the rectification process, such as unaffected areas, edges and swages • using suitable abrasive papers • applying rubbing compounds and polishes by machine and by hand 	<p>3.1, 3.2, 3.3</p>



UNIT REF: L1MV54

UNIT TITLE: SPRAYING TECHNIQUES

Level: 1

GL: 19 Hours

TQT: 24 Hours

Overview: This unit will provide the learners with the knowledge and skills in using a range of spraying techniques for different applications.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1. Know a range of spraying techniques	1.1. State how spraying distance, speed, and gun angle can affect the application of painting materials 1.2. Outline the importance of accurately controlling the spray gun trigger 1.3. State how to adjust the spray gun to suit different applications 1.4. Outline spraying techniques which may be used in a variety of situations 1.5. Identify paint defects which are associated with incorrect spraying techniques
2. Be able to use different spraying techniques	2.1. Demonstrate how to adjust a spray gun to suit the task 2.2. Demonstrate different spraying techniques

Evidence Requirements

You **must be observed by your assessor** completing all of the following tasks.

Adjusting the spray gun pattern

Using the spray gun to apply paint materials to at **least 3** of the following panels.

- vertical panels
- horizontal panels
- curved or cylindrical panels
- internal and external corners of a panel
- intricate and restricted areas of a panel
- joining adjacent panels



Unit Content	Assessment Criteria
<p>Recommendations for spraying distance, speed and gun angle to include:</p> <ul style="list-style-type: none">• consistent distance and speed• how spraying distance determined by the spray gun manufacturer• distance guides and aids• the relationship between speed, the spray gun set up and spraying distance• holding the gun 90° to the panel surface <p>The importance of accurately controlling the spray gun trigger to include:</p> <ul style="list-style-type: none">• the technicians ability and accuracy to control the flow of the refinishing material• reducing material build up• reducing overspray• controlling the size of the repair• joining with other adjacent panels• overlapping on large panels <p>Adjusting the spray gun to suit different applications to include:</p> <ul style="list-style-type: none">• fan shape• spraying pressure• pot angle• fan direction <p>Spraying techniques which may be used in a variety of situations to include:</p> <ul style="list-style-type: none">• tilting the spray gun on its side when spraying panel edges (caution with gravity feed spray guns)• arching when blending (brief overview)• the technicians body movement and stance• planning the task, so a wet edge and access is maintained for each coat• internal corners and external corners - how to get even coverage• panel flanges and edges - when and how to apply paint materials <p>Identify paint defects which are associated with incorrect spraying techniques</p> <ul style="list-style-type: none">• striping / poor opacity• orange peel• uneven finish• runs /sags• dry spray• dull finish• varying paint thickness	1.1-1.5



UNIT REF: L1MV55	UNIT TITLE: PRIMERS AND SEALERS
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Level: 1	GL: 19 Hours	TQT: 24 Hours
<p>Overview: This unit will provide the learner with the knowledge of a range of primers and sealers. In addition to this, the learner will gain the skills to mix the products for spray application.</p>		

KNOWLEDGE LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1. Know different types of primers	1.1. Identify different types of primers and sealers 1.2. State the properties of a range of primers and sealers
2. Know how to mix primers and sealers	2.1. Identify the manufacturers technical data which is relevant primers and sealers 2.2. Identify tools and equipment which are used when mixing primers and sealers 2.3. State how to prepare mixing tools and equipment 2.4. Outline how to prepare primers and sealers prior to mixing them with hardeners and thinners 2.5. Outline the mixing process of primers and sealers
3. Be able to mix primers and sealers	3.1. Prepare the work area prior to mixing primers and sealers 3.2. Prepare mixing equipment 3.3. Interpret manufacturers technical data sheets 3.4. Mix primers and sealers in accordance with the manufacturers recommendations 3.5. Dispose of waste materials safely and legally

Evidence Requirements
<p>You must be observed by your assessor mixing two-pack primers and sealers on one occasion. You are required to mix at least 3 of the products from the list.</p>
<ul style="list-style-type: none"> • etch
<ul style="list-style-type: none"> • plastic adhesion primers
<ul style="list-style-type: none"> • direct to metal primers
<ul style="list-style-type: none"> • primer filler
<ul style="list-style-type: none"> • epoxy primers
<ul style="list-style-type: none"> • wet on wet
<ul style="list-style-type: none"> • isolator / sealer



Unit Content	Assessment Criteria
<p>Identify different types of primers and sealers to include:</p> <ul style="list-style-type: none"> • the definition of 1K and 2K • 1K and 2K types of primers and sealers • etch • plastic adhesion primers • direct to metal primers • primer filler • epoxy primers • wet on wet • sealers <p>The properties of a range of primers and sealers to include:</p> <ul style="list-style-type: none"> • build qualities • adhesion qualities • non-sanding qualities • ease of sanding • drying times and drying methods • number of coats and the product recommended thickness measurements • corrosion resistance qualities • the ability to be applied over old or sensitive coatings / isolating qualities • product appearance - coloured or colourless • covering power • tintable products • colour ranges of primers and sealers • reasons for using coloured primers and sealers 	<p>1.1, 1.2</p>
<p>The manufacturers technical data which is relevant to the primers and sealers to include:</p> <ul style="list-style-type: none"> • online information • technical data sheets • mixing ratios by volume and weight • hardener, thinner and additive selections • viscosity • the relationship between viscosity and temperature • special advice, notes or remarks contained on technical data sheets <p>Tools and equipment which are used when mixing primers and sealers to include:</p> <ul style="list-style-type: none"> • computer • mixing scheme • scales • stirrers / mixing sticks • mixing cups and pot liners • cup filters • paper filters • viscosity cups • thermometer <p>How to prepare mixing tools and equipment to include:</p> <ul style="list-style-type: none"> • accessing computer based mixing information • passwords to gain access to manufacturers information • the process and times recommended for stirring the tinters • mixing scheme checks, operation and stirring timescales • the importance of removing dust or dried paint from the tinter pourers • the calibration and levelling of the mixing scales • how to ensure drafts will not affect the accuracy of the mixing scales • the importance of cleaning tools and equipment prior to use • how the shape of the mixing cup affects the accuracy of the mix when using volume as a measurement • selecting the correct size mixing cup for the task and amount of material • checking that the pots and cup liners are sealed and secure before spraying • the cleanliness and suitability of the viscosity cups 	<p>2.1, 2.2, 2.3, 2.4, 2.5</p>



How to prepare primers and sealers prior to mixing them to include:

- checking shelf life and dates
- ensuring the technical data sheet matches the selected product
- stirring / shaking of the products
- checking the room temperature
- the importance of following the manufacturers technical data sheets

The mixing process of primers and sealers to include:

- the difference between mixing by volume and weight
- inputting information into the paint manufactures mixing software
- how to locate the primer colour, shade and formulation
- techniques to estimate the amount of material required
- adding the correct amount of primers, tinters and binders / ingredients
- dealing with over pours and how to recalculate formulations
- adding hardeners, thinners and additives to the correct ratios
- mixing and stirring
- checking the shade and colour
- how to check the viscosity of primers and sealers
- the importance of checking the viscosity of refinishing products



UNIT REF: L1MV56	UNIT TITLE: APPLYING PRIMERS AND SEALERS
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Level: 1	GL: 13 Hours	TQT: 21 Hours
Overview: This unit will provide the learners with the knowledge and skills to apply primers and sealers to a small vehicle panel in a vertical position.		

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1. Know how to apply primers and sealers	1.1. Identify sources of technical information which will support the application process 1.2. State how to set up spraying equipment for a range of primers and sealers 1.3. Outline the processes for applying primers and sealers
2. Be able to apply primers and sealers	2.1. Use technical information to support the application of primers and sealers 2.2. Set up spraying equipment 2.3. Apply primers and sealers to vehicle panels

Evidence Requirements
You must be observed by your assessor completing the following tasks on at least one occasion.
Setting up spraying equipment as stated in the paint manufactures data
Applying at least 3 of the following products to a vehicle panel in a vertical position.
<ul style="list-style-type: none"> • etch • plastic adhesion primers • direct to metal primers • primer filler • epoxy primers • wet on wet • isolator / sealer



Unit Content	Assessment Criteria
<p>Sources of technical information which will support the application process to include:</p> <ul style="list-style-type: none">• paint manufacturers online information• technical data sheets• spray gun manufacturers information and settings <p>How to set up spraying equipment to include:</p> <ul style="list-style-type: none">• draining inline filters• following the spray gun manufacturers recommendations• selecting the correct air cap, fluid tip and needle (set up)• filling the spray gun cup to the correct level• connecting the air supply• spraying pressure adjustments• fan pattern adjustment• fluid adjustments• how to test the spray pattern• final adjustments after testing <p>The processes for applying primers and sealers to include:</p> <ul style="list-style-type: none">• the importance of the correct spraying temperature• checking the spraying temperature• assessing the spraying environment - suitability, spray booth pressures, filters and extraction• how to apply the first coat• the definition of 'flash off'• the importance of flash off periods• flash off temperature• how to apply additional coats• visual assessments of the primer and sealer after its application• pot life of primers and sealers• curing methods and timings	<p>1.1, 1.2, 1.3</p>



UNIT REF: L1MV57	UNIT TITLE: SURFACE PREPARATION
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Level: 1	GL: 21 Hours	TQT: 26 Hours
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Overview: This unit will provide the learners with the knowledge and skills to prepare unpainted and previously painted steel panels. The learners will carry out the preparation process using hand and machine methods.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1. Know the reasons for preparing vehicle panels	1.1. Identify the reasons for preparing vehicle panels 1.2. State the consequences of poor preparation 1.3. Outline why vehicle panels require a range of preparation methods and techniques
2. Know how to prepare unpainted and previously painted steel panels	2.1. Identify different sources of information which supports the preparation process 2.2. Outline how to identify the panel material 2.3. Identify different types of automotive coatings 2.4. Identify cleaning agents which are used to remove surface contaminants 2.5. State how to set up sanding equipment 2.6. Identify different types and grades of abrasives 2.7. State the methods which are used to protect areas adjacent to the preparation process 2.8. Outline the processes which are used to prepare unpainted and previously painted steel panels
3. Be able to prepare unpainted and previously painted steel panels	3.1. Use technical information to support the preparation process 3.2. Demonstrate how to prepare unpainted and previously painted steel panels 3.3. Dispose of waste materials safely and legally

Evidence Requirements
You must be observed by your assessor completing all of the following tasks on at least one occasion.
Preparing a previously painted panel by hand and machine methods
Preparing unpainted areas of a steel panel by hand and machine methods



Unit Content	Assessment Criteria
<p>The reasons for preparing vehicle panels to include:</p> <ul style="list-style-type: none"> • providing sufficient adhesion for undercoats and topcoats • repairing defects and damage • changing the colour <p>State the consequences of poor preparation to include:</p> <ul style="list-style-type: none"> • loss of adhesion • poor gloss levels • sanding scratches • fish eyes / craters <p>Outline why vehicle panels require a range of preparation methods and techniques to include:</p> <ul style="list-style-type: none"> • the shape of the panel • the panel material • the type coating / finish • the extent of the damage or defects 	<p>1.1-1.3</p>
<p>The sources of information which supports the preparation process to include:</p> <ul style="list-style-type: none"> • researched repair methods • paint manufacturers data • paint manufacturers process charts <p>How to identify the panel material to include:</p> <ul style="list-style-type: none"> • performing simple tests to check if the panel is magnetic • use of a digital paint thickness gauge with ferrous and non-ferrous function / display • consulting the vehicle manufacturers information and repair methods • consulting researched repair methods • visual assessment <p>Different types of automotive coatings to include:</p> <ul style="list-style-type: none"> • the panel manufacturers original protection / 'E coat' • stone chip resistant coatings • primers • direct gloss • clear over base • 1K and 2K products • precautions with solvent sensitive coatings <p>Cleaning agents which are used to remove surface contaminants to include:</p> <ul style="list-style-type: none"> • Pre cleaning chemicals which may be used with a pressure washer • impregnated wipes • water based • solvent based <p>How to set up sanding equipment to include:</p> <ul style="list-style-type: none"> • tool lubrication where applicable • connecting power supplies - air, electric or battery • portable and fixed extraction units • identifying the orbit size • connecting extraction hoses and extraction bags • connecting appropriate sanders and blocks • fitting backing and interface pads • fitting abrasives • making adjustments to the rate of extraction and the sander speed <p>The types and grades of abrasives</p> <ul style="list-style-type: none"> • types – roll, sheeting, disc, foam-backed, fibre scuff pads ('scotchbrite' style) • dry use only abrasives • wet and dry use abrasives • liquid and abrasive pastes • P80 – P500 grit abrasives • P800 - P1000 grit abrasives 	<p>2.1-2.8</p>



The methods which are used to protect areas adjacent to the preparation process to include:

- covering surrounding areas with masking tapes, trim tapes, lining tapes, masking papers and plastic sheeting
- removing adjacent mechanical, electrical and trim components from the vehicle

The processes which are used to prepare unpainted and previously painted steel panels to include:

- pre cleaning
- cleaning / degreasing
- protecting surrounding areas
- sanding
- featheredging
- assessment of the sanding process
- checking areas visually and by touch
- final cleaning and dust removal
- disposing of waste materials safely and legally



UNIT REF: L1MV58	UNIT TITLE: VEHICLE MASKING
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Level: 1	GL: 23 Hours	TQT: 31 Hours
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Overview: This unit will provide the learners with the knowledge and skills to carry out vehicle masking tasks.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1. Know tools and equipment used for vehicle masking	1.1. State reasons for masking vehicle interiors and exteriors 1.2. Identify tools and equipment which is used when masking vehicles 1.3. Outline how to set up equipment which aids the masking process
2. Know a range of masking materials	2.1. Identify a range of vehicle masking materials 2.2. State the uses for a range of masking materials
3. Know how to mask vehicles	3.1. State how to prepare surfaces prior to using masking materials 3.2. Outline different techniques which are used during vehicle masking tasks 3.3. Identify a range of masking faults 3.4. State the causes of masking faults
4. Be able to mask vehicles	4.1. Demonstrate how to mask vehicles 4.2. Demonstrate economical use of masking materials 4.3. Demonstrate how to remove masking materials 4.4. Demonstrate how to remove masking materials 4.5. Rectify any masking faults 4.6. Demonstrate how to store masking materials 4.7. Dispose of waste materials safely and legally

Evidence Requirements
You must be observed by your assessor completing all following tasks on at least one occasion.
Masking a full vehicle and cut out the areas which require primer or topcoats
Mask at least two of the items from the list:
<ul style="list-style-type: none"> • A vehicle front or rear windscreen (not accepted as part of a 'sheeted' vehicle) • A vehicle door aperture • A localised area to accept primer



Unit Content	Assessment Criteria
<p>The reasons for masking vehicle interiors and exteriors to include:</p> <ul style="list-style-type: none"> • protecting surfaces from damage during preparation • protecting areas from overspray • masking out custom designs and shapes • marking out for transfers / decals <p>Tools and equipment which is used when masking vehicles to include:</p> <ul style="list-style-type: none"> • masking material dispensers • safety cutters <p>How to set up equipment which aids the masking process to include:</p> <ul style="list-style-type: none"> • fixed and portable masking material dispensers • fitting masking materials to the dispenser • setting up the dispenser to automatically apply tapes to the edge of masking papers • Feeding the paper under the serrated edge • positioning the portable dispensers near to the vehicle • testing the equipment 	<p>1.1- 1.3</p>
<p>A range of vehicle masking materials to include:</p> <ul style="list-style-type: none"> • 'no edge' blending tapes • low tack tapes • trim masking tapes • masking cords (for lifting rubbers and trim) • foam tapes • lining tapes • masking paper • masking sheeting • pre-taped paper and sheeting • masking tapes <p>Uses for a range of masking materials to include:</p> <ul style="list-style-type: none"> • 'no edge' blending tapes - to prevent a paint build up when blending topcoats and applying primers. • low tack tapes - when working on custom designs, uncured paints or coatings which may be suspected to have poor adhesion. • trim masking tapes - to lift trim and rubbers to make them more accessible to mask. • foam tapes - ideal for masking vehicle apertures and preventing 'build-up' on body lines and swages. • lining tapes - used for outlining tightly fitted and curved trims / components. In addition to this, it is used to mark out custom paint designs and stripes. • masking paper - suitable for covering vehicle panels, glass and trim • masking sheeting - suitable for covering vehicle panels, glass, trim and interiors. • pre-taped paper and sheeting - as above, however the tape is previously applied for efficiency and speed when masking small areas. • masking tapes - to secure masking paper and sheeting. <p>In addition to this, masking tape may be used to protect surrounding areas during preparation and it can be manipulated to produce 'soft edges', therefore preventing 'build-up'.</p>	<p>2.1, 2.2</p>
<p>How to prepare surfaces prior to using masking materials to include:</p> <ul style="list-style-type: none"> • drying and removing any moisture • cleaning and degreasing • checking the temperature of the working environment - this may affect the performance of the masking materials <p>Outline different techniques used during vehicle masking tasks to include:</p> <ul style="list-style-type: none"> • folding and rolling masking tapes to create a soft edge • back masking • outline masking panels and components prior to fully covering • pulling tape from the roll and lining up edges • keeping the tape taut • smoothing out creases • applying pressure and sticking • folding, shaping and cutting masking materials • taking care with uncured surfaces 	<p>3.1-3.4</p>



- methods of removing masking tape and checking the surface during the process
 - spot repair masking
 - methods used during the blending of topcoats
 - methods which promote economical use of materials and avoid waste
- Masking faults to include:**
- masking tape adhesion problems
 - paint and primer creep / underspray
 - overspray
 - 'ghosting' left by plastic sheeting
 - impression marks
 - deforming and melting
- The causes of masking faults to include:**
- **masking tape adhesion problems** are caused by a dirty or wet surface or in correct storage of the materials.
 - **paint and primer creep** can be caused by the edges of the tape not being pressed to the surface, contaminated tape, contaminated panels, lifting on tight turns and overheating of the tape.
 - **overspray** may be caused by gaps being left in the masking, the tapes not pressed down, paint and primers entering from under the plastic sheeting and tapes lifting during spraying.
 - **'ghosting' left by plastic sheeting** may be caused by moisture under plastic sheeting which leaves marks in the surface after baking.
 - **impression marks** are caused by applying masking materials to surfaces which are not fully cured.
 - **deforming and melting** occurs when intense heat is applied to the masking material which is greater than the product manufacturers' recommendations.
 - **paint flaking** is the result of applying masking materials to surfaces with poor adhesion.



UNIT REF: L1MV60	UNIT TITLE: INTERIOR COSMETIC REPAIR TECHNIQUES
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Level: 1	GL: 22 Hours	TQT: 28 Hours
<p>Overview: This unit will provide the learner with the knowledge and skills to perform cosmetic repairs to minor damage on vehicle interior trims, carpets and seats. The types of damage may include: burns, cuts, rips, tears, scuffs, holes, cracks, fading and wear.</p>		

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1. Know the limits of cosmetic interior trim repairs	1.1. Identify interior trim damage which is practical to repair 1.2. Identify interior trim damage which is not feasible to rectify using cosmetic repair kits
2. Know a range of vehicle interior materials	2.1. Identify different materials which are used in vehicle Interiors 2.2. Outline the differences in appearance of vehicle interior materials
3. Know how to repair minor interior damage	3.1. Identify technical information to support the repairs 3.2. Identify tools and equipment which are appropriate for minor interior repairs 3.3. Identify consumables which are associated with interior cosmetic repairs 3.4. State how to prepare a range of vehicle interior surfaces and materials 3.5. Outline the techniques which are used to repair a range of interior surfaces and materials
4. Be able to repair minor damage to vehicle interiors	4.1. Assess the damage to ensure it feasible to perform a repair 4.2. Use technical data to support the repair process 4.3. Demonstrate how to repair minor damage to a range of vehicle interior surfaces and materials 4.4. Perform quality checks on the completed repair 4.5. Dispose of waste materials safely and legally

Evidence Requirements
You must be observed by your assessor completing interior cosmetic repairs on at least two of the following materials.
• Plastic
• Fabric
• Leather
• Vinyl
• Alcantara
• Man-made fibre or wool (carpets)
The types of damage may include: burns, cuts, rips, tears, scuffs, holes, cracks, fading and wear.



Unit Content	Assessment Criteria
<p>Interior trim damage which is practical to repair will include minor:</p> <ul style="list-style-type: none"> • burns • cuts • rips • tears • scuffs • holes • cracks • fading • wear <p>Examples of interior trim damage which is not feasible to rectify using cosmetic repair kits to include:</p> <ul style="list-style-type: none"> • large areas or severe damage • where the repair cost will be in excess of a replacement part or trim • the damaged is beyond the capability of the repair system 	<p>1.1,1.2</p>
<p>Different materials which are used in vehicle interiors will include:</p> <ul style="list-style-type: none"> • plastic • fabric • leather • vinyl • alcantara • man-made fibre or wool (carpets) <p>The differences in appearance of vehicle interior materials will include:</p> <ul style="list-style-type: none"> • texture • colour and effect • gloss level • pattern / designs 	<p>2.1,2.2</p>
<p>Technical information to support the repair process includes:</p> <ul style="list-style-type: none"> • technical data sheets • manufactures' instructions for paint and consumables • vehicle identification numbers • colour matching information and formulations <p>Tools and equipment which is appropriate for minor interior repairs will include:</p> <ul style="list-style-type: none"> • power sources / generator • extension leads • compressed air systems • spot repair spray guns • pressure gauges • spray gun cleaning kits • airbrushes • airlines and air hoses • countersink bits • heat irons • drying equipment • heatsinks • electronic scales • adhesive and grain replica application guns • Teflon mats • spatulas • scalpels • brushes • colour swatches • 'flockit' sprayers • shaker pots • scissors • tweezers 	<p>3.1-3.5</p>

- graining mats

Consumables which are associated with interior cosmetic repairs include:

- cleaning agents
- wipes
- scuff and clean products
- sandpaper
- masking materials
- tack rags
- mixing sticks
- mixing pots
- paint cups and filters
- backing materials
- replacement foam
- support mesh
- primers, paints and clearcoats
- adhesion promoters
- graining and replicator materials
- textured coatings / aerosols
- adhesive, gels and glues
- fillers
- activators
- safety blades / cutters
- replacement applicator nozzles
- water-based coloured pencils
- surface conditioners and gels

Preparing a range vehicle interior surfaces and materials includes:

- cleaning
- protecting surrounding areas
- removing burnt fabric
- countersinking holes
- drilling the ends of cracks in plastics
- masking
- sanding / abrading
- removing dust and contaminates
- filling
- shaping

Techniques which are used to repair a range of interior surfaces and materials will include:

- recreating textures and graining
- replacing trim and seat foams
- reinforcing holes and using backing materials
- matching colours and gloss levels
- blending colours
- reinforcing rips and tears
- applying and blending fibres
- matching and recreating patterns and designs



UNIT REF: L1MV62	UNIT TITLE: REMOVING AND APPLYING GRAPHICS AND LETTERING
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Level: 1	GL: 13	TQT: 17
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Overview: This unit will provide the learner with the knowledge and skills to remove and apply graphics and lettering to flat panels.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1. Know the tools and equipment which are used to remove and apply graphics and lettering	1.1. Identify tools and equipment which are used to remove and apply graphics and lettering 1.2. State the purpose of the tools and equipment
2. Know how to remove graphics and lettering	2.1. Outline the methods which can be used to remove graphics and lettering 2.2. State how to remove adhesive and residue from the surface
3. Know how to apply graphics and lettering	3.1. State the surface preparation process which is required prior to applying graphics and lettering 3.2. Outline the methods which can be used to ensure accurate positioning of the graphics and lettering 3.3. Outline the methods which can be used to apply graphics and lettering 3.4. Identify faults which may occur when applying graphics and lettering 3.5. State the rectification process for faults which may occur when applying graphics and lettering
4. Be able to remove graphics and lettering	4.1. Select the tools and equipment suitable to remove graphics and lettering 4.2. Demonstrate the removal of graphics and lettering 4.3. Demonstrate how to remove adhesive and residue from the surface 4.4. Dispose of waste materials safely and legally
5. Be able to apply graphics and lettering	5.1. Prepare the surface to accept the graphics and lettering 5.2. Mark out the area to ensure the correct positioning of the graphics and lettering 5.3. Position the graphics and lettering prior to fitting 5.4. Apply the graphics and lettering to the surface 5.5. Check the graphics and lettering for any application faults 5.6. Clean the surface after completing the task



Evidence Requirements
You must be observed by your assessor completing all following tasks on at least one occasion.
<ul style="list-style-type: none"> • Removing graphics or lettering • Applying graphics or lettering to flat panels

Unit Content	Assessment Criteria
<p>Tools and equipment which are used to remove and apply graphics and lettering to include:</p> <ul style="list-style-type: none"> • heating tools and equipment • extension leads • vinyl removal wheel • cleaning agent dispensers • cutters, knives and scissors • weeding tools and tweezers • measuring and marking out tools and equipment • squeegees <p>The purpose of the tools and equipment to include:</p> <ul style="list-style-type: none"> • heating tools and equipment - to soften the adhesive on existing graphics and lettering and to shape the vinyl on swages or curves. • extension leads - to provide power when working on larger areas, such as cars and commercial vehicles. • vinyl removal wheel - when secured in a hand drill will provide a method of removing graphics, lettering and adhesive. • cleaning agents - to remove traffic film, wax, adhesives and marking out lines. • cutters, knives and scissors - for trimming application tapes / transfer tapes and backing materials. • weeding tools and tweezers - to remove sections of letters and graphics which are not required, for example the centre of a circle or the centre of a letter 'O'. • measuring and marking out tools and equipment - to transfer or take measurements which will aid the accurate positioning of the graphics and lettering. • squeegees - for smoothing out and removing air bubbles from graphics and lettering during their application. 	1.1-1,2
<p>The methods which can be used to remove graphics and lettering to include:</p> <ul style="list-style-type: none"> • peeling without heat • controlled warming with the appropriate tools and equipment • vinyl removal wheels <p>How to remove adhesive and residue from the surface to include:</p> <ul style="list-style-type: none"> • water based cleaning agents • solvent cleaning agents • removal techniques and processes 	2.1,2.2
<p>The surface preparation process which is required prior to applying graphics and lettering to include:</p> <ul style="list-style-type: none"> • cleaning • drying • surface examination - dirt nibs • dust removal • static removal <p>The methods which can be used to ensure accurate positioning of the graphics and lettering to include:</p> <ul style="list-style-type: none"> • using drawing's and dimensions • marking out using: plumb lines, chalk lines, masking tape, water based pencils <p>The methods which can be used to apply graphics and lettering to include:</p> <ul style="list-style-type: none"> • applying heat to a cold surface • using water to aid the positioning ('waterslide') 	3.1-3.5



- dry fitting methods
- removing the backing material
- avoiding contact with the adhesive
- using a squeegee to 'smooth out' the graphics and lettering
- removing excess water
- removing air bumbles
- how to avoid creases
- removing the front film, 'application tape' or 'transfer tape'
- drying the surface
- quality checks

Faults that may occur when applying graphics and lettering to include:

- creases
- air bubbles
- dirt on the adhesive backing or panel surface
- loss of adhesion
- rips and tears
- stretching and deforming
- minor marks on the surface of the graphics and lettering

The rectification process for faults which may occur when applying graphics and lettering to include:

- removing and replacing the graphics and lettering
- applying heat
- releasing trapped air
- smoothing out creases
- cleaning off any minor marks on the surface



UNIT REF: L1MV63	UNIT TITLE: VEHICLE DAMAGE ASSESSMENT
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Level: 1	GL: 22 Hours	TQT: 26 Hours
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Overview: This unit will introduce the learner to the role of a Vehicle Damage Assessor, in addition to this, the unit will provide the learner with the knowledge and skills to assess vehicles which have sustained minor panel damage.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1. Know the repair procedures for accident damaged vehicles	1.1. Outline the role of a Vehicle Damage Assessor 1.2. State the stages which are involved in repairing accident damaged vehicles
2. Know how to carry out an assessment of minor panel damage	2.1. Identify sources of information which supports the damage assessment process 2.2. State the procedures which are involved in assessing minor panel damage
3. Be able carry out a damage assessment of minor panel damage	3.1. Use relevant information to support the assessment 3.2. Demonstrate the process of assessing minor panel damage 3.3. Record the results of the vehicle assessment

Evidence Requirements
You must be observed by your assessor completing the following task on at least one occasion .
<ul style="list-style-type: none"> Carrying out a damage assessment on a vehicle which has sustained minor panel damage.

Unit Content	Assessment Criteria
<p>The role of a Vehicle Damage Assessor to include:</p> <ul style="list-style-type: none"> responsibility for assessing the level and extent of damage to vehicles following accidents determining if the vehicle can be repaired the work that needs to be carried out to repair it assessing the extent of damage to the structural, body, mechanical, electrical and interior components of the vehicle estimating parts and labour costs preparing insurance forms to indicate repair costs and recommendations <p>The stages which are involved in repairing accident damaged vehicles to include:</p> <ul style="list-style-type: none"> vehicle collection administration and customer service issuing courtesy vehicles damage assessment ordering parts and panels vehicle exterior pre-cleaning mechanical, electrical, trim removal, replacing and refitting panel / body repair paint preparation paint spraying 	1.1,1.2



<ul style="list-style-type: none">• quality control• valeting and detailing• returning the vehicle to the customer	
<p>Sources of information which supports the damage assessment process to include:</p> <ul style="list-style-type: none">• vehicle repair methods• online manufacturers' repair information• vehicle data / information• details of how the accident occurred <p>The procedures which are involved in assessing panel damage to include:</p> <ul style="list-style-type: none">• finding out what happen or caused the damage• recording vehicle data• walking round the vehicle to establish the extent of the damage and its effects• determining the direction and severity of the impact• identifying the damaged areas• identifying the first and last undamaged panels• recording the repair tasks• using repair methods or relevant information to support the repair• taking and saving images• checking and reviewing the assessment	2.1,2.2



UNIT REF: L1MV70	UNIT TITLE: RESHAPING MINOR PANEL DAMAGE
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Level: 1	GL: 16	TQT: 21
<p>Overview: This unit will provide the learner with the knowledge and skills to raise and shape a minor dent which is located on a flat section of a vehicle panel. The minor dent or crease will measure approximately 50mm x 20mm x 1mm and accessible from the rear of the panel.</p>		

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1. Know the hand tools which are used to reshape minor panel damage	1.1. Identify a range of hand tools which are used to reshape minor panel damage 1.2. State the features of panel hammers and dollies
2. Know techniques which are used to reshape minor panel damage	2.1. State the methods which can be used to identify high and low points on the repair area 2.2. Outline the processes which are used to raise dents and reshape minor panel damage
3. Be able to reshape minor panel damage	3.1. Use the appropriate tools to access and reshape the panel damage 3.2. Demonstrate the processes to reshape minor panel damage 3.3. Locate high and low points in the panel surface 3.4. Demonstrate processes to remove minor imperfections from the bare steel surface 3.5. Carry out final checks to ensure the panel surface is ready to accept body filler

Evidence Requirements
You must be observed by your assessor completing the following tasks on at least one occasion.
<ul style="list-style-type: none"> • Raising a dent or crease in a vehicle panel • Using techniques to reshape the panel surface

Unit Content	Assessment Criteria
<p>Hand tools which are used to reshape minor panel damage to include:</p> <ul style="list-style-type: none"> • body file • bumping file • profile gauge • shrinking hammer • cross pein and finishing hammer • pick and finishing hammer • grid dolly • general purpose dolly • toe dolly • heel dolly • general purpose spoon • sanding block <p>The features of panel hammers and dollies to include: Flat Faced and Finishing Hammers</p> <ul style="list-style-type: none"> • lightweight to allow control and the removal of small imperfections in panel surfaces • the faces are designed to provide minimum distortion and stretching • the precision design of the face to prevent creasing of the panel surface. 	1.1, 1.2



<ul style="list-style-type: none">• the inclusion of pick heads which are designed to remove low spots when finishing• combining finishing faces with cross pein faces to assist in raising and shaping bodylines <p>Shrinking Hammers to include:</p> <ul style="list-style-type: none">• the shape of the hammer shaft to aid grip and control• using in the final stages of panel finishing on slightly stretched areas of the panel• a grid-pattern face to allow metal to be forced into the spaces of hammer face and therefore shrink the panel surface. Note: shrinking is best carried out on the inside of the panel to minimise metal finishing work. <p>General Purpose Spoon to include:</p> <ul style="list-style-type: none">• their shape and curvatures for accessing restricted areas <p>Dollies to include:</p> <ul style="list-style-type: none">• a grid-pattern faced pattern which assists in shrinking stretched areas of metal• polished surface faces• their various shapes for accessing difficult areas• their shape to cater for range of panel curvatures bodylines• their weight to aid the forming and shaping of metal panels• an easy to hold design to aid their use in conjunction with a hammer	
<p>The methods which can be used to identify high and low points on the repair area to include:</p> <ul style="list-style-type: none">• using a body file• applying a guide coat• visual inspection• running the hand over the surface <p>The processes which are used to raise dents and reshape minor panel damage to include:</p> <ul style="list-style-type: none">• assessing the extent of the damage• selecting hammers and dollies which reflect the original shape• accessing the damage• controlling the hammer and executing light blows• the feel and sound of the hammer and dolly working together• roughing out the damaged area• direct hammering techniques• indirect hammering techniques• body filing• techniques in lowering high spots• techniques used to raise low spots• how to avoid excessive metal thickness reduction• carrying out visual inspections• simple metal finishing techniques• assessing the progress of the repair using touch	<p>2.1, 2.2</p>



UNIT REF: L1MV71	UNIT TITLE: APPLICATION OF BODY FILLERS
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Level: 1	GL: 22	TQT: 27
<p>Overview: This unit will provide the learner with the knowledge and skills in mixing, applying and shaping body fillers. The recommended repaired area to accept the body filler is 50mm x 20mm x 1mm and located on a flat area of a steel vehicle panel.</p>		

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1. Know the function of body fillers	1.1. State different sources of information which are available to assist the application of body filler 1.2. Outline the function of body fillers 1.3. State the function of finishing fillers and glazes
2. Know how to mix body fillers	2.1. Identify tools and equipment used to mix body fillers 2.2. State how to prepare body filling materials before use 2.3. State the consequences of failing to mix body fillers to the manufactures' recommendations 2.4. Outline the methods which are used to mix body fillers
3. Know how to apply body fillers	3.1. Outline how to clean the panel surface, prior to applying body fillers 3.2. Outline the techniques which are used to apply body fillers 3.3. State the defects which are caused by applying body filler incorrectly
4. Know how to shape and finish body fillers	4.1. Identify tools and equipment which are used to shape body fillers 4.2. Identify the types and grades of abrasives which are used to shape and finish body fillers 4.3. Outline the techniques which are used to shape and finish body fillers 4.4. State how to dry / cure body fillers 4.5. State the checks which are carried out to ensure filled areas are not visible after the application of topcoats



<p>5. Be able to mix, apply and shape body fillers</p>	<p>5.1. Protect surrounding areas from damage and contamination</p> <p>5.2. Clean the surface before applying body fillers</p> <p>5.3. Mix and apply body filler</p> <p>5.4. Demonstrate how to dry / cure body fillers</p> <p>5.5. Demonstrate how to shape body fillers to the correct contours</p> <p>5.6. Clean tools and equipment after use</p> <p>5.7. Dispose of waste materials safely and legally</p>
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Evidence Requirements
You must be observed by your assessor completing all the following tasks on at least one occasion.
<ul style="list-style-type: none"> • Mixing, applying and shaping body filler
<ul style="list-style-type: none"> • Mixing, applying and shaping finishing fillers
The recommended repaired area to accept the body filler is 50mm x 20mm x 1mm and located on a flat area of a steel vehicle panel.

Unit Content	Assessment Criteria
<p>Different sources of information which are available to assist the application of body filler to include:</p> <ul style="list-style-type: none"> • the body filler manufacturers' technical data sheets • the manufacturers' online videos and tutorials <p>The function of body fillers to include:</p> <ul style="list-style-type: none"> • filling imperfections in vehicle panels <p>The function of finishing fillers and glazes to include:</p> <ul style="list-style-type: none"> • one -pack and two-pack materials • filling minor preparation imperfections and pinholes in previously filled areas • specific products for filling minor imperfections and chips on primed or painted areas • self-levelling minor surface paint chips 	<p>1.1, 1.2, 1.3</p>
<p>Tools and equipment used to mix body fillers to include:</p> <ul style="list-style-type: none"> • body filler spreaders / applicators • mixing boards • body filler dispensers <p>How to prepare body filling materials before use to include:</p> <ul style="list-style-type: none"> • checking the product 'use by' dates • opening tins • stirring • setting up and operating body filler dispensers • checking to ensure the products have been stored correctly and in the correct position. For example, the tins are stored upright. <p>The consequences of failing to mix body fillers to the manufactures' recommendations to include:</p>	<p>2.1, 2.2, 2.3, 2.4</p>



<ul style="list-style-type: none"> • being difficult to sand • the clogging of the abrasives • loss off adhesion • unpredictable drying / curing times • not curing • discoloration of primers and topcoats <p>The methods which are used to mix body fillers to include:</p> <ul style="list-style-type: none"> • measuring the hardener and how to avoid under and over activating • mixing techniques which avoid air entrapment in the body filler 	
<p>How to clean the panel surface, prior to applying body fillers to include:</p> <ul style="list-style-type: none"> • suitable types of cleaning agents for the panel surface • water-based and solvent-based cleaning agents • methods of removing dust <p>The techniques which are used to apply body fillers to include:</p> <ul style="list-style-type: none"> • angle of the spreader / applicator • applying even, firm pressure on the spreader / applicator • not applying too much body filler all at once • applying and removing a thin film of body filler, which is sometimes referred to as a 'wetting up coat' • building the area to the required and the recommended thickness • tapering the edges of the filler material to aid the sanding process • skimming off excess material <p>The defects which are caused by incorrectly applying body filler to include:</p> <ul style="list-style-type: none"> • pinholes • loss of adhesion or edge mapping if the filler extends onto painted or unprepared areas • uneven finish • grooves in the body filler • dirt /dust incisions in the body filler • contaminated body filler • low spots within the filled area 	<p>3.1, 3.2, 3.3</p>
<p>Tools and equipment which are used to shape body fillers to include:</p> <ul style="list-style-type: none"> • random orbital sanders • sanding blocks • dust extraction equipment • profile gauge <p>The types and grades of abrasives which are used to shape and finish body fillers to include:</p> <ul style="list-style-type: none"> • sheets • discs • strips • foam-backed pads • P80 • P180 • P240 • P320 • grades recommended by the body filler manufacturer <p>The techniques which are used to shape and finish body fillers to include:</p> <ul style="list-style-type: none"> • using a guide coat to assist in identifying high and low spots • gradually reducing the grades of abrasive to achieve a smooth 'scratch -free' finish • sanding methods and sanding directions • checking the repair by running a hand over the surface to assess where additional sanding or body filler is required • using a profile gauge to compare contours and shapes <p>How to dry / cure body fillers to include:</p> <ul style="list-style-type: none"> • locating the manufacturers' recommended methods of drying the body filler • specific curing temperatures which apply to different products 	<p>4.1, 4.2, 4.3, 4.4, 4.5</p>



- air drying
- suitable heating methods, for example infrared lamps

To prevent repairs being visible after the application of topcoats, inspections are best made from face and side angles to highlight any missed damage and uneven repairs.

They may also include checking for:

- deep scratches
- lifting / flaking
- gouges
- pinholes
- dirt inclusions
- shape and contour
- hardener colour streaking
- a uniform colour of the body filler



UNIT REF: L1MV74

UNIT TITLE: PAINTLESS DENT REMOVAL TECHNIQUES

Level: 1

GL: 19

TQT: 24

Overview: This unit will introduce the learner to the knowledge and skills in removing minor dents without damaging the vehicle paintwork. The dent will be removed from a steel panel and located on a flat area which is easily accessible from the rear. The recommended dent size will be between 10 - 20mm in diameter.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The Learner will:	The Learner can:
1. Know the purpose of paintless dent removal techniques	1.1. Define the term 'paintless dent removal' 1.2. State the advantages of using paintless dent removal techniques 1.3. Outline the limitations of paintless dent removal techniques
2. Know the tools and equipment which are used when carrying out paintless dent removal tasks	2.1. Identify the tools and equipment which are used during paintless dent removal tasks 2.2. Identify consumables which are used in conjunction with paintless dent removal tools and equipment
3. Know the processes which are involved with removing dents without damaging the paintwork	3.1. Outline the stages of removing a minor dent from a flat section of a vehicle panel 3.2. State how to remove minor paint marks after removing the dent
4. Be able to remove a minor dent from a vehicle panel using paintless dent removal techniques	4.1. Protect vehicle surfaces and surrounding areas from damage 4.2. Demonstrate how to gain access to the back of a dent 4.3. Select tools and equipment which are appropriate for the task 4.4. Remove a minor dent using paintless dent removal techniques 4.5. Replace corrosion protection materials 4.6. Carry out checks to the surface and take any necessary actions

Evidence Requirements

You **must be observed by your assessor** completing the following task on **at least one** occasion.

- Removing a minor dent using paintless dent removal techniques



Unit Content	Assessment Criteria
<p>The term 'paintless dent removal' can be defined as:</p> <ul style="list-style-type: none">• paintless dent removal is a cost-effective process which eliminates the need for body filling, paint spraying and complete panel replacement. <p>The advantages of using paintless dent removal techniques to include:</p> <ul style="list-style-type: none">• cost reduction• eliminating spraying and colour mismatches• reduced repair times• material cost reduction• maintaining the vehicle original finish• restores the value of the vehicle• carrying out mobile repairs with less inconvenience for the customer• environmentally friendly• reduced insurance claims <p>The limitations of paintless dent removal techniques to include:</p> <ul style="list-style-type: none">• a need for flexibility of the paint• the amount the metal has been stretched by the damage• achieving the best results on shallow / minor dents• some creases may not be repairable• swages and bodylines shapes• box sections and restricted access• reinforced areas of the vehicle• technician skill levels	1.1, 1.2, 1.3
<p>The tools and equipment which are used during paintless dent removal tasks to include:</p> <ul style="list-style-type: none">• pulling frame• slide hammer• glue gun• hammer• 'tap-down' sticks• glue tabs• trim tool set• brace set• bars• hooks• reflective board and suction cup• bonnet prop• window wedge• dollies• mallet• window protector• tool case• polishing machine / buffer <p>Consumables which are used in conjunction with paintless dent removal tools and equipment to include:</p> <ul style="list-style-type: none">• glue remover• glue release spray• glue sticks• cleaning agents• polish and compounds• fine grade abrasives	2.1, 2.2



The stages of removing a minor dent from a flat section of a vehicle panel to include:

- cleaning the panel
- removing trim and gaining access to the back of the damage
- knocking down high spots
- fixing glue tabs
- operating a slide hammer
- selecting tabs
- removing glue tabs and adhesive
- fitting the reflective board
- selecting the correct bars and tools
- applying controlled heat
- applying pressure and manipulating the damaged area
- replacing corrosion protection materials
- assessing the repair area

The removal of minor paint marks after removing the dent to include:

- sanding with fine grade abrasives
- using rubbing compounds
- using a polishing machine / buffer
- applying a protective wax polish to the panel

3.1, 3.2