

SEG Awards Level 2 Award, Certificate and Diploma in Motor Vehicle Studies

England

Level 2 Award – 600/2996/1

Level 2 Certificate – 600/2966/3

Level 2 Diploma – 600/2957/2

About Us

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Sources of Additional Information

The [Skills and Education Group Awards](#) website provides access to a wide variety of information.

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Specification Code

The specification code is A5526-02/C5526-02/D5526-02, A5527-02/C5527-02/D5527-02, A5528-02/C5528-02/D5528-02.

Issue	Date	Details of change
6.2	May 2026	Updated to new company branding

This guide should be read in conjunction with the Indicative Content document which is available on our secure website using the link above.

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This is a live document and as such will be updated when required. It is the responsibility of the approved centre to ensure the most up-to-date version of the Qualification Specification is in use. Any amendments will be published on our website and centres are encouraged to check this site regularly.

Qualification Summary

Level 2 Award in Motor Vehicle Studies (Body Repair pathway)
Level 2 Award in Motor Vehicle Studies (Light Vehicle pathway)
Level 2 Award in Motor Vehicle Studies (Motorcycle pathway)

Level 2 Certificate in Motor Vehicle Studies (Body Repair pathway)
Level 2 Certificate in Motor Vehicle Studies (Light Vehicle pathway)
Level 2 Certificate in Motor Vehicle Studies (Motorcycle pathway)

Level 2 Diploma in Motor Vehicle Studies (Body Repair pathway)
Level 2 Diploma in Motor Vehicle Studies (Light Vehicle pathway)
Level 2 Diploma in Motor Vehicle Studies (Motorcycle pathway)

Qualification Purpose	B. Prepare for further learning or training and/or develop knowledge and/or skills in a subject area. B1. Prepare for further learning or training, B2. Develop knowledge and/or skills in a subject area							
Age Range	Pre 16		16-18	✓	18+	✓	19+	✓
Regulation	The above qualifications are regulated by Ofqual							
Assessment	Internal assessment Internal and external moderation							
Type of Funding Available	See FaLA (Find a Learning Aim)							
Grading	Pass							
Operational Start Date	01/09/2011							
Review Date	31/08/2028							
Operational End Date								
Certification End Date								
Guided Learning (GL)	Award – 90 Certificate – 270 Diploma – 390							
Total Qualification Time (TQT)	Award – 100 Certificate – 320 Diploma – 450							
Credit Value	Award – 10 Certificate – 32							

	Diploma - 45
Skills and Education Group Awards Sector	Transport and Logistics
Regulator Sector	4.3 Transportation Operations and Maintenance
Support from Trade Associations	IMI SSC

Introduction

The SEG Level 2 Award, Certificate and Diploma in Motor Vehicle Studies have been developed to provide a range of progression opportunities. The flexible structure and nature of these qualifications provides the ideal route for learners to progress from the SEG Level 1 Award, Certificate and Diploma in Motor Vehicle Studies on to higher level of study and skills acquisition, such as automotive apprenticeships. Learners will develop knowledge and skills aligned to specific areas of the automotive industry through practical experience. The rules of combination for the Level 2 Award, Certificate and Diploma in Motor Vehicle Studies are made up of three pathways which are:

- > Body Repair
- > Light Vehicle
- > Motorcycle

Pre-requisites

Learners must be aged 16+ who have an interest in Motor Vehicle Studies.

Skills and Education Group Awards expects approved centres to recruit with integrity on the basis of a trainee's ability to contribute to and successfully complete all the requirements of a unit(s) or the full qualification.

Qualification Structure and Rules of Combination

Rules of Combination: Level 2 Award in Motor Vehicle Studies

Learners must achieve a minimum of 10 credits from one pathway.

Unit Title	Unit Number	Level	Credit Value	GL
Body Repair Pathway (5 Mandatory Units)				
Health and safety for motor vehicle studies	H/501/7005	1	4	40
Knowledge of removing and fitting motor mechanical, electrical and trim (MET) components to vehicles	Y/601/5424	2	2	20
Skills in removing and fitting motor mechanical, electrical and trim (MET) components to vehicles	F/601/5451	2	2	20
Knowledge of removing and fitting non permanently fixed motor vehicle body panels	D/601/5425	2	2	20
Skills in removing and fitting non permanently fixed motor vehicle body panels	R/601/5454	2	2	20
Light Vehicle Pathway (Mandatory unit plus a minimum of one Option Group to achieve the minimum credit value)				
Mandatory Unit: Health, Safety and Good Housekeeping in the Automotive Environment				
Health and safety for motor vehicle studies	H/501/7005	1	4	40
Option Group A: Inspecting Light Vehicles using Prescribed Methods (Both units must be achieved)				
Knowledge of inspecting light vehicles using prescribed methods	H/601/3742	2	4	40
Skills in inspecting light vehicles using prescribed methods	A/601/3889	2	4	40
Option Group B: Inspection and Repair of Light Vehicle Clutches (Both units must be achieved)				
Knowledge of inspection and repair of light vehicle clutches	H/601/6060	2	2	12
Skills in inspection and repair of light vehicle clutches	D/601/6753	2	4	32

Option Group C: Inspection and Replacement of Light Vehicle Exhaust Components (Both units must be achieved)

Knowledge of inspection and replacement of light vehicle exhaust components	Y/601/6072	2	2	14
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Skills in inspection and replacement of light vehicle exhaust components	A/601/6842	2	3	24
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Option Group D: Inspection, Testing and Replacement of Vehicle Batteries and Related Components (Both units must be achieved)

Knowledge of inspection, testing and replacement of vehicle batteries and related components	F/601/6082	2	2	18
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Skills in inspection, testing and replacement of vehicle batteries and related components	K/601/8179	2	3	25
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Option Group E: Inspection and Replacement of Light Vehicle Suspension Dampers and Springs (Both units must be achieved)

Knowledge of inspection and replacement of light vehicle suspension dampers and springs	J/601/6083	2	2	14
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Skills in inspection and replacement of light vehicle suspension dampers and springs	F/601/6857	2	3	24
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Option Group F: Inspection, Adjustment and Replacement of Light Vehicle Braking Systems and Components (Both units must be achieved)

Knowledge of inspection, adjustment and replacement of light vehicle braking systems and components	L/601/6084	2	2	18
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Skills in inspection and replacement of light vehicle braking systems and components	L/601/6862	2	4	32
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Motorcycle Pathway (5 Mandatory Units)

Mandatory Unit: Health, Safety and Good Housekeeping in the Automotive Environment

Health and safety for motor vehicle studies	H/501/7005	1	4	40
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Knowledge of routine motorcycle maintenance	F/601/5515	2	2	20
Skills in routine motorcycle maintenance	F/601/5594	2	2	20
Knowledge of motorcycle preparation and inspection	F/601/5563	2	2	20
Skills in motorcycle preparation and inspection	Y/601/5617	2	2	20
If learners achieve credits from units of the same title (or linked titles) at more than one level, they cannot count credits achieved from both units towards the credit target of a qualification.				

Rules of Combination: Level 2 Certificate in Motor Vehicle Studies

Learners must achieve a minimum of 32 credits from one pathway. This must include 10 credits from the Mandatory Group and a minimum of 22 credits from the pathway specific Option Groups.

Unit Title	Unit Number	Level	Credit Value	GL
Body Repair Pathway Mandatory Unit: Health, Safety and Good Housekeeping in the Automotive Environment				
Knowledge of health, safety and good housekeeping in the automotive environment	Y/601/6171	2	3	30
Skills in health, safety and good housekeeping in the automotive environment	Y/601/7254	2	7	60
Option Group A: Removing and Fitting Motor Mechanical, Electrical and Trim (MET) Components to Vehicles (Both units must be achieved)				
Knowledge of removing and fitting motor mechanical, electrical and trim (MET) components to vehicles	Y/601/5424	2	2	20
Skills in removing and fitting motor mechanical, electrical and trim (MET) components to vehicles	F/601/5451	2	2	20
Option Group B: Removing and Fitting Non Permanently Fixed Motor Vehicle Body Panels (Both units must be achieved)				

Knowledge of removing and fitting non permanently fixed motor vehicle body panels	D/601/5425	2	2	20
Skills in removing and fitting non permanently fixed motor vehicle body panels	R/601/5454	2	2	20
Option Group C: Removing and Replacing Exterior Motor Vehicle Body Panels including Permanently Fixed Components (Both units must be achieved)				
Knowledge of removing and replacing exterior motor vehicle body panels including permanently fixed components	H/601/5426	2	6	45
Skills in removing and replacing exterior motor vehicle body panels including permanently fixed components	D/601/5456	2	5	45
Option Group D: Minor Motor Vehicle Exterior Body Panel Repairs (Both units must be achieved)				
Knowledge of minor motor vehicle exterior body panel repairs	K/601/5427	2	6	45
Skills in carrying out minor repairs to motor vehicle exterior body panels	K/601/5468	2	5	45
Option Group E: Motor Vehicle Body Metal Active Gas (MAG) Welding Techniques (Both units must be achieved)				
Knowledge of motor vehicle body metal active gas (MAG) welding techniques	T/601/5432	2	5	45
Skills in motor vehicle body metal active gas (MAG) welding techniques	R/601/5468	2	5	45
Option Group F: Motor Vehicle Body Resistance Spot Welding Operations (Both units must be achieved)				
Knowledge of motor vehicle body resistance spot welding operations	F/601/5434	2	5	45
Skills in motor vehicle body resistance spot welding Operations	Y/601/5469	2	5	45

**Option Group G: Tools and Equipment Used In Vehicle Refinishing
(Both units must be achieved)**

Knowledge of tools and equipment used in vehicle refinishing	J/601/6116	2	5	45
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Skills in tools and equipment used in vehicle refinishing	Y/601/6153	2	5	45
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**Option Group H: Working with Plastic Materials and Components
(Both units must be achieved)**

Knowledge of working with plastic materials and components	Y/601/6119	3	6	45
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Skills in working with plastic materials and components	J/601/6231	3	5	45
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Option Group I: Vehicle Colour Matching (Both units must be achieved)

Knowledge of vehicle colour matching	R/601/6135	3	6	45
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Skills in vehicle colour matching	T/601/6256	3	5	45
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Option Group J: Introduction to Vehicle Refinishing

Introduction to vehicle refinishing	Y/501/7020	1	4	40
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Light Vehicle Pathway Mandatory Group: Health, Safety and Good Housekeeping in the Automotive Environment

Knowledge of health, safety and good housekeeping in the automotive environment	D/601/6171	2	3	30
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Skills in health, safety and good housekeeping in the automotive environment	Y/601/7254	2	7	60
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Option Group A: Locating and Correcting Simple Electrical Faults in the Automotive Workplace (Both units must be achieved)

Knowledge of locating and correcting simple electrical faults in the automotive workplace	K/601/6013	2	6	45
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Skills in locating and correcting simple electrical faults in the automotive workplace	F/601/6034	2	5	45
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Option Group B: Removing and Fitting Basic Light Vehicle Mechanical, Electrical and Trim (MET) Components and Non Permanently Fixed Vehicle Body Panels (Both units must be achieved)

Knowledge of removing and fitting basic light vehicle mechanical, electrical and trim (MET) components and non permanently fixed vehicle body panels	F/601/3747	2	2	20
Skills in removing and fitting basic light vehicle mechanical, electrical and trim (MET) components and non permanently fixed vehicle body panels	K/601/3869	2	3	20

Option Group C: Materials, Fabrication, Tools and Measuring Devices used in the Automotive Environment (Both units must be achieved)

Knowledge of materials, fabrication, tools and measuring devices used in the automotive environment	K/601/6237	2	4	40
Skills in materials, fabrication, tools and measuring devices used in the automotive environment	Y/601/6279	2	7	60

Option Group D: Routine Light Vehicle Maintenance (Both units must be achieved)

Knowledge of routine light vehicle maintenance	F/601/3716	2	3	20
Skills in routine light vehicle maintenance	H/601/3871	2	2	20

Option Group E: Removing and Replacing Light Vehicle Engine Units and Components (All three units must be achieved)

Knowledge of light vehicle engine mechanical, lubrication and cooling system units and components	R/601/3719	2	3	20
Knowledge of light vehicle fuel, ignition, air and exhaust system units and components	H/601/3725	2	3	20

Skills in removing and replacing light vehicle engine units and components	K/601/3872	2	5	45
Option Group F: Inspecting Light Vehicles using Prescribed Methods (Both units must be achieved)				
Knowledge of inspecting light vehicles using prescribed methods	H/601/3742	2	4	40
Skills in inspecting light vehicles using prescribed methods	A/601/3889	2	4	40
Option Group G: Removing and Replacing Light Vehicle Electrical Units and Components				
Knowledge of removing and replacing light vehicle electrical units and components	T/601/3731	2	6	45
Skills in removing and replacing light vehicle electrical units and components	T/601/3874	2	5	45
Option Group H: Removing and Replacing Light Vehicle Chassis Units and Components (Both units must be achieved)				
Knowledge of removing and replacing light vehicle chassis units and components	A/601/3732	2	6	45
Skills in removing and replacing light vehicle chassis units and components	F/601/3876	2	5	45
Option Group I: Light Vehicle Transmission and Driveline Units and Components (Both units must be achieved)				
Knowledge of light vehicle transmission and driveline units and components	Y/601/3740	2	6	45
Skills in removing and replacing light vehicle driveline units and components	K/601/3886	2	5	45
Option Group J: Removing and Fitting Electrical Components (Both units must be achieved)				
Knowledge of removing and fitting electrical components	K/601/6030	2	5	45

Skills in removing and fitting electrical components	Y/601/6055	2	2	20
Motorcycle Pathway Mandatory Unit: Health, Safety and Good Housekeeping in the Automotive Environment (Both units must be achieved)				
Knowledge of health, safety and good housekeeping in the automotive environment	D/601/6171	2	3	30
Skills in health, safety and good housekeeping in the automotive environment	Y/601/7254	2	7	60
Option Group A: Routine Motorcycle Maintenance (Both units must be achieved)				
Knowledge of routine motorcycle maintenance	F/601/5515	2	2	20
Skills in routine motorcycle maintenance	F/601/5594	2	2	20
Option Group B: Motorcycle Internal Engine Systems (Both units must be achieved)				
Knowledge of motorcycle internal engine systems	Y/601/5519	2	3	20
Knowledge of motorcycle fuel, ignition, air and exhaust system units and components	T/601/5527	2	3	20
Skills in motorcycle internal engine systems	R/601/5597	2	5	45
Option Group C: Removing and Replacing Motorcycle Electrical Units and Components (Both units must be achieved)				
Knowledge of removing and replacing motorcycle electrical units and components	H/601/5555	2	6	45
Skills in removing and replacing motorcycle electrical units and components	D/601/5604	2	5	45
Option Group D: Removing and Replacing Motorcycle Chassis Units and Components (Both units must be achieved)				

Knowledge of removing and replacing motorcycle chassis units and components	T/601/5558	2	6	45
Skills in removing and replacing motorcycle chassis units and components	M/601/5610	2	5	45
Option Group E: Motorcycle Preparation and Inspection (Both units must be achieved)				
Knowledge of motorcycle preparation and inspection	F/601/5563	2	2	20
Skills in motorcycle preparation and inspection	Y/601/5617	2	2	20
Option Group F: Inspection, Repair and Replacement of Motorcycle Tyres (Both units must be achieved)				
Knowledge of inspection, repair and replacement of motorcycle tyres	R/601/6040	2	3	24
Skills in inspection, repair and replacement of motorcycle tyres	T/601/6094	2	4	36
Option Group G: Working with Plastic Materials and Components (Both units must be achieved)				
Knowledge of working with plastic materials and components	Y/601/6119	3	6	45
Skills in working with plastic materials and components	J/601/6231	3	5	45
If learners achieve credits from units of the same title (or linked titles) at more than one level, they cannot count credits achieved from both units towards the credit target of a qualification.				

Rules of Combination: Level 2 Diploma in Motor Vehicle Studies

Learners must achieve a minimum of 45 credits from one pathway. This must include 10 credits from the Mandatory Group and a minimum of 35 credits from the pathway specific Option Groups.

Unit Title	Unit Number	Level	Credit Value	GL
Body Repair Pathway				

Mandatory Group: Health, Safety and Good Housekeeping in the Automotive Environment				
Knowledge of health, safety and good housekeeping in the automotive environment	D/601/6171	2	3	30
Skills in health, safety and good housekeeping in the automotive environment	Y/601/7254	2	7	60
Option Group A: Removing and Fitting Motor Mechanical, Electrical and Trim (MET) Components to Vehicles (Both units must be achieved)				
Knowledge of removing and fitting motor mechanical, electrical and trim (MET) components to vehicles	Y/601/5424	2	2	20
Skills in removing and fitting motor mechanical, electrical and trim (MET) components to vehicles	F/601/5451	2	2	20
Option Group B: Removing and Fitting Non Permanently Fixed Motor Vehicle Body Panels (Both units must be achieved)				
Knowledge of removing and fitting non permanently fixed motor vehicle body panels	D/601/5425	2	2	20
Skills in removing and fitting non permanently fixed motor vehicle body panels	R/601/5454	2	2	20
Option Group C: Removing and Replacing Exterior Motor Vehicle Body Panels including Permanently Fixed Components (Both units must be achieved)				
Knowledge of removing and replacing exterior motor vehicle body panels including permanently fixed components	H/601/5426	2	6	45
Skills in removing and replacing exterior motor vehicle body panels including permanently fixed components	D/601/5456	2	5	45
Option Group D: Minor Motor Vehicle Exterior Body Panel Repairs (Both units must be achieved)				
Knowledge of minor motor vehicle exterior body panel repairs	K/601/5427	2	6	45

Skills in minor motor vehicle exterior body panel repairs	K/601/5458	2	5	45
Option Group E: Motor Vehicle Body Metal Active Gas (MAG) Welding Techniques (Both units must be achieved)				
Knowledge of motor vehicle body metal active gas (MAG) welding techniques	T/601/5432	2	5	45
Skills in motor vehicle body metal active gas (MAG) welding techniques	R/601/5468	2	5	45
Option Group F: Motor Vehicle Body Resistance Spot Welding Operations (Both units must be achieved)				
Knowledge of motor vehicle body resistance spot welding operations	F/601/5434	2	5	45
Skills in motor vehicle body resistance spot welding Operations	Y/601/5469	2	5	45
Option Group G: Motor Vehicle Body Adhesive Bonding Operations (Both units must be achieved)				
Knowledge of motor vehicle body adhesive bonding operations	J/601/5449	3	2	20
Skills in motor vehicle body adhesive bonding operations	T/601/5480	3	2	20
Option Group H: Materials, Fabrication, Tools and Measuring Devices used in the Automotive Environment (Both units must be achieved)				
Knowledge of materials, fabrication, tools and measuring devices used in the automotive environment	K/601/6237	2	4	40
Skills in materials, fabrication, tools and measuring devices used in the automotive environment	Y/601/6279	2	7	60
Option Group I: Identify and Agree Motor Vehicle Customer Service Needs (Both units must be achieved)				
Knowledge of how to identify and agree motor vehicle customer service needs	R/601/6247	3	5	45
Skills to identify and agree motor vehicle customer service needs	M/601/6286	3	5	40

**Option Group J: Tools and Equipment used in Vehicle Refinishing
(Both units must be achieved)**

Knowledge of tools and equipment used in vehicle refinishing	J/601/6116	2	5	45
Skills in tools and equipment used in vehicle refinishing	Y/601/6153	2	5	45

**Option Group K: Working with Plastic Materials and Components
(Both units must be achieved)**

Knowledge of working with plastic materials and components	Y/601/6119	3	6	45
Skills in working with plastic materials and components	J/601/6231	3	5	45

Option Group L: Vehicle Colour Matching (Both units must be achieved)

Knowledge of vehicle colour matching	R/601/6135	3	6	45
Skills in vehicle colour matching	T/601/6256	3	5	45

Option Group M: Introduction to Vehicle Refinishing

Introduction to vehicle refinishing	Y/501/7020	1	4	40
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Light Vehicle Pathway
Mandatory Group: Health, Safety and Good Housekeeping in the Automotive Environment

Knowledge of health, safety and good housekeeping in the automotive environment	D/601/6171	2	3	30
Skills in health, safety and good housekeeping in the automotive environment	Y/601/7254	2	7	60

Option Group A: Locating and Correcting Simple Electrical Faults in the Automotive Workplace (Both units must be achieved)

Knowledge of locating and correcting simple electrical faults in the automotive workplace	K/601/6013	2	6	45
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Skills in locating and correcting simple electrical faults in the automotive workplace	F/601/6034	2	5	45
Option Group B: Removing and Fitting Basic Light Vehicle Mechanical, Electrical and Trim (MET) Components and Non Permanently Fixed Vehicle Body Panels (Both units must be achieved)				
Knowledge of removing and fitting basic light vehicle mechanical, electrical and trim (MET) components and non permanently fixed vehicle body panels	F/601/3747	2	2	20
Skills in removing and fitting basic light vehicle mechanical, electrical and trim (MET) components and non permanently fixed vehicle body panels	K/601/3869	2	3	20
Option Group C: Materials, Fabrication, Tools and Measuring Devices used in the Automotive Environment (Both units must be achieved)				
Knowledge of materials, fabrication, tools and measuring devices used in the automotive environment	K/601/6237	2	4	40
Skills in materials, fabrication, tools and measuring devices used in the automotive environment	Y/601/6279	2	7	60
Option Group D: Identify and Agree Motor Vehicle Customer Service Needs (Both units must be achieved)				
Knowledge of how to identify and agree motor vehicle customer service needs	R/601/6247	3	5	45
Skills to identify and agree motor vehicle customer service needs	M/601/6286	3	5	40
Option Group E: Routine Light Vehicle Maintenance (Both units must be achieved)				
Knowledge of routine light vehicle maintenance	F/601/3716	2	3	20
Skills in routine light vehicle maintenance	H/601/3871	2	2	20

Option Group F: Removing and Replacing Light Vehicle Engine Units and Components (All 3 units must be achieved)

Knowledge of light vehicle engine mechanical, lubrication and cooling system units and components	R/601/3719	2	3	20
Knowledge of light vehicle fuel, ignition, air and exhaust system units and components	H/601/3725	2	3	20
Skills in removing and replacing light vehicle engine units and components	K/601/3872	2	5	45

Option Group G: Removing and Replacing Light Vehicle Electrical Units and Components (Both units must be achieved)

Knowledge of removing and replacing light vehicle electrical units and components	T/601/3731	2	6	45
Skills in removing and replacing light vehicle electrical units and components	T/601/3874	2	5	45

Option Group H: Removing and Replacing Light Vehicle Chassis Units and Components (Both units must be achieved)

Knowledge of removing and replacing light vehicle chassis units and components	A/601/3732	2	6	45
Skills in removing and replacing light vehicle chassis units and components	F/601/3876	2	5	45

Option Group I: Inspecting Light Vehicles using Prescribed Methods (Both units must be achieved)

Knowledge of inspecting light vehicles using prescribed methods	H/601/3742	2	4	40
Skills in inspecting light vehicles using prescribed methods	A/601/3889	2	4	40

Option Group J: Light Vehicle Transmission and Driveline Units and Components (Both units must be achieved)

Knowledge of light vehicle transmission and driveline units and components	Y/601/3740	2	6	45
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Skills in removing and replacing light vehicle driveline units and components	K/601/3886	2	5	45
Option Group K: Removing and Fitting Electrical Components (Both units must be achieved)				
Knowledge of removing and fitting electrical components	K/601/6030	2	5	45
Skills in removing and fitting electrical components	Y/601/6055	2	2	20
Motor Cycle Pathway				
Mandatory Unit: Health, Safety and Good Housekeeping in the Automotive Environment (Both units must be achieved)				
Knowledge of health, safety and good housekeeping in the automotive environment	D/601/6171	2	3	30
Skills in health, safety and good housekeeping in the automotive environment	Y/601/7254	2	7	60
Option Group A: Locating and Correcting Simple Electrical Faults in the Automotive Workplace (Both units must be achieved)				
Knowledge of locating and correcting simple electrical faults in the automotive workplace	K/601/6013	2	6	45
Skills in locating and correcting simple electrical faults in the automotive workplace	F/601/6034	2	5	45
Option Group B: Materials, Fabrication, Tools and Measuring Devices used in the Automotive Environment (Both units must be achieved)				
Knowledge of materials, fabrication, tools and measuring devices used in the automotive environment	K/601/6237	2	4	40
Skills in materials, fabrication, tools and measuring devices used in the automotive environment	Y/601/6279	2	7	60
Option Group C: Identify and Agree Motor Vehicle Customer Service Needs (Both units must be achieved)				

Knowledge of how to identify and agree motor vehicle customer service needs	R/601/6247	3	5	45
Skills to identify and agree motor vehicle customer service needs	M/601/6286	3	5	40
Option Group D: Routine Motorcycle Maintenance (Both units must be achieved)				
Knowledge of routine motorcycle maintenance	F/601/5515	2	2	20
Skills in routine motorcycle maintenance	F/601/5594	2	2	20
Option Group E: Motorcycle Internal Engine Systems (Both units must be achieved)				
Knowledge of motorcycle internal engine systems	Y/601/5519	2	3	20
Knowledge of motorcycle fuel, ignition, air and exhaust system units and components	T/601/5527	2	3	20
Skills in motorcycle internal engine systems	R/601/5597	2	5	45
Option Group F: Removing and Replacing Motorcycle Electrical Units and Components (Both units must be achieved)				
Knowledge of removing and replacing motorcycle electrical units and components	H/601/5555	2	6	45
Skills in removing and replacing motorcycle electrical units and components	D/601/5604	2	5	45
Option Group G: Removing and Replacing Motorcycle Chassis Units and Components (Both units must be achieved)				
Knowledge of removing and replacing motorcycle chassis units and components	T/601/5558	2	6	45
Skills in removing and replacing motorcycle chassis units and components	M/601/5610	2	5	45

Option Group H: Motorcycle Preparation and Inspection (Both units must be achieved)

Knowledge of motorcycle preparation and inspection	F/601/5563	2	2	20
Skills in motorcycle preparation and inspection	Y/601/5617	2	2	20

Option Group I: Working with Plastic Materials and Components (Both units must be achieved)

Knowledge of working with plastic materials and components	Y/601/6119	3	6	45
Skills in working with plastic materials and components	J/601/6231	3	5	45

Option Group J: Repairing Minor Paint Defects (Both units must be achieved)

Knowledge of repairing minor paint defects	Y/601/6122	2	6	45
Skills in repairing minor paint defects	F/601/6244	2	5	45

Option Group K: Vehicle Colour Matching (Both units must be achieved)

Knowledge of vehicle colour matching	R/601/6135	3	6	45
Skills in vehicle colour matching	T/601/6256	3	5	45

Option Group L: Inspection, Repair and Replacement of Motorcycle Tyres (Both units must be achieved)

Knowledge of inspection, repair and replacement of motorcycle tyres	R/601/6040	2	3	24
Skills in inspection, repair and replacement of motorcycle tyres	T/601/6094	2	4	36

If learners achieve credits from units of the same title (or linked titles) at more than one level, they cannot count credits achieved from both units towards the credit target of a qualification.

Aim

The SEG Awards Level 2 Award, Certificate and Diploma in Motor Vehicle Studies aims to offer learners and centres a flexible bank of units that can be tailored into specialised learning packages in specific areas of interest. These can be built upon from award through to diploma aligned to careers in the motor vehicle industry that provides knowledge and skills required for potential occupations and job roles within. The overall aim is to provide learners a qualification that can be used as a pre-apprenticeship entry route, as well as enabling career progression and employment prospects.

Target Group

These qualifications are designed for:

- > The mature learner who is seeking re-entry into the employment market, but who has insufficient qualifications and/or experience to compete for work
- > 16–19 year olds in post-school education or training who wish to pursue a vocational course as a foundation to employment
- > Those in employment in the motor vehicle service and repair industry who need to acquire appropriate job-related qualifications
- > Learners who wish to gain industry relevant knowledge and skills in areas aligned to specific job roles within the automotive industry

Skills and Education Group Awards expects approved centres to recruit with integrity on the basis of a learner's ability to contribute to and successfully complete all the requirements of a unit(s) or the full qualification.

Assessment

This qualification is internally assessed and requires internal and external moderation. Specific requirements and restrictions may apply to individual units within qualifications. Please check unit and qualification details for specific information.

Centres must take all reasonable steps to avoid any part of the assessment of a learner (including any internal quality assurance and invigilation) being undertaken by any person who has a personal interest in the result of the assessment.

Resources

Skills and Education Group Awards provides the following additional resources for this qualification:

- > Purpose Statement
- > Indicative Content
- > Underpinning Knowledge Evidence Records (Level 2)
- > Practical Evidence Records (Level 2)

Practice Assessment Material

Skills and Education Group Awards confirm that there is no practice assessment material for this qualification.

Teaching Strategies and Learning Activities

Centres should adopt a delivery approach which supports the development of all individuals. The aims and aspirations of all the learners, including those with identified special needs or learning difficulties/disabilities, should be considered and appropriate support mechanisms put in place.

Progression Opportunities

Successful completion of the Level 2 Award in Motor Vehicle Studies provides learners with the opportunity to progress on to the SEG Level 2 Certificate or Diploma in Motor Vehicle Studies or Apprenticeships at Level 2 in:

- > Vehicle Fitting
- > Vehicle Maintenance and Repair
- > Vehicle Body and Paint Operations
- > Roadside Assistance and Recovery
- > Vehicle Parts Operations
- > Vehicle Sales

Successful completion of the Level 2 Certificate in Motor Vehicle Studies provides a sound preparation for further vocational training, such as continuing onto the SEG Level 2 Diploma in Motor Vehicle Studies or Apprenticeships at Level 2 or 3 in:

- > Vehicle Fitting
- > Vehicle Maintenance and Repair
- > Vehicle Body and Paint Operations
- > Roadside Assistance and Recovery

- > Vehicle Parts Operations
- > Vehicle Sales

Successful completion of the Level 2 Diploma in Motor Vehicle Studies provides a sound preparation for further vocational training, such as continuing onto other related qualifications at Level 3 or Apprenticeships at Level 2 or 3 in,

- > Vehicle Fitting
- > Vehicle Maintenance and Repair
- > Vehicle Body and Paint Operations
- > Roadside Assistance and Recovery
- > Vehicle Parts Operations
- > Vehicle Sales

Centres should be aware that Reasonable Adjustments, which may be permitted for assessment, may in some instances limit a learner's progression into the sector. Centres must, therefore, inform learners of any limits their learning difficulty may impose on future progression.

Tutor / Assessor Requirements

Skills and Education Group Awards require those involved in the teaching and assessment process to be suitably experienced and / or qualified. Assessors should also be trained and qualified to assess or be working towards appropriate qualifications.

Those responsible for Internal Quality Assurance (IQA) must be knowledgeable of the subject/occupational area to a suitable level to carry out accurate quality assurance practices and processes.

Language

This specification and associated assessment materials are in English only.

Units

Health and Safety for Motor Vehicle Studies		
Unit Reference	H/501/7005	
Level	1	
Credit Value	4	
Guided Learning (GL)	40	
Unit Summary	In this mandatory unit learners will explore the responsibility of the employer and employee and the requirements of basic health and safety legislation. They will identify workshop hazards and basic safety procedures.	
Learning Outcomes (1 to 5)	Assessment Criteria (1.1 to 5.2)	
The learner will	The learner can	
1. Know health and safety procedures and the responsibilities of employers and employees	1.1	Identify personal responsibilities and the responsibilities of others in the working environment
	1.2	Identify and use correctly equipment and procedures provided for health and safety in the workplace
	1.3	Demonstrate good housekeeping routines in the working environment
2. Know about PPE	2.1	Select and use correct Personal Protective Equipment
3. Know about COSHH	3.1	Identify four substances hazardous to health according to current regulations
	3.2	Demonstrate appropriate ways to dispose of waste products in accordance with environmental guidance
4. Know about safe manual handling	4.1	Know the principles of safe manual handling

	4.2	Demonstrate safe manual handling using appropriate equipment
5. Know about fire prevention and emergency procedures	5.1	Identify the principles of fire prevention
	5.2	Identify the type and location of fire extinguisher(s) in the working area
	5.3	State the procedure to follow in the event of an emergency evacuation
Mapping to National Occupational Standards Vehicle Maintenance and Repair 2005 G1: (EK: 1, 2, 3, 4, 5, 6. PO: a, b, c, d, e, f, g, h, I, j, k) G2: (EK: 1, 2, 3, 4, 5, 10, 12, 13, 14, 15. PO: a, b, c, d, h, I, k, l, o) Unit 44: (EK: 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 18. PO: a, b, c, e, g, h, I, j, k)		

Knowledge of Health, Safety and Good Housekeeping in the Automotive Environment		
Unit Reference	D/601/6171	
Level	2	
Credit Value	3	
Guided Learning (GL)	30	
Unit Summary	This unit enables the learner to develop an understanding of: > Routine maintenance and cleaning of the automotive environment and using resources economically > Health and safety legislation and duties of everyone in the motor vehicle environment. It will provide an appreciation of significant risks in the automotive environment and how to identify and deal with them. Once completed the learner will be able to identify hazards and evaluate and reduce risk	
Learning Outcomes (1 to 5)	Assessment Criteria (1.1 to 5.2)	
The learner will	The learner can	
1. Know the correct personal and vehicle protective equipment to be used within the automotive environment	1.1	Explain the importance of wearing the types of PPE required for a range of automotive repair activities
	1.2	Identify vehicle protective equipment for a range of repair activities
	1.3	Describe vehicle and personal safety considerations when working at the roadside
2. Know effective housekeeping practices in the automotive environment	2.1	Describe why the automotive environment should be properly cleaned and maintained

	2.2	Describe requirements and systems which may be put in place to ensure a clean automotive environment
	2.3	Describe how to minimise waste when using utilities and consumables
	2.4	State the procedures and precautions necessary when cleaning and maintaining an automotive environment
	2.5	Describe the selection and use of cleaning equipment when dealing with general cleaning, spillages and leaks in the automotive environment
	2.6	Describe procedures for correct disposal of waste materials from an automotive environment
	2.7	Describe procedures for starting and ending the working day which ensure effective housekeeping practices are followed
3. Know key health and safety requirements relevant to the automotive environment	3.1	List the main legislation relating to automotive environment health and safety
	3.2	Describe the general legal duties of employers and employees required by current health and safety legislation
	3.3	Describe key, current health and safety requirements relating to the automotive environment
	3.4	Describe why workplace policies and procedures relating to health and safety are important
4. Know about hazards and potential risks relevant to the automotive environment	4.1	Identify key hazards and risks in an automotive environment
	4.2	Describe policies and procedures for reporting hazards, risks, health and safety matters in the automotive environment

	4.3	State precautions and procedures which need to be taken when working with vehicles, associated materials, tools and equipment
	4.4	Identify fire extinguishers in common use and which types of fire they should be used on
	4.5	Identify key warning signs and their characteristics that are found in the vehicle repair environment.
	4.6	State the meaning of common product warning labels used in an automotive environment
5. Recognise personal responsibilities	5.1	Explain the importance of personal conduct in maintaining the health and safety of the individual and others
	5.2	Explain the importance of personal presentation in maintaining health safety and welfare
Mapping to National Occupational Standards Directly mapped to IMI SSC Generic NOS 2010, Units G1 & G2		

Skills in Housekeeping in the Automotive Environment

Unit Reference	Y/601/7254	
Level	2	
Credit Value	7	
Guided Learning (GL)	60	
Unit Summary	This unit will enable the learner to develop the skills required to: > Carry out day to day work area cleaning, clearing away, dealing with spillages and disposal of waste, used materials and debris > Identify hazards and risks in the automotive environment and complying with relevant legislation and good practice > Work safely at all times within the automotive environment, both as an individual and with others	
Learning Outcomes (1 to 4)	Assessment Criteria (1.1 to 4.2)	
The learner will	The learner can	
1. Be able to use correct personal and vehicle protection within the automotive environment	1.1	Select and use personal protective equipment throughout activities. To include appropriate protection of: > Eyes > Ears > Head > Skin > Feet > Hands > Lungs
	1.2	Select and use vehicle protective equipment throughout all activities
2. Be able to carry out effective housekeeping practices in the automotive environment	2.1	Select and use cleaning equipment which is of the right type and suitable for the task

	2.2	Use utilities and appropriate consumables, avoiding waste
	2.3	Use materials and equipment to carry out cleaning and maintenance duties in allocated work areas, following automotive work environment policies, schedules and manufacturers instructions
	2.4	Perform housekeeping activities safely and in a way which minimizes inconvenience to customers and staff
	2.5	Keep the work area clean and free from debris and waste materials
	2.6	Keep tools and equipment fit for purpose by regular cleaning and keeping tidy
	2.7	Dispose of used cleaning agents, waste materials and debris to comply with legal and workplace requirements
3. Be able to recognise and deal with dangers in order to work safely within the automotive workplace	3.1	Name and locate the responsible persons for health and safety in their relevant workplace
	3.2	Identify and report working practices and hazards which could be harmful to themselves or others
	3.3	Carry out safe working practices whilst working with equipment, materials and products in the automotive environment
	3.4	Rectify health and safety risks encountered at work, within the scope and capability of their job role
4. Be able to conduct themselves responsibly	4.1	Show personal conduct in the workplace which does not endanger the health and safety of themselves or others
	4.2	Display suitable personal presentation at work which ensures the health and safety of themselves and others at work

Mapping to National Occupational Standards

Directly mapped to IMI SSC Generic NOS 2010, Units G1 & G2

Knowledge of Locating and Correcting Simple Electrical Faults in the Automotive Workplace

Unit Reference	K/601/6013	
Level	2	
Credit Value	6	
Guided Learning (GL)	45	
Unit Summary	This unit enables the learner to develop an understanding in conducting a range of routine electrical tests, identifying simple faults on a variety of basic electrical components and undertaking suitable correction activities	
Learning Outcomes (1 to 2)	Assessment Criteria (1.1 to 2.8)	
The learner will	The learner can	
1. Understand the use of electrical testing equipment and measurements taken	1.1	Identify commonly used electrical test equipment
	1.2	Describe how to use and operate electrical test equipment
	1.3	Describe the safety and operational checks that should be carried out on tools and equipment required to remove and replace electrical components
	1.4	Describe how to measure voltage, resistance, current, and specific gravity in determining simple circuit faults
	1.5	Describe when and where to use voltage, ohm, amp and specific gravity measurements in determining simple circuit faults
	1.6	Describe the fundamental operation of motors, capacitors, resistors, semi-conductors, transistors, actuators and sensors (including active or self-generating and passive or modulating)

2. Understand how to carry out electrical testing techniques	2.1 Describe common types of testing methods used to check the operation of vehicle electrical/electronic circuits and components 2.2 Describe how to determine component condition and suitability based upon calculations using ohms law 2.3 Describe how to conduct tests following electrical safety and workplace procedures 2.4 Explain how to evaluate and interpret test results found in diagnosing simple electrical circuit faults against vehicle manufacturer specifications and settings 2.5 Describe how and the importance of making recommendations for rectification based upon the analysis of the test information gained 2.6 Explain how to identify common faults and their causes found in fundamental electrical systems and components 2.7 Explain how to evaluate the performance of any replaced electrical components against vehicle specification and the importance of doing so 2.8 Describe the procedures for disposing of any removed electrical components
Mapping to National Occupational Standards Directly mapped to IMI SSC Auto Electrical & Mobile Electrical Installation NOS 2010, unit AE01	

Skills in Locating and Correcting Simple Electrical Faults in the Automotive Workplace

Unit Reference	F/601/6034	
Level	2	
Credit Value	5	
Guided Learning (GL)	45	
Unit Summary	This unit will help the learner to demonstrate and conduct a range of routine electrical tests and identifying simple faults on a variety of basic electrical components and undertaking suitable correction activities	
Learning Outcomes (1 to 5)	Assessment Criteria (1.1 to 5.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out electrical testing techniques and rectification activities	1.1	Use suitable personal protective equipment and vehicle coverings throughout when carrying out vehicle electrical testing and rectification activities
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to use relevant information to carry out the task	2.1	Select suitable sources of technical information to support the identification of electrical faults, by reviewing > technical data > diagnostic test procedures
	2.2	Use technical information to support the identification of electrical faults
3. Be able to use appropriate tools and equipment	3.1	Select the appropriate tools and equipment necessary for carrying out electrical testing techniques and rectification activities
	3.2	Ensure that equipment has been calibrated to meet manufacturers' and legal requirements

	3.3	Use the correct tools and equipment in the way specified by manufacturers when carrying out electrical testing techniques and rectification activities
4. Be able to carry out electrical testing techniques and rectification activities	4.1	Carry out a functionality test of the electrical system and or component
	4.2	Use electrical testing methods that are suitable for assessing the performance of the electrical system and or components concerned
	4.3	Carry out all diagnostic and rectification activities following manufacturers' instructions recognised researched repair methods workplace procedures health and safety requirements
	4.4	Ensure all electrical testing techniques clearly identifies the cause of the identified faults
	4.5	Seek assistance of the relevant person promptly where the results of the testing are unclear
	4.6	Ensure all repaired and replaced electrical components are secure and function as specified by the manufacturer or any legal requirements
	4.7	Dispose of any removed electrical components safely to comply with legal requirements and workplace procedures
5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	5.2	Make suitable and justifiable recommendations for cost effective repairs

	5.3	Record and report any additional faults noticed during the course of their work promptly in the format required
Mapping to National Occupational Standards Directly mapped to IMI SSC Auto Electrical and Mobile Electrical Installation NOS 2010, unit AE01		

Knowledge of Removing and Fitting Motor Mechanical, Electrical and Trim (MET) Components to Vehicles

Unit Reference	Y/601/5424
Level	2
Credit Value	2
Guided Learning (GL)	20
Unit Summary	This unit enables the learner to develop an understanding of carrying out a range of removal and fitting of basic mechanical, electrical and trim (MET) components to vehicles. It also covers the evaluation of the operation of the components when fitted
Learning Outcomes (1 to 1)	Assessment Criteria (1.1 to 1.10)
The learner will	The learner can
1. Understand how to carry out removal and fitting of basic motor vehicle mechanical electrical and trim (MET) components	1.1 Identify the procedures involved in carrying out the systematic removal and fitting of basic vehicle MET components to the standard required 1.2 Identify the procedures involved in working with supplementary safety systems when fitting basic vehicle MET components 1.3 Identify the procedures involved in working with gas discharge headlamp systems when fitting basic vehicle MET components 1.4 Explain the methods and procedures for storing removed vehicle MET components 1.5 Identify the different types of fastenings and fixings used when removing and fitting vehicle MET components 1.6 Explain the reasons for the use of different types of fastenings and fixings used in vehicle MET components

	1.7	Describe the procedures, methods and reasons for ensuring correct alignment of vehicle MET components
	1.8	Identify the quality checks that can be used to ensure correct alignment and operation of vehicle MET components
	1.9	Identify correct conformity of vehicle systems against vehicle specification and legal requirements on completion
	1.10	Explain the procedure for reporting cosmetic damage to vehicle MET components and units
Mapping to National Occupational Standards Directly mapped to IMI SSC Accident Repair - Body NOS 2010, unit BP01		

Skills in Removing and Fitting Motor Mechanical, Electrical and Trim (MET) Components to Vehicles

Unit Reference	F/601/5451	
Level	2	
Credit Value	2	
Guided Learning (GL)	20	
Unit Summary	This unit will help the learner to develop the skills required to carry out a range of removal and fitting of basic mechanical, electrical and trim (MET) components to vehicles. It also covers the evaluation of the operation of the components when fitted	
Learning Outcomes (1 to 5)	Assessment Criteria (1.1 to 5.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out removal and fitting of basic MET components to vehicles	1.1	Use suitable personal protective equipment and use suitable vehicle coverings throughout all MET removal activities
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to use relevant information to carry out the task	2.1	Select suitable sources of technical information to support motor vehicle removal and recognised fitting activities including > vehicle technical data > removal and fitting procedures > legal requirements
	2.2	Use technical information to support motor vehicle removal and recognised fitting activities

3. Be able to use appropriate tools and equipment	3.1 Select the appropriate tools and equipment necessary for carrying out removal and fitting of MET components 3.2 Ensure that equipment has been calibrated to meet manufacturers' and legal requirements 3.3 Use the correct tools and equipment in the way specified by manufacturers when carrying removal and fitting of MET components
4. Be able to carry out removal and fitting of basic MET components	4.1 Carry out removal and fitting of MET components adhering to the correct specifications and tolerances for the vehicle and following: > the manufacturer's approved removal and fitting methods > recognised researched removal and fitting methods > health and safety requirements > workplace procedures 4.2 Ensure that the removal and fitting of MET components conforms to the vehicle operating specification and any legal requirements 4.3 Ensure no damage occurs to other components when removal and fitting of MET components 4.4 Ensure all components and panels are stored safely and in the correct location
5. Be able to record information and make suitable recommendations	5.1 Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required 5.2 Make suitable and justifiable recommendations for cost effective repairs 5.3 Record and report any additional auto electrical faults noticed during the course

		of their work promptly in the format required
Mapping to National Occupational Standards Directly mapped to IMI SSC Accident Repair - Body NOS 2010, unit BP01		

Knowledge of Removing and Fitting Non Permanently Fixed Motor Vehicle Body Panels	
Unit Reference	D/601/5425
Level	2
Credit Value	2
Guided Learning (GL)	20
Unit Summary	This unit enables the learner to develop an the understanding needed to carry out the removal and fitting non permanently fixed motor vehicle body panels
Learning Outcomes (1 to 2)	Assessment Criteria (1.1 to 1.9)
The learner will	The learner can
1. Understand how to carry out removal and fitting of non-permanently fixed motor vehicle body panels	1.1 Identify the procedures involved in carry out the systematic removal and fitting of non-permanently fixed vehicle body panels > wings > doors > bonnets > boot lids > tailgates 1.2 Identify the procedures involved in working with supplementary safety systems when fitting basic non-permanently fixed vehicle body panels 1.3 Describe the methods and procedures for storing removed non-permanently fixed vehicle body panels 1.4 Identify the different types of fastenings and fixings used when removing and fitting non-permanently fixed vehicle body panels 1.5 Explain the reasons for the use of different types of fastenings and fixings

		used in non-permanently fixed vehicle body panels
	1.6	Describe the procedures, methods and reasons for ensuring alignment of non-permanently fixed vehicle body panels
	1.7	Identify the quality checks that can be used to ensure alignment and operation of non-permanently fixed vehicle body panels
	1.8	Identify conformity of vehicle systems against vehicle specification and legal requirements on completion
	1.9	Explain the procedure for reporting damage to vehicle non-permanently fixed vehicle body panels
Mapping to National Occupational Standards Directly mapped to IMI SSC Accident Repair - Body NOS 2010, unit BP02		

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

Unit Reference	R/601/5454	
Level	2	
Credit Value	2	
Guided Learning (GL)	20	
Unit Summary	This unit will help the learner to develop the skills required to carry out a range of removal and fitting of non-permanently fixed vehicle panels such as wings, doors, bonnets, boot lids and tailgates. It also covers the evaluation of the operation of the components when fitted	
Learning Outcomes (1 to 5)	Assessment Criteria (1.1 to 5.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out removal and fitting of non-permanently fixed vehicle panels	1.1	Use suitable personal protective equipment and vehicle coverings throughout all removal and replacement activities
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people, the environment
2. Be able to use relevant information to carry out the task	2.1	Select suitable sources of technical information to support motor vehicle removal and recognised fitting activities including > vehicle technical data > removal and fitting procedures > legal requirements
	2.2	Use technical information to support motor vehicle removal and recognised fitting activities
3. Be able to use appropriate tools and equipment	3.1	Select the appropriate tools and equipment necessary for carrying out removal and fitting of non-permanently fixed vehicle panels

	3.2	Ensure that equipment has been calibrated to meet manufacturers' and legal requirements
	3.3	Use the correct tools and equipment in the way specified by manufacturers when carrying removal and fitting of non-permanently fixed vehicle panels
4. Be able to carry out removal and fitting of non-permanently fixed vehicle panels	4.1	Carry out removal and fitting of non-permanently fixed vehicle panels
	4.2	Carry out removal and fitting of non-permanently fixed vehicle panels adhering to the correct specifications and tolerances for the vehicle.
	4.3	Ensure that the removal and fitting of non-permanently fixed panels conforms to the vehicle operating specification and any legal requirements
	4.4	Ensure the components are realigned correctly in a way which regains their original manufactured tolerance
	4.5	Ensure no damage occurs to other components when removal and fitting of non-permanently fixed vehicle panels
	4.6	Ensure all components and panels are stored safely and in the correct location
5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	5.2	Make suitable and justifiable recommendations for cost effective repairs
	5.3	Record and report any additional auto electrical faults noticed during the course of their work promptly in the format required

Mapping to National Occupational Standards

Directly mapped to IMI SSC Accident Repair - Body NOS 2010, unit BP02

Knowledge of Removing and Replacing Exterior Motor Vehicle Body Panels Including Permanently Fixed Components

Unit Reference	H/601/5426
Level	2
Credit Value	6
Guided Learning (GL)	45
Unit Summary	This unit enables the learner to develop an understanding of carrying out removal and refitting of exterior panels using mechanical fastening, adhesive bonding, welding and joining techniques
Learning Outcomes (1 to 2)	Assessment Criteria (1.1 to 2.13)
The learner will	The learner can
1. Understand material types and properties used in removing and replacing exterior vehicle panels	1.1 Identify the properties and different types of materials used in the construction of vehicle bodies
	1.2 Describe the properties of materials used in vehicle body construction
	1.3 Identify the properties and safe use of body component sealants, adhesives, and anti-corrosion materials
	1.4 Describe the correct type of sealant to use in a given application in removing and replacing vehicle panels
	1.5 Describe how to apply sealants and anti-corrosion materials following manufacturers recommended methods
2. Understand how to carry out removal and replacing of fixed and non-permanently fixed exterior vehicle body panels including fixed panels	2.1 Identify the procedures involved in carry out the systematic removal of the manufacturers original joining technique
	2.2 Identify the procedures involved in carry out the systematic replacement of fixed

		and non-permanently fixed vehicle panels using recognised joining techniques
	2.3	Identify the procedures involved in working with supplementary safety systems when fitting basic vehicle MET components
	2.4	Describe the need for correct alignment of panels and the methods used to achieve this
	2.5	Identify the quality checks that can be used to ensure correct alignment and contour of panels and operation of components to manufacturers specification
	2.6	Describe the methods and procedures for storing components and the importance of storing them correctly and in accordance with legal requirements
	2.7	Identify the different types of fastenings, fixings and adhesives bonding used in the removal and replacement of vehicle body panels
	2.8	Explain the reasons for the use of different types of fastenings, fixings and adhesives used in vehicle body panel replacement
	2.9	Identify the procedures involved in carry out the systematic replacement of vehicle panels using fastenings, fixings and adhesives bonding techniques
	2.10	Describe how panel removal and replacement affects the overall body structure
	2.11	Identify the manufacturers approved methods of working for the removal and replacement of exterior body panels

	2.12	Identify correct conformity of vehicle systems against vehicle specification and legal requirements on completion
	2.13	Explain the procedure for reporting damage caused to the vehicle during the panel replacement activities
Mapping to National Occupational Standards Directly mapped to IMI SSC Accident Repair - Body NOS 2010, unit BP05		

Skills in Removing and Replacing Exterior Motor Vehicle Body Panels Including Permanently Fixed Components

Unit Reference	D/601/5456	
Level	2	
Credit Value	5	
Guided Learning (GL)	45	
Unit Summary	This unit will help the learner to develop the skills required to carry out a range of removal and fitting of exterior panels using mechanical fastening, adhesive bonding, welding and joining techniques. It also covers the evaluation of the operation of the components when fitted	
Learning Outcomes (1 to 5)	Assessment Criteria (1.1 to 5.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out removal and replacement of exterior vehicle panels including permanently fixed panels	1.1	Use suitable personal protective equipment and vehicle coverings throughout all removal and replacement activities
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to use relevant information to carry out the task	2.1	Select suitable sources of technical information to support motor vehicle removal and fitting activities including > vehicle technical data > removal and fitting procedures > legal requirements
	2.2	Use technical information to support motor vehicle removal and fitting activities
3. Be able to use appropriate tools and equipment	3.1	Select the appropriate tools and equipment necessary for carrying out removal and fitting of exterior body panels including permanently fixed vehicle panels

	3.2	Ensure that equipment has been calibrated to meet manufacturers' and legal requirements
	3.3	Use the appropriate tools and equipment in the way specified by manufacturers when carrying removal and fitting of exterior body panels including permanently fixed vehicle panels
4. Be able to carry out removal and fitting of exterior vehicle panels including permanently fixed panels	4.1	Identify prior to working on the vehicle the component materials involved that will be worked on during the repair
	4.2	Remove and fit adjacent exterior body panels including those that are permanently fixed
	4.3	Carry out removal and fitting of exterior body panels including permanently fixed vehicle panels adhering to specifications and tolerances for the vehicle and following > recognised researched removal and fitting methods > health and safety requirements > workplace procedures
	4.4	Use and apply sealants and anti-corrosion materials conforming to the manufacturers specification
	4.5	Ensure that the replacement panels conform to the vehicle specifications for dimension, material and functional capability Ensure the components are realigned correctly in a way which regains their original manufactured tolerance
	4.6	Ensure any damage is minimised to mating surfaces. Any damage caused should be correctly reinstated.

	4.7	Ensure permanently fixed panels are replaced without incurring damage to the vehicle systems
	4.8	Ensure all components and panels are stored safely and in the correct location
5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	5.2	Make suitable and justifiable recommendations for cost effective repairs
	5.3	Record and report any additional auto electrical faults noticed during the course of their work promptly in the format required
Mapping to National Occupational Standards Directly mapped to IMI SSC Accident Repair - Body NOS 2010, unit BP05		

Knowledge of Minor Motor Vehicle Exterior Body Panel Repairs

Unit Reference	K/601/5427	
Level	2	
Credit Value	6	
Guided Learning (GL)	45	
Unit Summary	This unit enables the learner to develop an understanding of carrying out repairs to exterior body panels using a variety of techniques	
Learning Outcomes (1 to 3)	Assessment Criteria (1.1 to 3.11)	
The learner will	The learner can	
1. Understand the principles of selection and use of appropriate tools and equipment in minor repairs on motor vehicle exterior body panels	1.1	Identify tools used in the repair of metal finishing and plastic repairs
	1.2	Identify tools to carry out reshaping work including specialist dent removal tools
	1.3	Describe how to prepare, test, use and maintain the hand and power tools required to prepare damage and reshape damaged areas
2. Understand material types and properties used in minor repairs on motor vehicle exterior body panels	2.1	Identify the properties and different types of materials used in the construction of vehicle bodies
	2.2	Describe the properties and use of metals used to manufacture body panels
	2.3	Identify the properties and safe use of types of filling materials used to repair panels
	2.4	Explain how to mix and apply plastic fillers
	2.5	Describe the techniques for identifying the type of plastic used for manufactured components

	2.6	Identify and describe the different types and grades of abrasive paper and their use
3. Understand how to carry out minor repairs to motor vehicle exterior body panels	3.1	Describe how to prepare the vehicle to avoid contamination
	3.2	Describe how to prepare damaged areas to facilitate repairs
	3.3	Describe how to rough out and metal finish body panels
	3.4	Identify the procedures involved to reshape filling materials to match the original contour
	3.5	Describe how to finish repairs to a suitable agreed condition to enable the next stage of repairs to proceed
	3.6	Identify the procedures for repairing damage to plastic components including thermal and adhesive techniques
	3.7	Describe the techniques used to regain the contours of repaired plastic components
	3.8	Identify and describe the techniques for reshaping damaged body panels using hand and specialist tools to include
	3.9	Describe the methods used to check for panel contours for accuracy after reshaping
	3.10	Explain the procedures for reinstating anti corrosion, sealant and sound deadening materials
	3.11	Describe the aspects of pedestrian safety in relation to the repairability of vehicles

Mapping to National Occupational Standards

Directly mapped to IMI SSC Accident Repair - Body NOS 2010, unit BP06

Skills in Carrying Out Minor Repairs to Motor Vehicle Exterior Body Panels		
Unit Reference	K/601/5458	
Level	2	
Credit Value	5	
Guided Learning (GL)	45	
Unit Summary	This unit will help the learner to develop the skills required to carry out minor repairs to motor vehicle exterior body panels using a variety of techniques. It also covers the evaluation of the repair once completed	
Learning Outcomes (1 to 5)	Assessment Criteria (1.1 to 5.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out minor repairs to motor vehicle exterior body panels	1.1	Use suitable personal protective equipment and vehicle coverings throughout all repair activities
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to use relevant information to carry out the task	2.1	Select suitable sources of technical information to support motor vehicle removal and fitting activities including Manufacturers' Instructions Vehicle Technical Data Removal And Fitting Procedures Legal Requirements
	2.2	Use technical information to support motor vehicle removal and fitting activities
3. Be able to use appropriate tools and equipment	3.1	Select the appropriate tools and equipment necessary for carrying out repairs to motor vehicle exterior and body panels

	3.2	Check that equipment has been calibrated to meet manufacturers' and legal requirements
	3.3	Use the correct tools and equipment in the way specified by manufacturers when carrying out repairs to motor vehicle exterior body panels
4. Be able to carry out minor repairs to motor vehicle exterior body panels	4.1	Identify prior to working on the vehicle the component materials involved that will be worked on during the repair
	4.2	Carry out minor repairs to motor vehicle exterior body panels so they are restored to their original contour using hand tools and filling materials effectively
	4.3	Carry out minor repairs to motor vehicle exterior body panels adhering to specifications and tolerances for the vehicle and following The manufacturer's approved removal and fitting methods Recognised researched removal and fitting methods Health and safety requirements Workplace procedures
	4.4	Replace any sealer, anti-corrosion and sound deadening materials which were removed prior to the repair and conforming to the manufacturers specification
	4.5	Ensure all plastic repairs regain the strength of the original part
	4.6	Ensure any damage is minimised to mating surfaces. Any damage caused should be correctly reinstated.
	4.7	Ensure all completed repairs are finished to and agreed standard ready for the refinishing process

5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format require
	5.2	Make suitable and justifiable recommendations for cost effective repairs
	5.3	Record and report any additional auto electrical faults noticed during the course of their work promptly in the format required
Mapping to National Occupational Standards		
Directly mapped to IMI SSC Accident Repair - Body NOS 2010, unit BP06		

Knowledge of Removing and Fitting Basic Light Vehicle Mechanical, Electrical and Trim (MET) Components and Non Permanently Fixed Vehicle Body Panels

Unit Reference	F/601/3747	
Level	2	
Credit Value	2	
Guided Learning (GL)	20	
Unit Summary	This unit enables the learner to develop an understanding of removing and fitting basic light vehicle mechanical, electrical and trim (MET) components and non-permanently fixed vehicle body panels	
Learning Outcomes (1 to 2)	Assessment Criteria (1.1 to 2.9)	
The learner will	The learner can	
1. Understand how to carry out removal and fitting of basic light vehicle mechanical electrical and trim (MET) components	1.1	Identify the procedures involved in carry out the systematic removal and fitting of basic light vehicle MET components to the standard required including > Bumpers > Headlamp units > Road wheels > Batteries > Bonnet and boot trim > Interior trim components > Exterior trim components
	1.2	Identify the procedures involved in working with supplementary safety systems when fitting basic light vehicle MET components
	1.3	Identify the procedures involved in working with gas discharge headlamp systems when fitting basic light vehicle MET components

	1.4	Explain the methods and procedures for storing removed light vehicle MET components
	1.5	Identify the different types of fastenings and fixings used when removing and fitting light vehicle MET components
	1.6	Explain the reasons for the use of different types of fastenings and fixings used in light vehicle MET components
	1.7	Explain the procedures, methods and reasons for ensuring correct alignment of light vehicle MET components
	1.8	Identify the quality checks that can be used to ensure correct alignment and operation of light vehicle MET components
	1.9	Identify correct conformity of vehicle systems against light vehicle specification and legal requirements on completion
	1.10	Explain the procedure for reporting cosmetic damage to light vehicle MET components and units
2. Understand how to carry out removal and fitting of basic light vehicle non permanently fixed vehicle body panels	2.1	Identify the procedures involved in carry out the systematic removal and fitting of basic light vehicle non-welded, non-structural body panels to the standard required including > wings > doors > bonnets > boot lids and tailgates > bumper bars, covers and components
	2.2	Identify the procedures involved in working with supplementary safety systems when fitting basic light vehicle non-welded, non-structural body panels

	2.3	Explain the methods and procedures for storing removed light vehicle non-welded, non-structural body panels
	2.4	Identify the different types of fastenings and fixings used when removing and fitting light vehicle non-welded, non-structural body panels
	2.5	Explain the reasons for the use of different types of fastenings and fixings used in light vehicle non-welded, non-structural body panels
	2.6	Explain the procedures, methods and reasons for ensuring correct alignment of light vehicle non-welded, non-structural body panels
	2.7	Identify the quality checks that can be used to ensure correct alignment and operation of light vehicle non-welded, non-structural body panels
	2.8	Identify correct conformity of vehicle systems against light vehicle specification and legal requirements on completion
	2.9	Explain the procedure for reporting cosmetic damage to light vehicle non-welded, non-structural body panels
Mapping to National Occupational Standards Directly mapped to IMI SSC Accident Repair - Body NOS 2010, unit BP18		

Skills in Removing and Fitting of Basic Light Vehicle Mechanical, Electrical and Trim (MET) Components and Non Permanently Fixed Vehicle Body Panels

Unit Reference	K/601/3869	
Level	2	
Credit Value	3	
Guided Learning (GL)	20	
Unit Summary	This unit will help the learner to develop the skills required to carry out the removal and fitting of basic light vehicle mechanical, electrical and trim (MET) components and non permanently fixed vehicle body panels	
Learning Outcomes (1 to 5)	Assessment Criteria (1.1 to 5.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out removal and fitting of basic MET components and non-permanently fixed light vehicle body panels	1.1	Use suitable personal protective equipment and vehicle coverings throughout all light vehicle removal and fitting of basic MET components and non-permanently fixed light vehicle body panels
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to use relevant information to carry out the task	2.1	Select suitable sources of technical information to support light vehicle removal and fitting activities including vehicle technical data removal and fitting procedures legal requirements
	2.2	Use technical information to support light vehicle removal and fitting activities
3. Be able to use appropriate tools and equipment	3.1	Select the appropriate tools and equipment necessary for carrying out removal and fitting of basic MET

	3.2	components and non-permanently fixed light vehicle body panels
	3.3	Ensure that equipment has been calibrated to meet manufacturers' and legal requirements
	3.4	Use the correct tools and equipment in the way specified by manufacturers when carrying removal and fitting of basic MET components and non-permanently fixed light vehicle body panels
4. Be able to carry out removal and fitting of basic MET components and non-permanently fixed light vehicle body panels	4.1	Remove and fit basic MET components and non-permanently fixed light vehicle body panels
	4.2	Ensure that the removal and fitting of basic MET components and non-permanently fixed light vehicle body panels conforms to the vehicle operating specification and any legal requirements
	4.3	Ensure no damage occurs to other components when removal and fitting of basic MET components and non-permanently fixed light vehicle body panels
	4.4	Ensure all components and panels are stored safely and in the correct location
5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	5.2	Make suitable and justifiable recommendations for cost effective repairs
	5.3	Record and report any additional faults noticed during the course of their work promptly in the format required
Mapping to National Occupational Standards Directly mapped to IMI SSC Accident Repair - Body NOS 2010, unit BP18		

Knowledge of Motor Vehicle Body Metal Active Gas (MAG) Welding Techniques		
Unit Reference	T/601/5432	
Level	2	
Credit Value	5	
Guided Learning (GL)	45	
Unit Summary	This unit enables the learner to develop an understanding of joining materials using Metal Active Gas (MAG) welding techniques	
Learning Outcomes (1 to 3)	Assessment Criteria (1.1 to 3.9)	
The learner will	The learner can	
1. Understand how to work safely when carrying out motor vehicle body MAG welding operations	1.1	Describe the health, safety and legal requirements relating to the joining of carbon steels using MAG welding techniques
	1.2	Describe the importance of selecting, using and maintaining the appropriate personal protective equipment when joining carbon steels using MAG welding techniques
	1.3	Describe the requirements for protecting the vehicle and contents from damage before, during and after the joining of carbon steels by MAG welding techniques
2. Understand how to select, check, use and maintain appropriate tools and equipment used in motor vehicle body MAG welding operations	2.1	Explain the use of all tools and equipment required to join carbon steels using MAG welding techniques
	2.2	Describe, within the scope of their responsibilities, how to select, prepare and maintain the tools and equipment required to join carbon steels using MAG welding techniques

3. Understand how to carry out motor vehicle body MAG welding operations	3.1 Explain the importance of correct surface preparation methods to ensure a good MAG weld is achieved 3.2 Identify the need for correct alignment and mating of carbon steels and the methods used to achieve this in MAG welding 3.3 Describe the welding techniques used in MAG welding to include > plug > lap > butt > fillet 3.4 Identify the faults and defects that can occur when MAG welding 3.5 Identify common causes which result in faults and defects 3.6 Describe the quality control measures that can be used to help ensure correct joining of carbon steels before, during and after the welding process 3.7 Describe how to inspect and assess MAG welding in accordance to British Standards 3.8 Compare the advantages and disadvantages of MAG welding over other welding methods 3.9 Explain the importance and implications of checking and carrying out weld test pieces prior to carrying out the welding process
Mapping to National Occupational Standards Directly mapped to IMI SSC Accident Repair - Body NOS 2010, unit BP19	

Skills in Motor Vehicle Body Metal Active Gas (MAG) Welding Techniques

Unit Reference	R/601/5468	
Level	2	
Credit Value	5	
Guided Learning (GL)	45	
Unit Summary	This unit enables the learner to develop the skills required to join materials using Metal Active Gas (MAG) welding techniques. It also covers the evaluation of the completed welded component	
Learning Outcomes (1 to 5)	Assessment Criteria (1.1 to 5.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out motor vehicle body MAG welding operations	1.1	Use suitable personal protective equipment and vehicle coverings throughout all motor vehicle body MAG welding operations
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to use relevant information to carry out the task	2.1	Select suitable sources of technical information to support motor vehicle body MAG welding operation activities including vehicle technical data welding procedures legal requirements
	2.2	Use technical information to support motor vehicle body MAG welding operation activities
3. Be able to use appropriate tools and equipment	3.1	Select the appropriate tools and equipment necessary for carrying out motor vehicle body MAG welding operations

	3.2	Ensure all tools and equipment that are required are in a safe working condition
	3.3	Set up and use the appropriate tools and equipment in the way specified by manufacturers when carrying out motor vehicle body MAG welding operations
	3.4	Clean and store PPE and equipment in the appropriate manner
4. Be able to carry out motor vehicle body MAG welding operations	4.1	Prepare surface to ensure a good MAG weld is achieved
	4.2	Ensure alignment, mating and treatment of flanges to enable a suitable join to be achieved
	4.3	Conduct MAG weld operations including > lap plug > lap seam > butt joint > fillet joint
	4.4	Conduct MAG weld operations following > manufacturers processes, methods and procedures > test procedures to provide test coupons on equivalent material in accordance with British Standards > recognised researched repair methods
	4.5	Dress the weld area without reducing material thickness and protect the area to inhibit corrosion where applicable
	4.6	Recognise when the weld is not forming correctly and what action needs to be taken
	4.7	Inspect and assess quality of welds in accordance with British Standards and manufacturers specification

	4.8	Avoid damaging other components, units, panels and surfaces on the vehicle and the surrounding work area. Any damage caused should be correctly reinstated
	4.9	Ensure no damage is incurred to other vehicle systems when MAG welding
5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	5.2	Make suitable and justifiable recommendations for cost effective repairs
	5.3	Record and report any additional auto electrical faults noticed during the course of their work promptly in the format required
Mapping to National Occupational Standards Directly mapped to IMI SSC Accident Repair - Body NOS 2010, unit BP19		

Knowledge of Motor Vehicle Body Resistance Spot Welding Operations

Unit Reference	F/601/5434	
Level	2	
Credit Value	5	
Guided Learning (GL)	45	
Unit Summary	This unit enables the learner to develop an understanding of joining materials using resistance spot welding techniques and procedures	
Learning Outcomes (1 to 3)	Assessment Criteria (1.1 to 3.9)	
The learner will	The learner can	
1. Understand how to work safely when carrying out motor vehicle body resistance spot welding operations	1.1	Describe the health, safety and legal requirements relating to the joining of materials using resistance spot welding techniques
	1.2	Describe the importance of selecting, using and maintaining the appropriate personal protective equipment when joining materials using resistance spot welding techniques
	1.3	Describe the requirements for protecting the vehicle and contents from damage before, during and after the joining of materials by resistance spot welding techniques
2. Understand how to select, check, use and maintain appropriate tools and equipment used in motor vehicle body resistance spot welding operations	2.1	Identify and explain the use of all tools and equipment required to join materials using resistance spot welding techniques
	2.2	Describe, within the scope of their responsibilities, how to select, prepare and maintain tools and equipment required to join materials using resistance spot welding techniques

3. Understand how to carry out motor vehicle body resistance spot welding operations	3.1 Describe the importance of correct surface preparation methods to ensure a good resistance spot weld is achieved 3.2 Identify the need for alignment and mating of materials and the best methods used to achieve this in resistance spot welding 3.3 Describe the welding processes, techniques and joints used for the joining of materials using resistance spot welding 3.4 Identify the faults and defects that can occur when carrying out resistance spot welding 3.5 Identify common causes which produce the faults and defects in resistance spot welding 3.6 Describe the types of quality control checks that can be used to ensure correct joining of materials 3.7 Describe how to inspect and assess resistance spot welding in accordance to British Standards including > weld pitch > indentation > heat zone > nugget size > peel and shear test 3.8 Compare the advantages and disadvantages of resistance spot welding over other welding methods 3.9 Explain the importance and implications of checking and carrying out weld test pieces prior to carrying out the welding process
Mapping to National Occupational Standards Directly mapped to IMI SSC Accident Repair - Body NOS 2010, unit BP20	

Skills in Motor Vehicle Body Resistance Spot Welding Operations

Unit Reference	Y/601/5469	
Level	2	
Credit Value	5	
Guided Learning (GL)	45	
Unit Summary	This unit will help the learner to develop the skills required to join materials correctly and effectively using resistance spot welding techniques and procedures. It also covers the evaluation of the completed welded component	
Learning Outcomes (1 to 2)	Assessment Criteria (1.1 to 5.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out motor vehicle body resistance spot welding operations	1.1	Use suitable personal protective equipment and vehicle coverings throughout all motor vehicle body resistance spot welding operations
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to use relevant information to carry out the task	2.1	Select suitable sources of technical information to support motor vehicle body resistance spot welding operation activities including vehicle technical data welding procedures legal requirements
	2.2	Use technical information to support motor vehicle body resistance spot welding operation activities
3. Be able to use appropriate tools and equipment	3.1	Select the appropriate tools and equipment necessary for carrying out motor vehicle body resistance spot welding operations

	3.2	Ensure tools and equipment that are required are in a safe working condition
	3.3	Set up and use the correct tools and equipment in the way specified by manufacturers when carrying motor vehicle body resistance spot welding operations
	3.4	Clean and store PPE and equipment in the appropriate manner
4. Be able to carry out motor vehicle body resistance spot welding operations	4.1	Carry out surface preparation to ensure a good resistance spot weld is achieved
	4.2	Ensure alignment and mating and treatment of flanges to enable a suitable join to be achieved
	4.3	Produce resistance spot welding operations following manufacturers processes, methods and procedures test procedures and providing test coupons on equivalent material in accordance with British Standards recognised researched repair methods
	4.4	Dress and protect the area to inhibit corrosion where applicable
	4.5	Identify when the weld is not forming correctly and what action needs to be taken
	4.6	Inspect and assess all resistance spot weld quality in accordance with British Standards and manufacturers specification
	4.7	Ensure the integrity of the weld and record the type of weld achieved on the appropriate paperwork.
	4.8	Store and record all weld test pieces

	4.9	Avoid damaging other components, units, panels and surfaces on the vehicle and the surrounding work area. Any damage caused should be correctly reinstated
	4.10	Ensure no damage is incurred to other vehicle systems when resistance spot welding
5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	5.2	Make suitable and justifiable recommendations for cost effective repairs
	5.3	Record and report any additional faults noticed during the course of their work promptly in the format required
Mapping to National Occupational Standards Directly mapped to IMI SSC Accident Repair - Body NOS 2010, unit BP20		

Knowledge of Motor Vehicle Body Adhesive Bonding Operations

Unit Reference	J/601/5449	
Level	3	
Credit Value	2	
Guided Learning (GL)	20	
Unit Summary	This unit enables the learner to develop an understanding of joining materials using adhesive bonding techniques and procedures	
Learning Outcomes (1 to 3)	Assessment Criteria (1.1 to 3.8)	
The learner will	The learner can	
1. Understand how to work safely when carrying out motor vehicle body adhesive bonding operations	1.1	Explain the health, safety and legal requirements relating to the joining of materials using adhesive bonding techniques
	1.2	Explain the importance of selecting, using and maintaining the appropriate personal protective equipment when joining materials using adhesive bonding techniques
	1.3	Explain the requirements for protecting the vehicle and contents from damage before, during and after the joining of materials by adhesive bonding techniques
2. Understand how to select, check, use and maintain appropriate tools and equipment used in motor vehicle body adhesive bonding operations	2.1	Explain the use of all tools and equipment required to join materials using adhesive bonding techniques
	2.2	Explain, within the scope of their responsibilities, how to select, prepare and maintain tools and equipment required to join materials using adhesive bonding techniques

3. Understand how to carry out motor vehicle body adhesive bonding operations	3.1	Explain the importance of correct surface preparation methods to ensure a good adhesive bonding joint is achieved
	3.2	Identify the need for alignment/mating of materials and the best methods used to achieve this in adhesive bonding
	3.3	Explain the joining processes, techniques and joints used for the joining of materials using adhesive bonding
	3.4	Identify the faults and defects that can occur when carrying out adhesive bonding
	3.5	Identify common causes which produce the faults and defects in adhesive bonding
	3.6	Explain the types of quality control checks that can be used to ensure correct joining of materials
	3.7	Explain the advantages and disadvantages of adhesive bonding over other joining methods
	3.8	Explain the importance and implications of checking and carrying out test pieces prior to carrying out the joining process
Mapping to National Occupational Standards Directly mapped to IMI SSC Accident Repair - Body NOS 2010, unit BP25		

Skills in Motor Vehicle Body Adhesive Bonding Operations

Unit Reference	T/601/5480	
Level	3	
Credit Value	2	
Guided Learning (GL)	20	
Unit Summary	This unit will help the learner to develop the skills required to join materials using adhesive bonding techniques and procedures. It also covers the evaluation of the completed joint	
Learning Outcomes (1 to 5)	Assessment Criteria (1.1 to 5.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out motor vehicle body adhesive bonding operations	1.1	Use suitable personal protective equipment and vehicle coverings throughout all motor vehicle body adhesive bonding operations
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to use relevant information to carry out the task	2.1	Select suitable sources of technical information to support motor vehicle body adhesive bonding operation activities including > vehicle technical data > joining procedures > legal requirements
	2.2	Use technical information to support motor vehicle body adhesive bonding operation activities
3. Be able to use appropriate tools and equipment	3.1	Select the appropriate tools and equipment necessary for carrying out motor vehicle body adhesive bonding operations

	3.2	Ensure tools and equipment that are required are in a safe working condition
	3.3	Set up and use the correct tools and equipment in the way specified by manufacturers when carrying motor vehicle body adhesive bonding operations
	3.4	Clean and store PPE and equipment in the appropriate manner
4. Be able to carry out motor vehicle body adhesive bonding operations	4.1	Prepare surface to ensure a good adhesive bond is achieved
	4.2	Ensure alignment and mating and treatment of flanges to enable a suitable join to be achieved
	4.3	Carry out adhesive bonding operations following > manufacturers processes, methods and procedures > test procedures and providing test coupons on equivalent material > recognised researched repair methods
	4.4	Dress and protect the area to inhibit corrosion where applicable
	4.5	Identify when the joint is not forming correctly and what action needs to be taken
	4.6	Avoid damaging other components, units, panels and surfaces on the vehicle and the surrounding work area. Any damage caused should be correctly reinstated
5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	5.2	Make suitable and justifiable recommendations for cost effective repairs

	5.3	Record and report any additional auto electrical faults noticed during the course of their work promptly in the format required
Mapping to National Occupational Standards Directly mapped to IMI SSC Accident Repair - Body NOS 2010, unit BP25		

Knowledge of Materials, Fabrication, Tools and Measuring Devices Used in the Automotive Environment

Unit Reference	K/601/6237	
Level	2	
Credit Value	4	
Guided Learning (GL)	40	
Unit Summary	This unit enables the learner to develop an understanding of > the correct selection, care and use of key hand tools and measuring devices for modification, fabrication and repair in the automotive environment > the correct preparation and use of common automotive environment equipment > the correct selection and fabrication of materials used when modifying and repairing > the correct application of automotive engineering fabrication and fitting principles	
Learning Outcomes (1 to 4)	Assessment Criteria (1.1 to 4.5)	
The learner will	The learner can	
1. Know how to select, use and care for hand tools and measuring devices in the automotive environment	1.1	Identify and explain the use of common types of hand tools used for fabricating and fitting in the automotive environment
	1.2	Identify and explain the use of common measuring devices used for fabrication and fitting in the automotive environment
	1.3	Describe, within the scope of their responsibilities, how to select, prepare and maintain hand tools, measuring devices and PPE used for fabrication, repair and fitting in the automotive environment

	1.4	State the limitations of common hand tools and measuring devices used for fabricating, repair and fitting in the automotive workplace
	1.5	Explain how common hand tools and measuring devices used for fabricating, repair and fitting in the automotive environment should be stored and maintained
	1.6	Identify common electrical measuring tools used in the repair of vehicles and components
	1.7	Explain the preparation and safe and correct use of common electrical tools when measuring voltage, current and resistance
2. Know how to prepare and use common workshop equipment	2.1	Describe the preparation and safe use of workshop equipment
	2.2	Explain the term: safe working load
3. Know how to select materials when fabricating, modifying and repairing vehicles and fitting components	3.1	Describe the properties, application and limitations to include safe use of ferrous and non-ferrous metals
	3.2	Describe the properties, application and limitations to include safe use of non-metallic materials
	3.3	Define terms relating to the properties of materials
4. Know how to apply automotive engineering, fabrication and fitting principles when modifying and repairing vehicles and components	4.1	Describe how to tap threads, file, cut and drill plastics and metals when modifying or repairing vehicles
	4.2	Describe how to measure, mark out, shape and join materials when fabricating
	4.3	Describe the selection and fitting procedures of the following: > gaskets and seals

		> sealants and adhesives > fittings and fasteners > electrical circuit components
	4.4	Identify locking, fastening and fixing devices
	4.5	State the importance of correct operating specifications for limits, fits and tolerances in the automotive environment

Mapping to National Occupational Standards

Directly mapped to IMI SSC Generic NOS 2010, unit G4

Skills in Materials, Fabrication, Tools and Measuring Devices in the Automotive Environment

Unit Reference	Y/601/6279
Level	2
Credit Value	7
Guided Learning (GL)	60
Unit Summary	This unit helps the learner to develop the skills required for > The correct selection, care and use of key hand tools and measuring devices for modification, fabrication and repair in the automotive environment > The correct preparation and use of common work environment equipment > The correct selection and fabrication of materials used when modifying and repairing > The correct application of automotive engineering fabrication and fitting principles
Learning Outcomes (1 to 4)	Assessment Criteria (1.1 to 4.5)
The learner will	The learner can
1. Be able to select, maintain and use hand tools and measuring devices in the automotive environment	1.1 Select, maintain and use suitable hand tools safely when fabricating and fitting in the automotive workplace 1.2 Select, maintain and use suitable measuring devices safely when fabricating and fitting in the automotive environment 1.3 Select, maintain and use suitable PPE for fabrication, repair and fitting in the automotive environment 1.4 Select, maintain and use suitable electrical measuring tools safely when repairing vehicles and components

2. Be able to prepare and use common workshop equipment	2.1 2.2 2.3 2.4	Use suitably maintained workshop equipment safely Use correct interpretation of 'safe working load' on lifting and supporting equipment Report any faulty or damaged tools and equipment to the relevant persons clearly and promptly Store work tools and equipment in a safe manner which permits ease of access and identification for use
3. Be able to select materials when fabricating, modifying and repairing vehicles and fitting components	3.1	Select and use appropriate materials whilst constructing, fitting, modifying or repairing vehicles and components
4. Be able to apply automotive engineering, fabrication and fitting principles when modifying and repairing vehicles and components	4.1 4.2 4.3 4.4 4.5	Use correct procedures when > filing > tapping threads > cutting plastics and metals > drilling plastics and metals > fitting Use appropriate techniques when fabricating, repairing and modifying vehicles and components Select and use > gaskets > seals > sealants > fittings and fasteners Apply modification and repair techniques to automotive electrical circuits Select and use locking, fixing and fastening devices
Mapping to National Occupational Standards Directly mapped to IMI SSC Generic NOS 2010, unit G4		

Knowledge of How to Identify and Agree Motor Vehicle Customer Service Needs

Unit Reference	R/601/6247	
Level	3	
Credit Value	5	
Guided Learning (GL)	45	
Unit Summary	This unit enables the learner to develop an understanding of how to gain: information from customers on their perceived needs; give advice and information and agree a course of action; contract for the agreed work and complete all necessary records and instructions	
Learning Outcomes (1 to 3)	Assessment Criteria (1.1 to 3.4)	
The learner will	The learner can	
1. Know legislative and organisational requirements and procedures	1.1	Describe the fundamental legal requirements of current consumer legislation and the consequences of their own actions in respect of this legislation
	1.2	Describe the content and limitations of company and product warranties for the vehicles dealt with by their company
	1.3	Explain the limits of their own authority for accepting vehicles
	1.4	Explain the importance of keeping customers informed of progress
	1.5	Describe their workplace requirements for the completion of records
	1.6	Explain how to complete and process all the necessary documentation
2. Know how to communicate and care for customers	2.1	Explain how to communicate effectively with customers

	2.2	Describe how to adapt your language when explaining technical matters to non-technical customers
	2.3	Explain how to use effective questioning techniques
	2.4	Describe how to care for customers and achieve customer satisfaction
3. Know company products and services	3.1	Describe the range of options available to resolve vehicle problems
	3.2	Describe the range and type of services offered by their company
	3.3	Explain the effect of resource availability upon the receipt of customer vehicles and the completion work.
	3.4	Explain how to access costing and work completion time information
Mapping to National Occupational Standards Directly mapped to IMI SSC Generic NOS 2010, unit G8		

Skills to Identify and Agree Motor Vehicle Customer Service Needs

Unit Reference	M/601/6286	
Level	3	
Credit Value	5	
Guided Learning (GL)	40	
Unit Summary	This unit helps the learner to develop the skills required to: gain information from customers on their perceived needs; give advice and information and agree a course of action; contract for the agreed work and complete all necessary records and instructions	
Learning Outcomes (1 to 4)	Assessment Criteria (1.1 to 4.3)	
The learner will	The learner can	
1. Be able to obtain relevant information from the customer	1.1	Obtain and interpret sufficient, relevant information, from the customer to make an assessment of their needs
	1.2	Clarify customer and vehicle needs by referring to vehicle data and operating procedures
2. Be able to provide relevant information to the customer	2.1	Provide customers with accurate, current and relevant advice and information, in a form that the customer will understand
	2.2	Demonstrate techniques which encourage customers to ask questions and seek clarification during conversation
3. Be able to agree work undertaken with the customer	3.1	Summarise and record work agreed with the customer, before accepting the vehicle
	3.2	Implement confirmation of the agreement by ensuring customer understanding
4. Be able to ensure recording systems are implemented correctly	4.1	Use recording systems which are accurate and complete, in the required format and signed by the customer where necessary

	4.2	Perform the next stage in the process by passing on completed records to the correct person promptly
	4.3	Demonstrate correct procedures for customer approval where the contracted agreement is likely to be exceeded
Mapping to National Occupational Standards Directly mapped to IMI SSC Generic NOS 2010, unit G8		

Knowledge of Routine Light Vehicle Maintenance

Unit Reference	F/601/3716
Level	2
Credit Value	3
Guided Learning (GL)	20
Unit Summary	This unit enables the learner to develop an understanding of conducting routine maintenance, adjustment and replacement activities as part of the periodic servicing of light vehicles
Learning Outcomes (1 to 2)	Assessment Criteria (1.1 to 2.2)
The learner will	The learner can
1. Understand how to carry out routine light vehicle maintenance	1.1 Explain how to conduct a scheduled light vehicle routine examination and assessment against the vehicle manufacturers specification 1.2 Identify the assessment methods used to check for conformity 1.3 Identify the different systems to be inspected while carrying out light vehicle routine maintenance > engine > chassis > wheels and tyres > transmission and driveline > electrical and electronic > exterior vehicle body > vehicle interior 1.4 Describe the procedures used for checking the condition and serviceability 1.5 Describe the procedures for checking and replenishing fluid levels

	1.6	Describe the procedures for checking and replacing lubricants
	1.7	Identify adjustments that need to be carried out on a light vehicle routine maintenance
	1.8	Explain the procedure for reporting cosmetic damage to vehicle components and units outside normal service items
	1.9	Identify the operating specifications for the systems being checked while carrying out light vehicle routine maintenance
2. Understand the importance of carrying out light vehicle maintenance	2.1	Describe the requirements of correct maintenance in order to maintain the vehicle in a roadworthy and legal condition
	2.2	Describe the importance of correct maintenance for warranty purposes
Mapping to National Occupational Standards Directly mapped to IMI SSC Maintenance and Repair – Light Vehicle NOS 2010, unit LV01		

Skills in Routine Light Vehicle Maintenance

Unit Reference	H/601/3871	
Level	2	
Credit Value	2	
Guided Learning (GL)	20	
Unit Summary	This unit allows the learner to develop skills they can carry out light vehicle routine maintenance, adjustments and replacement activities as part of the periodic servicing of vehicles	
Learning Outcomes (1 to 5)	Assessment Criteria (1.1 to 5.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out light vehicle routine maintenance	1.1	Use suitable personal protective equipment and vehicle coverings throughout all light vehicle routine maintenance activities
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to use relevant information to carry out the task	2.1	Select suitable sources of technical information to support light vehicle routine maintenance activities including > vehicle technical data > maintenance procedures > legal requirements
	2.2	Use technical information to support light vehicle inspection activities
3. Be able to use appropriate tools and equipment	3.1	Select the appropriate tools and equipment necessary for carrying out routine maintenance
	3.2	Ensure that equipment has been calibrated to meet manufacturers' and legal requirements

	3.3	Use the correct tools and equipment in the way specified by manufacturers when carrying out routine maintenance
4. Be able to carry out light vehicle routine maintenance	4.1	Carry out light vehicle maintenance using prescribed methods, adhering to the correct specifications and tolerances for the vehicle and following > the manufacturer's approved inspection methods > recognised researched inspection methods > health and safety requirements
	4.2	Carry out adjustments, replacement of vehicle components and replenishment of consumable materials following the manufacturer's current specification
	4.3	Ensure the examination methods identify accurately any vehicle system and or component problems falling outside the maintenance schedule are specified
	4.4	Ensure any comparison of the vehicle against specification accurately identifies any > differences from the vehicle specification > vehicle appearance and condition faults > variation from legal requirements
	4.5	Use suitable testing methods to evaluate the performance of all replaced and adjusted components and systems accurately
5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	5.2	Make suitable and justifiable recommendations for cost effective repairs

	5.3	Record and report any additional faults noticed during the course of their work promptly in the format required
Mapping to National Occupational Standards Directly mapped to IMI SSC Maintenance and Repair – Light Vehicle NOS 2010, unit LV01		

Knowledge of Light Vehicle Engine Mechanical, Lubrication and Cooling System Units and Components

Unit Reference	R/601/3719	
Level	2	
Credit Value	3	
Guided Learning (GL)	20	
Unit Summary	This unit enables the learner to develop an understanding of the construction and operation of common engine mechanical, lubrication and cooling systems. It also covers the procedures involved in the removal and replacement of system components and the evaluation of their performance	
Learning Outcomes (1 to 4)	Assessment Criteria (1.1 to 4.4)	
The learner will	The learner can	
1. Understand how the main light vehicle engine mechanical systems operate	1.1	Identify light vehicle engine mechanical system components
	1.2	Describe the construction and operation of light vehicle engine mechanical systems > four stroke > spark ignition > compression ignition > rotary
	1.3	Compare key light vehicle engine mechanical system components and assemblies against alternatives to identify differences in construction and operation
	1.4	Identify the key engineering principles that are related to light vehicle engine mechanical systems > compression ratios > cylinder capacity > power > torque

	1.5	State common terms used in light vehicle engine mechanical system design > tdc > bdc > stroke > bore
2. Understand how light vehicle engine lubrication systems operate	2.1	Identify light vehicle engine lubrication system components
	2.2	Describe the construction and operation of light vehicle engine lubrication components and systems > full flow > by pass > wet sump > dry sump
	2.3	Compare key light vehicle engine lubrication system components and assemblies to identify differences in construction and operation
	2.4	Identify the key engineering principles that are related to light vehicle engine lubrication systems > classification of lubricants > properties of lubricants > methods of reducing friction
	2.5	State common terms used in light vehicle engine lubrication system design
3. Understand how light vehicle engine cooling, heating and ventilation systems operate	3.1	Identify light vehicle engine cooling, heating and ventilation system components
	3.2	Describe the construction and operation of light vehicle engine cooling, heating and ventilation systems
	3.3	Compare key light vehicle engine cooling, heating and ventilation system components and assemblies against alternatives to identify differences in construction and operation

	3.4	Identify the key engineering principles that are related to light vehicle engine cooling, heating and ventilation systems > heat transfer > linear and cubical expansion > specific heat capacity > boiling point of liquids
	3.5	State common terms used in key light vehicle engine cooling, heating and ventilation system design
4. Understand how to check, replace and test light vehicle engine mechanical, lubrication and cooling systems system units and components	4.1	Describe how to remove and replace engine mechanical, lubrication and cooling system units and components
	4.2	Describe common types of testing methods used to check the operation of engine mechanical, lubrication and cooling systems and their purpose
	4.3	Describe how to test and evaluate the performance of replacement units against vehicle specification
	4.4	Identify common faults found in light vehicle engine mechanical, lubrication and cooling systems and their causes
Mapping to National Occupational Standards Directly mapped to IMI SSC Maintenance and Repair – Light Vehicle NOS 2010, unit LV02		

Knowledge of Light Vehicle Fuel, Ignition, Air and Exhaust System Units and Components

Unit Reference	H/601/3725
Level	2
Credit Value	3
Guided Learning (GL)	20
Unit Summary	This unit enables the learner to develop an understanding of the construction and operation of common fuel, ignition, air and exhaust systems. It also covers the procedures involved in the removal and replacement of system components and the evaluation of their performance
Learning Outcomes (1 to 4)	Assessment Criteria (1.1 to 4.4)
The learner will	The learner can
1. Understand how light vehicle engine fuel systems operate	1.1 Identify light vehicle engine fuel system components 1.2 Describe the construction and operation of light vehicle engine fuel systems > multi point injection > single point injection 1.3 Compare key light vehicle engine fuel system components and assemblies against alternatives to identify differences in construction and operation 1.4 Identify the key engineering principles that are related to light vehicle engine fuel systems > properties of fuels > combustion processes > exhaust gas constituents 1.5 State common terms used in light vehicle engine fuel system design

2. Understand how light vehicle engine ignition systems operate	2.1 Identify light vehicle engine ignition system components 2.2 Describe the construction and operation of light vehicle engine ignition systems > distributor ignition systems > distributor less ignition systems 2.3 Compare key light vehicle engine ignition system components and assemblies against alternatives to identify differences in construction and operation 2.4 Identify the key engineering principles that are related to light vehicle engine ignition systems > flame travel > ignition timing 2.5 State common terms used in key light vehicle engine ignition system design
3. Understand how light vehicle engine air supply and exhaust systems operate	3.1 Identify light vehicle engine air supply and exhaust system components 3.2 Describe the construction and operation of light vehicle engine air supply and exhaust systems > supercharging > turbocharging > exhaust gas recirculation (EGR) > secondary air injection > catalytic converters 3.3 Compare key light vehicle engine air supply and exhaust system components and assemblies against alternatives to identify differences in construction and operation 3.4 Identify the key engineering principles that are related to light vehicle engine air supply and exhaust systems > sound absorption > reduction of harmful emissions

	3.5	State common terms used in key light vehicle engine air supply and exhaust system design
4. Understand how to check, replace and test light vehicle engine fuel system units and components	4.1	Describe how to remove and replace engine fuel, air supply and exhaust system units and components
	4.2	Describe common types of testing methods used to check the operation of engine fuel, air supply and exhaust system systems and their purpose
	4.3	Explain how to evaluate the performance of replacement units against vehicle specification
	4.4	Explain common faults found in light vehicle fuel, air supply and exhaust systems and their causes
Mapping to National Occupational Standards Directly mapped to IMI SSC Maintenance and Repair – Light Vehicle NOS 2010, unit LV02		

Skills in Removing and Replacing Light Vehicle Engine Units and Components		
Unit Reference	K/601/3872	
Level	2	
Credit Value	5	
Guided Learning (GL)	45	
Unit Summary	This unit allows the learner to develop skills to remove and replace light vehicle engine system components. It also covers the evaluation of performance of the replaced units and systems	
Learning Outcomes (1 to 5)	Assessment Criteria (1.1 to 5.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out removal and replacement activities	1.1	Use suitable personal protective equipment and vehicle coverings throughout all light vehicle engine unit and component removal and replacement activities
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to use relevant information to carry out the task	2.1	Select suitable sources of technical information to support light vehicle engine unit and component removal and replacement activities including > vehicle technical data > removal and replacement procedures > legal requirements
	2.2	Use technical information to support light vehicle engine unit and component removal and replacement activities
3. Be able to use appropriate tools and equipment	3.1	Select the appropriate tools and equipment necessary for removal and replacement of light vehicle engine systems

	3.2	Ensure that equipment has been calibrated to meet manufacturers' and legal requirements
	3.3	Use the correct tools and equipment in the way specified by manufacturers to remove and replace light vehicle engine systems
4. Be able to carry out removal and replacement of light vehicle engine mechanical, lubrication and cooling units and components	4.1	Remove and replace the light vehicle's engine systems and components, adhering to the correct specifications and tolerances for the vehicle and following > the manufacturer's approved removal and replacement methods > recognised researched repair methods > health and safety requirements
	4.2	Ensure that replacement light vehicle engine units and components conform to the vehicle operating specification and any legal requirements
	4.3	Use suitable testing methods to evaluate the performance of the reassembled system
	4.4	Ensure that the reassembled light vehicle engine systems performs to the vehicle operating specification and meets any legal requirements
5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	5.2	Make suitable and justifiable recommendations for cost effective repairs
	5.3	Record and report any additional faults noticed during the course of their work promptly in the format required
Mapping to National Occupational Standards Directly mapped to IMI SSC Maintenance and Repair – Light Vehicle NOS 2010, unit LV02		

Knowledge of Removing and Replacing Light Vehicle Electrical Units and Components		
Unit Reference	T/601/3731	
Level	2	
Credit Value	6	
Guided Learning (GL)	45	
Unit Summary	This unit enables the learner to develop an understanding of the principles, construction and operation and testing methods of common electrical and electronic systems and components. It also covers the procedures involved in the removal and replacement of system components and the evaluation of their performance	
Learning Outcomes (1 to 4)	Assessment Criteria (1.1 to 4.4)	
The learner will	The learner can	
1. Understand light vehicle electrical and electronic principles	1.1	Identify electrical symbols and units found in light vehicle circuits
	1.2	Describe how to interpret simple light vehicle wiring diagrams
	1.3	Describe the operation of key light vehicle circuit protection devices and why these are necessary
	1.4	Describe earthing principles and earthing methods
	1.5	Identify the use of different cables and connectors used in light vehicle circuits
	1.6	Describe the operation of electrical and electronic sensors and actuators and their application
	1.7	Describe the key electrical and electronic control principles that are related to light vehicle electrical circuits

	1.8	State common terms used in light vehicle electrical circuits
2. Understand how light vehicle batteries, starting and charging systems operate	2.1	Identify light vehicle batteries, starting and charging system components
	2.2	Describe the construction and operation of light vehicle batteries, starting and charging system components
	2.3	Describe how to remove and replace batteries, starting and charging system units and components
	2.4	Compare light vehicle batteries, starting and charging system components and assemblies against alternatives to identify differences in construction and operation
	2.5	State common terms used in conjunction with light vehicle batteries, starting and charging systems
3. Understand how light vehicle auxiliary electrical systems operate	3.1	Identify light vehicle auxiliary system components
	3.2	Describe the construction and operation of light vehicle auxiliary systems. Auxiliary systems to include > lighting > wiper > security and alarm > comfort and convenience > information and entertainment > telephone and two-way communication > electric window > monitoring and instrumentation
	3.3	Compare key light vehicle auxiliary system components and assemblies against alternatives to identify differences in construction and operation
	3.4	State common terms used in light vehicle auxiliary system design

4. Understand how to check, replace and test light vehicle electrical systems and components	4.1	Describe how to remove and replace light vehicle electrical system units and components
	4.2	Describe common types of testing methods used to check the operation of light vehicle electrical systems and components and their purpose
	4.3	Explain how to test and evaluate the performance of replacement units against specifications
	4.4	Identify common faults found in light vehicle electrical systems and components
Mapping to National Occupational Standards Directly mapped to IMI SSC Maintenance and Repair – Light Vehicle NOS 2010, unit LV03		

Skills in Removing and Replacing Light Vehicle Electrical Units and Components		
Unit Reference	T/601/3874	
Level	2	
Credit Value	5	
Guided Learning (GL)	45	
Unit Summary	This unit allows the learner to develop skills to remove and replace motor vehicle electrical system components. It also covers the evaluation of performance of the replaced units and systems	
Learning Outcomes (1 to 5)	Assessment Criteria (1.1 to 5.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out removal and replacement activities	1.1	Use suitable personal protective equipment and vehicle coverings when working on light vehicle electrical systems and components
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to use relevant information to carry out the task	2.1	Select suitable sources of technical information to support light vehicle electrical unit and component removal and replacement activities including vehicle technical data removal and replacement procedures legal requirements
	2.2	Use technical information to support light vehicle electrical unit and component removal and replacement activities
3. Be able to use appropriate tools and equipment	3.1	Select the appropriate tools and equipment necessary for removal and replacement of motor vehicle electrical system components

	3.2	Ensure that equipment has been calibrated to meet manufacturers' and legal requirements
	3.3	Use the tools and equipment in the way specified by manufacturers to remove and replace motor vehicle electrical systems
4. Be able to carry out removal and replacement of light vehicle electrical units and components	4.1	Remove and replace the motor vehicle's electrical systems and components, adhering to the specifications and tolerances for the vehicle and following the manufacturer's approved removal and replacement methods recognised researched repair methods health and safety requirements
	4.2	Ensure that replacement motor vehicle electrical units and components conform to the vehicle operating specification and any legal requirements
	4.3	Use suitable testing methods to evaluate the performance of the reassembled system
	4.4	Ensure that the reassembled motor vehicle electrical systems performs to the vehicle operating specification and meets any legal requirements
5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	5.2	Make suitable and justifiable recommendations for cost effective repairs
	5.3	Record and report any additional faults noticed during the course of their work promptly in the format required
Mapping to National Occupational Standards Directly mapped to IMI SSC Maintenance and Repair – Light Vehicle NOS 2010, unit LV03		

Knowledge of Removing and Replacing Light Vehicle Chassis Units and Components	
Unit Reference	A/601/3732
Level	2
Credit Value	6
Guided Learning (GL)	45
Unit Summary	This unit enables the learner to develop an understanding of the construction and operation of common steering, suspension and braking systems (including wheels and tyres). It also covers the procedures involved in the removal and replacement of system components and the evaluation of their performance
Learning Outcomes (1 to 4)	Assessment Criteria (1.1 to 4.4)
The learner will	The learner can
1. Understand how light vehicle steering and suspension systems operate	1.1 Identify light vehicle steering and suspension system components 1.2 Describe the construction and operation of light vehicle steering and suspension systems 1.3 Compare key light vehicle steering and suspension system components and assemblies against alternatives to identify differences in construction and operation 1.4 Identify the key engineering principles that are related to light vehicle steering and suspension systems > steering angles > hydraulic forces > stress and strains 1.5 State common terms used in light vehicle steering and suspension system design

2. Understand how light vehicle braking systems operate	2.1 Identify light vehicle braking system components 2.2 Describe the construction and operation of light vehicle braking systems 2.3 Compare key light vehicle braking system components and assemblies against alternatives to identify differences in construction and operation 2.4 Identify the key engineering principles that are related to light vehicle braking systems > laws of friction > hydraulics > pneumatics > properties of fluids > properties of air > braking efficiency 2.5 State common terms used in light vehicle braking system design
3. Understand how light vehicle wheel and tyres systems operate	3.1 Identify light vehicle wheel and tyre components 3.2 Describe the construction and operation of light vehicle wheels and tyres 3.3 Compare key light vehicle wheel and tyre components and assemblies against alternatives to identify differences in construction and operation 3.4 Identify the key engineering principles that are related to light vehicle wheel and tyre systems > friction > un-sprung weight > dynamic and static balance 3.5 State common terms used in light vehicle wheel and tyre design

4. Understand how to check, replace and test light vehicle chassis units and components	4.1	Describe how to remove and replace chassis units and components
	4.2	Describe common types of testing methods used to check the operation of chassis units and components and their purpose
	4.3	Explain how to evaluate the performance of replacement units against vehicle specification
	4.4	Identify common faults found in light vehicle chassis units and components
Mapping to National Occupational Standards Directly mapped to IMI SSC Maintenance and Repair – Light Vehicle NOS 2010, unit LV04		

Skills in Removing and Replacing Light Vehicle Chassis Units and Components

Unit Reference	F/601/3876	
Level	2	
Credit Value	5	
Guided Learning (GL)	45	
Unit Summary	This unit allows the learner to develop skills to remove and replace light vehicle steering, suspension and braking units (including wheels and tyres). It also covers the evaluation of performance of the replaced units and systems	
Learning Outcomes (1 to 2)	Assessment Criteria (1.1 to 5.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out removal and replacement activities	1.1	Use suitable personal protective equipment and vehicle coverings throughout all light vehicle chassis unit and component removal and replacement activities
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to use relevant information to carry out the task	2.1	Select suitable sources of technical information to support light vehicle chassis unit and component removal and replacement activities including vehicle technical data removal and replacement procedures legal requirements
	2.2	Use technical information to support light vehicle chassis unit and component removal and replacement activities
3. Be able to use appropriate tools and equipment	3.1	Select the appropriate tools and equipment necessary for removal and replacement of light vehicle chassis systems including

		> steering > suspension > braking > wheels and tyres
	3.2	Ensure that equipment has been calibrated to meet manufacturers' and legal requirements
	3.3	Use the correct tools and equipment in the way specified by manufacturers to remove and replace light vehicle chassis systems
4. Be able to carry out removal and replacement of light vehicle chassis units and components	4.1	Remove and replace the light vehicle's chassis systems and components, adhering to the correct specifications and tolerances for the vehicle and following the manufacturer's approved removal and replacement methods recognised researched repair methods health and safety requirements.
	4.2	Ensure that replacement light vehicle chassis units and components conform to the vehicle operating specification and any legal requirements
	4.3	Use suitable testing methods to evaluate the performance of the reassembled system
	4.4	Ensure that the reassembled light vehicle chassis system performs to the vehicle operating specification and meets any legal requirements
5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	5.2	Make suitable and justifiable recommendations for cost effective repairs
	5.3	Record and report any additional faults noticed during the course of their work promptly in the format required

Mapping to National Occupational Standards

Directly mapped to IMI SSC Maintenance and Repair – Light Vehicle NOS 2010, unit LV04

Knowledge of Inspecting Light Vehicles Using Prescribed Methods

Unit Reference	H/601/3742	
Level	2	
Credit Value	4	
Guided Learning (GL)	40	
Unit Summary	This unit enables the learner to develop an understanding of carrying out a range of inspections on light vehicles using a variety of prescribed testing and inspection methods	
Learning Outcomes (1)	Assessment Criteria (1.1 to 1.10)	
The learner will	The learner can	
1. Understand how to carry out inspections on light vehicle using prescribed methods	1.1	Explain the difference between the various prescribed light vehicle inspection methods to include > pre-work > post-work > pre-delivery > maintenance inspection (brake, seasonal and tyre)
	1.2	Identify the different systems to be inspected when using the prescribed inspection methods
	1.3	Identify the procedures involved in carry out the systematic inspection of the prescribed inspection methods on light vehicles
	1.4	Identify correct conformity of vehicle systems and condition on light vehicles inspections
	1.5	Compare test and inspection results against light vehicle specification and legal requirements

	1.6	Explain how to record and complete the inspection results in the format required
	1.7	Identify the recommendations that can be made based on results of the light vehicle inspections
	1.8	Explain the implications of failing to carry out light vehicle inspections activities correctly
	1.9	Explain the implications of signing workplace documentation and vehicle records
	1.10	Explain the procedure for reporting cosmetic damage to light vehicle components and units outside normal inspection items
Mapping to National Occupational Standards Directly mapped to IMI SSC Maintenance and Repair – Light Vehicle NOS 2010, units LV05 & LV06		

Skills in Inspecting Light Vehicles Using Prescribed Methods

Unit Reference	A/601/3889	
Level	2	
Credit Value	4	
Guided Learning (GL)	40	
Unit Summary	This unit allows the learner to develop skills to carry out a range of light vehicle inspections on vehicles using a variety of prescribed testing and inspection methods	
Learning Outcomes (1 to 5)	Assessment Criteria (1.1 to 5.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out light vehicle inspections using prescribed methods	1.1	Use suitable personal protective equipment and vehicle coverings throughout all light vehicle inspection activities
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to use relevant information to carry out the task	2.1	Select suitable sources of technical information to support light vehicle inspection activities including > vehicle technical data > inspection procedures > legal requirements
	2.2	Use technical information to support light vehicle inspection activities
3. Be able to use appropriate tools and equipment	3.1	Select the appropriate tools and equipment necessary for carrying out a range of inspections on light vehicle systems
	3.2	Ensure that equipment has been calibrated to meet manufacturers' and legal requirements

	3.3	Use the correct tools and equipment in the way specified by manufacturers when carrying out a range of inspections on light vehicle systems
4. Be able to carry out light vehicle inspections using prescribed methods	4.1	Carry out light vehicle inspections using prescribed methods, adhering to the correct specifications and tolerances for the vehicle and following > the manufacturer's approved inspection methods > recognised researched inspection methods > health and safety requirements
	4.2	Ensure that inspected light vehicle conforms to the vehicle operating specification and any legal requirements
	4.3	Ensure any comparison of the vehicle against specification accurately identifies any > differences from the vehicle specification > vehicle appearance and condition faults
	4.4	Use suitable testing methods to evaluate the performance of the inspected systems
5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	5.2	Make suitable and justifiable recommendations for cost effective repairs
	5.3	Record and report any additional faults noticed during the course of their work promptly in the format required
Mapping to National Occupational Standards Directly mapped to IMI SSC Maintenance and Repair – Light Vehicle NOS 2010, units LV05 and LV06		

Knowledge of Light Vehicle Transmission and Driveline Units and Components		
Unit Reference	Y/601/3740	
Level	2	
Credit Value	6	
Guided Learning (GL)	45	
Unit Summary	This unit enables the learner to develop an understanding of the construction and operation of common transmission and driveline systems. It also covers the procedures involved in the removal and replacement of system components and the evaluation of their performance	
Learning Outcomes (1 to 4)	Assessment Criteria (1.1 to 4.4)	
The learner will	The learner can	
1. Understand how light vehicle clutch systems operate	1.1	Identify light vehicle clutch system components
	1.2	Describe the construction and operation of light vehicle clutch systems
	1.3	Compare key light vehicle clutch system components and assemblies against alternatives to identify differences in construction and operation
	1.4	Identify the key engineering principles that are related to light vehicle clutch systems to include > principles of friction > principle of levers > torque transmission
	1.5	State common terms used in light vehicle clutch system design
2. Understand how light vehicle manual gearbox systems operate	2.1	Identify light vehicle manual gearbox system components

	2.2	Describe the construction and operation of light vehicle manual gearbox systems
	2.3	Compare key light vehicle manual gearbox system components and assemblies against alternatives to identify differences in construction and operation
	2.4	Identify the key engineering principles that are related to light vehicle manual gearbox systems > gear ratios > torque multiplication
	2.5	State common terms used in light vehicle manual gearbox system design
3. Understand how light vehicle driveline systems operate	3.1	Identify light vehicle driveline components
	3.2	Describe the construction and operation of light vehicle driveline systems
	3.3	Compare key light vehicle driveline components and assemblies against alternatives to identify differences in construction and operation
	3.4	Identify the key engineering principles that are related to light vehicle driveline systems final drive and overall gear ratios simple stresses
	3.5	State common terms used in light vehicle driveline design
4. Understand how to check, replace and test transmission and driveline units and components	4.1	Describe how to remove and replace transmission and driveline system units and components
	4.2	Describe common types of testing methods used to check the operation of transmission and driveline systems and their purpose

	4.3	Explain how evaluate the performance of replacement units against vehicle specification
	4.4	Identify common faults found in light vehicle transmission and driveline systems and their causes
Mapping to National Occupational Standards Directly mapped to IMI SSC Maintenance and Repair – Light Vehicle NOS 2010, unit LV12		

Skills in Removing and Replacing Light Vehicle Driveline Units and Components

Unit Reference	K/601/3886	
Level	2	
Credit Value	5	
Guided Learning (GL)	45	
Unit Summary	This unit allows the learner to develop skills in removing and replacing light vehicle transmission and driveline units. It also covers the evaluation of performance of the replaced units and systems	
Learning Outcomes (1 to 2)	Assessment Criteria (1.1 to 5.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out removal and replacement activities	1.1	Use suitable personal protective equipment and vehicle coverings throughout all light vehicle transmission and driveline unit and component removal and replacement activities
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to use relevant information to carry out the task	2.1	Select suitable sources of technical information to support light vehicle transmission and driveline unit and component removal and replacement activities including > vehicle technical data > removal and replacement procedures > legal requirements
	2.2	Use technical information to support light vehicle transmission and driveline unit and component removal and replacement activities

3. Be able to use appropriate tools and equipment	3.1 3.2 3.3 3.4	Select the appropriate tools and equipment necessary for removal and replacement of light vehicle transmission and driveline systems Ensure that equipment has been calibrated to meet manufacturers' and legal requirements Use the correct tools and equipment in the way specified by manufacturers to remove and replace light vehicle transmission and driveline systems
4. Be able to carry out removal and replacement of light vehicle transmission and driveline units and components	4.1 4.2 4.3 4.4	Remove and replace the light vehicle's transmission and driveline systems and components, adhering to the correct specifications and tolerances for the vehicle and following > the manufacturer's approved removal and replacement methods > recognised researched repair methods > health and safety requirements Ensure that replacement light vehicle transmission and driveline units and components conform to the vehicle operating specification and any legal requirements Use suitable testing methods to evaluate the performance of the reassembled system Ensure that the reassembled light vehicle transmission and driveline system performs to the vehicle operating specification and meets any legal requirements
5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required

	5.2	Make suitable and justifiable recommendations for cost effective repairs
	5.3	Record and report any additional faults noticed during the course of their work promptly in the format required
Mapping to National Occupational Standards Directly mapped to IMI SSC Maintenance and Repair – Light Vehicle NOS 2010, unit LV12		

Knowledge of Routine Motorcycle Maintenance

Unit Reference	F/601/5515	
Level	2	
Credit Value	2	
Guided Learning (GL)	20	
Unit Summary	This unit enables the learner to develop an understanding of conducting routine maintenance, adjustment and replacement activities as part of the periodic servicing of motorcycles	
Learning Outcomes (1 to 2)	Assessment Criteria (1.1 to 2.6)	
The learner will	The learner can	
1. Understand how to carry out routine motorcycle maintenance	1.1	Explain how to conduct a scheduled motorcycle routine examination and assessment against the motorcycle manufacturers specification, legal and road safety requirements
	1.2	Identify the different systems to be inspected while carrying out motorcycle routine maintenance
	1.3	Identify adjustments that need to be carried out on a motorcycle routine maintenance
2. Understand the procedures required to carry out routine motorcycle maintenance	2.1	Describe the procedures used for checking the condition and serviceability of motorcycle units and components
	2.2	Describe the procedures used for checking gaps and clearances
	2.3	Describe the procedures for checking and replenishing fluid levels
	2.4	Describe the procedures for checking and replacing lubricants

	2.5	Explain the procedure for reporting cosmetic damage to motorcycle components and units outside normal service items
	2.6	Identify the operating specifications for the systems being checked while carrying out motorcycle routine maintenance
Mapping to National Occupational Standards Directly mapped to IMI SSC Maintenance and Repair – Motorcycle NOS 2010, unit MC01		

Skills in Routine Motorcycle Maintenance

Unit Reference	F/601/5594	
Level	2	
Credit Value	2	
Guided Learning (GL)	20	
Unit Summary	This unit allows the learner to develop skills they can carry out motorcycle routine maintenance, adjustments and replacement activities as part of the periodic servicing of motorcycles	
Learning Outcomes (1 to 2)	Assessment Criteria (1.1 to 2.6)	
The learner will	The learner can	
1. Be able to work safely when carrying out motorcycle routine maintenance	1.1	Use suitable personal protective equipment and motorcycle coverings throughout all motorcycle routine maintenance activities
	1.2	Work in a way which minimises the risk of damage or injury to the motorcycle, people and the environment
2. Be able to use relevant information to carry out the task	2.1	Select suitable sources of technical information to support motorcycle routine maintenance activities including > motorcycle technical data > maintenance procedures > legal requirements
	2.2	Use technical information to support motorcycle inspection activities
3. Be able to use appropriate tools and equipment	3.1	Select the appropriate tools and equipment necessary for carrying out routine maintenance
	3.2	Ensure that equipment has been calibrated to meet manufacturers' and legal requirements

	3.3	Use the correct tools and equipment in the way specified by manufacturers when carrying out routine maintenance
4. Be able to carry out motorcycle routine maintenance	4.1	Carry out motorcycle inspections using prescribed methods, adhering to the correct specifications and tolerances for the motorcycle and following > the manufacturer's approved inspection methods > recognised researched inspection methods > health and safety requirements
	4.2	Carry out adjustments, replacement of motorcycle components and replenishment of consumable materials following the manufacturer's current specification
	4.3	Ensure the examination methods identify accurately any motorcycle system and or component problems falling outside the maintenance schedule are specified
	4.4	Ensure that the inspected motorcycle conforms to the motorcycle operating specification and any legal requirements
	4.5	Use suitable testing methods to evaluate the performance of all replaced and adjusted components and systems accurately
5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	5.2	Make suitable and justifiable recommendations for cost effective repairs
	5.3	Record and report any additional faults noticed during the course of their work promptly in the format required

Mapping to National Occupational Standards

Directly mapped to IMI SSC Maintenance and Repair – Motorcycle NOS 2010, unit MC01

Knowledge of Motorcycle Internal Engine Systems

Unit Reference	Y/601/5519
Level	2
Credit Value	3
Guided Learning (GL)	20
Unit Summary	This unit enables the learner to develop an understanding of the construction and operation of common engine power train mechanical, lubrication and cooling systems, clutch and transmission systems
Learning Outcomes (1 to 2)	Assessment Criteria (1.1 to 5.4)
The learner will	The learner can
1. Understand how the main motorcycle engine mechanical systems operate	1.1 Identify motorcycle engine mechanical system components 1.2 Describe the construction and operation of motorcycle engine mechanical systems 1.3 Compare key engine mechanical system components and assemblies against alternatives to identify differences in construction and operation 1.4 Identify the key engineering principles that are related to engine mechanical systems > compression ratios > cylinder capacity > power > torque 1.5 State common terms used in motorcycle engine mechanical system design > tdc > bdc > stroke > bore

2. Understand how motorcycle engine lubrication systems operate	2.1 Identify motorcycle engine lubrication system components 2.2 Describe the construction and operation of motorcycle engine lubrication components and systems. 2.3 Compare key motorcycle engine lubrication system components and assemblies to identify differences in construction and operation 2.4 Identify the key engineering principles that are related to motorcycle engine lubrication systems > classification of lubricants > properties of lubricants > methods of reducing friction 2.5 State common terms used in motorcycle engine lubrication system design
3. Understand how motorcycle engine cooling systems operate	3.1 Identify motorcycle engine cooling system components 3.2 Describe the construction and operation of motorcycle engine cooling systems 3.3 Compare key motorcycle engine cooling system components and assemblies against alternatives to identify differences in construction and operation 3.4 Identify the key engineering principles that are related to motorcycle engine cooling systems > heat transfer > linear and cubical expansion > specific heat capacity > boiling point of liquids 3.5 State common terms used in key motorcycle engine cooling system design

4. Understand how motorcycle clutch and transmission systems operate	4.1	Identify motorcycle clutch and transmission system components
5. Understand how to check, replace and test power train systems, units and components	4.2	Describe the construction and operation of motorcycle clutch and transmission system components
	4.3	Compare key motorcycle clutch and transmission system components and assemblies against alternatives to identify differences in construction and operation
	5.1	Describe how to remove and replace power train systems, units and components
	5.2	Describe common types of testing methods used to check the operation of engine power train systems and their purpose
	5.3	Explain how to test and evaluate the performance of replacement units against motorcycle specification
	5.4	Explain common faults found in motorcycle power train systems and their causes
Mapping to National Occupational Standards Directly mapped to IMI SSC Maintenance and Repair – Motorcycle NOS 2010, unit MC02		

Knowledge of Motorcycle Fuel, Ignition, Air and Exhaust System Units and Components

Unit Reference	T/601/5527	
Level	2	
Credit Value	3	
Guided Learning (GL)	20	
Unit Summary	This unit enables the learner to develop an understanding of the construction and operation of common fuel, ignition, air and exhaust systems. It also covers the procedures involved in the removal and replacement of system components and the evaluation of their performance	
Learning Outcomes (1 to 4)	Assessment Criteria (1.1 to 4.4)	
The learner will	The learner can	
1. Understand how the main motorcycle engine mechanical systems operate	1.1	Identify motorcycle engine fuel system components
	1.2	Describe the construction and operation of motorcycle engine fuel systems
	1.3	Compare key motorcycle engine fuel system components and assemblies against alternatives to identify differences in construction and operation
	1.4	Identify the key engineering principles that are related to motorcycle engine fuel systems > properties of fuels > combustion processes > exhaust gas constituents
	1.5	State common terms used in motorcycle engine fuel system design
2. Understand how motorcycle engine lubrication systems operate	2.1	Identify motorcycle engine ignition system components

	2.2	Describe the construction and operation of fundamental motorcycle engine ignition systems
	2.3	Compare key motorcycle engine ignition system components and assemblies against alternatives to identify differences in construction and operation
	2.4	Identify the key engineering principles that are related to motorcycle engine ignition systems > flame travel > ignition timing
	2.5	State common terms used in key motorcycle engine ignition system design
3. Understand how motorcycle engine cooling systems operate	3.1	Identify motorcycle engine air supply and exhaust system components
	3.2	Describe the construction and operation of motorcycle engine air supply and exhaust systems
	3.3	Compare key motorcycle air supply and exhaust system components and assemblies against alternatives to identify differences in construction and operation
	3.4	Identify the key engineering principles that are related to motorcycle engine air supply and exhaust systems > sound absorption > reduction of harmful emissions
	3.5	State common terms used in key motorcycle engine air supply and exhaust system design
4. Understand how motorcycle clutch and transmission systems operate	4.1	Describe how to remove and replace fuel, ignition, air and exhaust systems, units and components
	4.2	Describe common types of testing methods used to check the operation of

		fuel, ignition, air and exhaust systems and their purpose
	4.3	Explain how to test and evaluate the performance of replacement units against motorcycle specification
	4.4	Explain common faults found in motorcycle fuel, ignition, air and exhaust systems, units and components and their causes
Mapping to National Occupational Standards Directly mapped to IMI SSC Maintenance and Repair – Motorcycle NOS 2010, unit MC02		

Skills in Motorcycle Internal Engine Systems

Unit Reference	R/601/5597	
Level	2	
Credit Value	5	
Guided Learning (GL)	45	
Unit Summary	This unit allows the learner to develop skills to remove and replace motorcycle engine power train mechanical, lubrication, cooling systems, clutch and transmission systems	
Learning Outcomes (1 to 5)	Assessment Criteria (1.1 to 5.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out removal and replacement activities	1.1	Use suitable personal protective equipment and motorcycle coverings throughout all light motorcycle routine maintenance activities
	1.2	Work in a way which minimises the risk of damage or injury to the motorcycle, people and the environment
2. Be able to use relevant information to carry out the task	2.1	Select suitable sources of technical information to support motorcycle engine power train unit and component removal and replacement activities including > motorcycle technical data > removal and replacement procedures > legal requirements
	2.2	Use technical information to support motorcycle engine power train unit and component removal and replacement activities
3. Be able to use appropriate tools and equipment	3.1	Select the appropriate tools and equipment necessary for removal and replacement of motorcycle engine power train systems

	3.2	Ensure that equipment has been calibrated to meet manufacturers' and legal requirements
	3.3	Use the correct tools and equipment in the way specified by manufacturers to remove and replace light motorcycle engine systems
4. Be able to carry out removal and replacement of motorcycle electrical units and components	4.1	Remove and replace the motorcycle electrical systems and components, adhering to the correct specifications and tolerances for the motorcycle and following > the manufacturer's approved and workplace removal and replacement methods > recognised researched repair methods > health and safety requirements
	4.2	Check that replaced motorcycle electrical units and components conform to the motorcycle operating specification and any legal requirements
	4.3	Use suitable testing methods to evaluate the performance of the reassembled system
	4.4	Ensure that the reassembled motorcycle electrical systems performs to the motorcycle operating specification and meets any legal requirements
5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	5.2	Make suitable and justifiable recommendations for cost effective repairs
	5.3	Record and report any additional faults noticed during the course of their work promptly in the format required

Mapping to National Occupational Standards

Directly mapped to IMI SSC Maintenance and Repair – Motorcycle NOS 2010, unit MC02

Knowledge of Removing and Replacing Motorcycle Electrical Units and Components		
Unit Reference	H/601/5555	
Level	2	
Credit Value	6	
Guided Learning (GL)	45	
Unit Summary	This unit enables the learner to develop an understanding of the principles, construction and operation and testing methods of common electrical and electronic systems and components. It also covers the procedures involved in the removal and replacement of system components and the evaluation of their performance	
Learning Outcomes (1 to 4)	Assessment Criteria (1.1 to 4.4)	
The learner will	The learner can	
1. Understand motorcycle electrical and electronic principles	1.1	Identify electrical symbols and units found in motorcycle circuits
	1.2	Describe how to interpret motorcycle wiring diagrams
	1.3	Describe the operation of key motorcycle circuit safety protection devices and why these are necessary
	1.4	Describe motorcycle earthing principles and earthing methods
	1.5	Identify the use of different cables and connectors used in motorcycle circuits
	1.6	Describe the operation of electrical and electronic sensors and actuators and their application
	1.7	Describe the key electrical and electronic control principles that are related to motorcycle electrical circuits

	1.8	State common terms used in motorcycle electrical circuits
2. Understand how motorcycle batteries, starting and charging systems operate	2.1	Identify motorcycle batteries, starting and charging system components
	2.2	Describe the construction and operation of motorcycle batteries, starting and charging system components
	2.3	Compare motorcycle batteries, starting and charging system components and assemblies against alternatives to identify differences in construction and operation
	2.4	State common terms used in conjunction with motorcycle batteries, starting and charging systems
3. Understand how motorcycle auxiliary electrical systems operate	3.1	Identify motorcycle auxiliary system components
	3.2	Describe the construction and operation of motorcycle auxiliary systems
	3.3	Compare key motorcycle auxiliary system components and assemblies against alternatives to identify differences in construction and operation
	3.4	State common terms used in motorcycle auxiliary system design
4. Understand how to check, replace and test electrical and electronic systems, units and components	4.1	Describe how to remove and electrical and electronic systems, units and components
	4.2	Describe common types of testing methods used to check the operation of electrical and electronic systems and their purpose
	4.3	Explain how to test and evaluate the performance of replacement units against motorcycle specification

	4.4	Identify common faults found in motorcycle electrical and electronic systems and their causes
Mapping to National Occupational Standards Directly mapped to IMI SSC Maintenance and Repair – Motorcycle NOS 2010, unit MC03		

Skills in Removing and Replacing Motorcycle Electrical Units and Components		
Unit Reference	D/601/5604	
Level	2	
Credit Value	5	
Guided Learning (GL)	45	
Unit Summary	This unit allows the learner to develop skills to remove and replace motorcycle electrical system components. It also covers the evaluation of performance of the replaced units and systems	
Learning Outcomes (1 to 5)	Assessment Criteria (1.1 to 5.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out removal and replacement activities	1.1	Use suitable personal protective equipment and motorcycle coverings throughout all light motorcycle routine maintenance activities
	1.2	Work in a way which minimises the risk of damage or injury to the motorcycle, people and the environment
2. Be able to use relevant information to carry out the task	2.1	Select suitable sources of technical information to support motorcycle electrical unit and component removal and replacement activities including > motorcycle technical data and codes > removal and replacement procedures > legal requirements
	2.2	Use technical information to support motorcycle electrical unit and component removal and replacement activities
3. Be able to use appropriate tools and equipment	3.1	Select the appropriate tools and equipment necessary for removal and replacement of motorcycle electrical system components

	3.2	Ensure that equipment has been calibrated to meet manufacturers' and legal requirements
	3.3	Use the correct tools and equipment in the way specified by manufacturers to remove and replace motorcycle electrical systems
4. Be able to carry out removal and replacement of motorcycle electrical units and components	4.1	Remove and replace the motorcycle electrical systems and components, adhering to the correct specifications and tolerances for the motorcycle and following > the manufacturer's approved and workplace removal and replacement methods > recognised researched repair methods > health and safety requirements
	4.2	Ensure that replaced motorcycle electrical units and components conform to the motorcycle operating specification and any legal requirements
	4.3	Use suitable testing methods to evaluate the performance of the reassembled system
	4.4	Ensure that the reassembled motorcycle electrical systems performs to the motorcycle operating specification and meets any legal requirements
5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	5.2	Make suitable and justifiable recommendations for cost effective repairs
	5.3	Record and report any additional faults noticed during the course of their work promptly in the format required

Mapping to National Occupational Standards

Directly mapped to IMI SSC Maintenance and Repair – Motorcycle NOS 2010, unit MC03

Knowledge of Removing and Replacing Motorcycle Chassis Units and Components		
Unit Reference	T/601/5558	
Level	2	
Credit Value	6	
Guided Learning (GL)	45	
Unit Summary	This unit enables the learner to develop an understanding of the construction and operation of common steering, suspension and braking systems (including wheels and tyres). It also covers the procedures involved in the removal and replacement of system components and the evaluation of their performance	
Learning Outcomes (1 to 4)	Assessment Criteria (1.1 to 4.4)	
The learner will	The learner can	
1. Understand how motorcycle steering and suspension systems operate	1.1	Identify motorcycle and suspension system components
	1.2	Describe the construction and operation of motorcycle steering and suspension systems
	1.3	Compare key motorcycle steering and suspension system components and assemblies against alternatives to identify differences in construction and operation
	1.4	Identify the key engineering principles that are related to motorcycle steering and suspension systems > steering angles > hydraulic forces > stress and strain
	1.5	State common terms used in motorcycle steering and suspension system design

2. Understand how motorcycle braking systems operate	2.1 Identify motorcycle braking system components 2.2 Describe the construction and operation of motorcycle braking systems 2.3 Compare key motorcycle braking system components and assemblies against alternatives to identify differences in construction and operation 2.4 Identify the key engineering principles that are related to motorcycle braking systems > laws of friction > hydraulics > properties of fluids > properties of air > braking efficiency 2.5 State common terms used in motorcycle braking system design
3. Understand how motorcycle wheel and tyres systems operate	3.1 Identify motorcycle wheel and tyre components 3.2 Describe the construction and operation of motorcycle wheels and tyres 3.3 Compare key motorcycle wheel and tyre components and assemblies against alternatives to identify differences in construction and operation 3.4 Identify the key engineering principles that are related to motorcycle wheel and tyre systems > friction > un-sprung weight > dynamic and static balance 3.5 State common terms used in motorcycle wheel and tyre design

4. Understand how to check, replace and test chassis units, parts, and components	4.1	Describe how to remove and replace chassis units and components
	4.2	Describe common types of testing methods used to check the operation of chassis units and components and their purpose
	4.3	Explain how to test and evaluate the performance of replacement units against vehicle specification
	4.4	Identify common faults found in motorcycle chassis units and components
Mapping to National Occupational Standards Directly mapped to IMI SSC Maintenance and Repair – Motorcycle NOS 2010, unit MC04		

Skills in Removing and Replacing Motorcycle Chassis Units and Components

Unit Reference	M/601/5610	
Level	2	
Credit Value	5	
Guided Learning (GL)	45	
Unit Summary	This unit allows the learner to develop skills to remove and replace motorcycle steering, suspension and braking units (including wheels and tyres). It also covers the evaluation of performance of the replaced units and systems	
Learning Outcomes (1 to 5)	Assessment Criteria (1.1 to 5.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out removal and replacement activities	1.1	Use suitable personal protective equipment and motorcycle coverings throughout all motorcycle routine maintenance activities
	1.2	Work in a way which minimises the risk of damage or injury to the motorcycle, people and the environment
2. Be able to use relevant information to carry out the task	2.1	Select suitable sources of technical information to support motorcycle chassis unit and component removal and replacement activities including > motorcycle technical data > removal and replacement procedures > legal requirements
	2.2	Use technical information to support motorcycle chassis unit and component removal and replacement activities
3. Be able to use appropriate tools and equipment	3.1	Select the appropriate tools and equipment necessary for removal and replacement of motorcycle chassis systems including

		> steering > suspension > braking > wheels and tyres
	3.2	Ensure that equipment has been calibrated to meet manufacturers' and legal requirements
	3.3	Use the correct tools and equipment in the way specified by manufacturers to remove and replace motorcycle chassis systems
4. Be able to carry out removal and replacement of motorcycle chassis units and components	4.1	Remove and replace the motorcycle chassis systems and components, adhering to the correct specifications and tolerances for the motorcycle and following > the manufacturer's approved removal and replacement methods > recognised researched repair methods > health and safety requirements
	4.2	Ensure that replaced motorcycle chassis units and components conform to the motorcycle operating specification and any legal requirements
	4.3	Use suitable testing methods to evaluate the performance of the reassembled system
	4.4	Ensure that the reassembled motorcycle chassis system performs to the vehicle operating specification and meets any legal requirements
5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	5.2	Make suitable and justifiable recommendations for cost effective repairs

	5.3	Record and report any additional faults noticed during the course of their work promptly in the format required
Mapping to National Occupational Standards Directly mapped to IMI SSC Maintenance and Repair – Motorcycle NOS 2010, unit MC04		

Knowledge of Motorcycle Preparation and Inspections

Unit Reference	F/601/5563	
Level	2	
Credit Value	2	
Guided Learning (GL)	20	
Unit Summary	This unit enables the learner to develop knowledge in order to carry out preparation activities and inspections of both new and used motorcycles	
Learning Outcomes (1 to 1)	Assessment Criteria (1.1 to 1.10)	
The learner will	The learner can	
1. Understand how to carry out preparation activities and inspections of motorcycles	1.1	Explain the difference between the various motorcycle preparation activities and inspections
	1.2	Identify the different systems to be inspected when using inspection methods
	1.3	Identify the procedures involved in carrying out the preparation and inspection of motorcycles
	1.4	Identify correct conformity of motorcycle systems and condition on motorcycle inspections
	1.5	Compare test and inspection results against motorcycle specifications and legal requirements
	1.6	Explain how to record and complete the preparation and inspection results in the format required
	1.7	Identify the recommendations that can be made based on results of the motorcycle inspections

	1.8	Explain the implications of failing to carry out motorcycle preparation and inspection activities correctly
	1.9	Explain the implications of signing workplace documentation and motorcycle records
	1.10	Explain the procedure for reporting cosmetic damage to motorcycle components and units outside normal inspection items
Mapping to National Occupational Standards Directly mapped to IMI SSC Maintenance and Repair – Motorcycle NOS 2010, unit MC05		

Skills in Motorcycle Preparation and Inspection

Unit Reference	Y/601/5617	
Level	2	
Credit Value	2	
Guided Learning (GL)	20	
Unit Summary	This unit enables the learner to develop skills in order to carry out preparation activities and inspections on both old and new motorcycles. In accordance of manufacturers and legal requirements	
Learning Outcomes (1 to 5)	Assessment Criteria (1.1 to 5.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out motorcycle preparation activities and inspections	1.1	Use suitable personal protective equipment and use suitable motorcycle coverings throughout all light motorcycle inspection activities
	1.2	Work in a way which minimises the risk of damage or injury to the motorcycle, people and the environment
2. Be able to use relevant information to carry out preparation activities and inspections of motorcycles	2.1	Select suitable sources of technical information to support motorcycle inspection activities including > motorcycle technical data > inspection procedures > legal requirements
	2.2	Use technical information to support motorcycle inspection activities
3. Be able to use appropriate tools and equipment to carry out preparation activities and inspections of motorcycles	3.1	Select the appropriate tools and equipment necessary when carrying out preparation and inspections
	3.2	Ensure that equipment has been calibrated to meet manufacturers' and legal requirements

	3.3	Use the correct tools and equipment in the way specified by manufacturers when carrying out a range of inspections on motorcycle systems
4. Be able to carry out the preparation activities and inspections of motorcycles	4.1	Carry out motorcycle preparation and inspections using prescribed methods, adhering to the correct specifications and tolerances for the motorcycle
	4.2	Ensure that inspected motorcycle conforms to the motorcycle operating specification and any legal requirements
	4.3	Ensure any comparison of the motorcycle against specification accurately identifies any differences from the motorcycle specification
	4.4	Use suitable testing methods to evaluate the performance of the inspected systems
5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	5.2	Make suitable and justifiable recommendations for cost effective repairs
	5.3	Record and report any additional faults noticed during the course of their work promptly in the format required
Mapping to National Occupational Standards Directly mapped to IMI SSC Maintenance and Repair – Motorcycle NOS 2010, unit MC05		

Knowledge of Removing and Fitting Electrical Components

Unit Reference	K/601/6030	
Level	2	
Credit Value	5	
Guided Learning (GL)	45	
Unit Summary	This unit enables the learner to develop knowledge in order to carry out the removal and fitting of a range of electrical components. It also covers functional testing of fitting components	
Learning Outcomes (1 to 2)	Assessment Criteria (1.1 to 2.2)	
The learner will	The learner can	
1. Understand how to carry out the removal and fitting of electrical components	1.1	Identify the procedures involved in carrying out the systematic removal and fitting of common electrical components
	1.2	Explain the methods and procedures for storing removed vehicle electrical components
	1.3	Identify the procedures involved in working with supplementary safety systems when fitting vehicle components
	1.4	Identify the procedures involved in working with gas discharge headlamp systems
	1.5	Describe the procedures, methods and reasons for ensuring correct alignment of vehicle electrical components
	1.6	Identify the quality checks that can be used to ensure correct alignment and operation of components to manufacturers specification

	1.7	Identify correct conformity of vehicle systems against vehicle specification and legal requirements on completion
	1.8	Explain the procedure for reporting damage to vehicle electrical components and units
2. Understand how electrical systems operate	2.1	Identify common electrical system components
	2.2	Describe the construction and operation of the main electrical systems
Mapping to National Occupational Standards Directly mapped to IMI SSC Accident Repair – Mechanical, Electrical and Trim NOS 2010, unit MET02		

Skills in Removing and Fitting Electrical Components

Unit Reference	Y/601/6055	
Level	2	
Credit Value	2	
Guided Learning (GL)	20	
Unit Summary	This unit enables the learner to develop knowledge in order to carry out the removal and fitting of a range of electrical components. It also covers functional testing of fitting components	
Learning Outcomes (1 to 5)	Assessment Criteria (1.1 to 5.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out the removal and fitting of electrical vehicle components	1.1	Wear suitable personal protective equipment and use suitable vehicle coverings throughout all motor vehicle removal and fitting of electrical vehicle components
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to use relevant information to carry out the task	2.1	Select suitable sources of technical information to support vehicle removal and fitting activities including > vehicle technical data > removal and fitting procedures > legal requirements
	2.2	Use technical information to support vehicle removal and fitting activities
3. Be able to use appropriate tools and equipment	3.1	Select the appropriate tools and equipment necessary for carrying out the removal and fitting of electrical components

	3.2	Ensure that equipment has been calibrated and is in a safe working condition to meet manufacturers' and legal requirements
	3.3	Use the correct tools and equipment in the way specified by manufacturers when carrying out removal and fitting of electrical components
4. Be able to carry out the removal and fitting of electrical vehicle components	4.1	Remove and refit common electrical vehicle components
	4.2	Remove and refit the electrical vehicle components adhering to the correct specifications and tolerances for the vehicle and following > the manufacturer's approved removal and fitting methods > recognised researched removal and fitting methods
	4.3	Ensure that the removal and fitting of electrical vehicle components conforms to the vehicle operating specification and any legal requirements
	4.4	Ensure no damage occurs to other components when removing and fitting electrical vehicle components
	4.5	Ensure all components are stored safely and in the correct location
5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	5.2	Make suitable and justifiable recommendations for cost effective repairs
	5.3	Record and report any additional faults noticed during the course of their work promptly in the format required

Mapping to National Occupational Standards

Directly mapped to IMI SSC Accident Repair – Mechanical, Electrical and Trim
NOS 2010, unit MET02

Knowledge of Tools and Equipment Used In Vehicle Refinishing

Unit Reference	J/601/6116												
Level	2												
Credit Value	5												
Guided Learning (GL)	45												
Unit Summary	This unit enables the learner to develop an understanding for > the correct selection, maintenance and use of hand and power tools used in vehicle refinishing > the correct preparation, use and maintenance of vehicle refinishing equipment >												
Learning Outcomes (1 to 5)	Assessment Criteria (1.1 to 2.3)												
The learner will	The learner can												
1. Understand how to select, use and care for hand and power tools used in vehicle refinishing	<table border="1"> <tr> <td>1.1</td><td>Describe the use of common types of hand and power tools used for vehicle refinishing</td></tr> <tr> <td>1.2</td><td>Identify the main components of a spray gun</td></tr> <tr> <td>1.3</td><td>Describe, within the scope of their responsibilities, how to select, prepare and maintain hand and power tools used in vehicle refinishing</td></tr> <tr> <td>1.4</td><td>State the limitations of hand and power tools used in vehicle refinishing</td></tr> <tr> <td>1.5</td><td>Explain how hand and power tools used in vehicle refinishing should be stored</td></tr> <tr> <td>1.6</td><td>Describe the methods of adjusting compressed air pressures by use of > transformer/regulator > spray gun pressure gauge </td></tr> </table>	1.1	Describe the use of common types of hand and power tools used for vehicle refinishing	1.2	Identify the main components of a spray gun	1.3	Describe, within the scope of their responsibilities, how to select, prepare and maintain hand and power tools used in vehicle refinishing	1.4	State the limitations of hand and power tools used in vehicle refinishing	1.5	Explain how hand and power tools used in vehicle refinishing should be stored	1.6	Describe the methods of adjusting compressed air pressures by use of > transformer/regulator > spray gun pressure gauge
1.1	Describe the use of common types of hand and power tools used for vehicle refinishing												
1.2	Identify the main components of a spray gun												
1.3	Describe, within the scope of their responsibilities, how to select, prepare and maintain hand and power tools used in vehicle refinishing												
1.4	State the limitations of hand and power tools used in vehicle refinishing												
1.5	Explain how hand and power tools used in vehicle refinishing should be stored												
1.6	Describe the methods of adjusting compressed air pressures by use of > transformer/regulator > spray gun pressure gauge												

	1.7	Describe the operation of gun cleaning machines to include the use of solvent and water based gun cleaners
	1.8	Describe the cleaning and maintenance of suction/gravity feed guns
	1.9	Identify spray gun faults, their cause and how they should be rectified
2. Understand how to prepare, use and care for vehicle refinishing equipment	2.1	Identify workshop equipment used in vehicle refinishing
	2.2	Describe the preparation and safe use of workshop equipment
	2.3	Describe the maintenance requirements of a compressed air system oil level
Mapping to National Occupational Standards Directly mapped to IMI SSC Accident Repair – Paint NOS 2010, unit PO01		

Skills in Tools and Equipment used in Vehicle Refinishing

Unit Reference	Y/601/6153
Level	2
Credit Value	5
Guided Learning (GL)	45
Unit Summary	This unit allows the learner to develop skills in > the correct selection, maintenance and use of hand and power tools used in vehicle refinishing > the correct preparation, use and maintenance of vehicle refinishing equipment
Learning Outcomes (1 to 2)	Assessment Criteria (1.1 to 2.3)
The learner will	The learner can
1. Be able to select, use and care for hand and power tools used in vehicle refinishing	1.1 Select, prepare, safely use and maintain suitable hand and power tools when vehicle refinishing 1.2 Report any faulty or damaged tools to the relevant person(s) clearly and promptly 1.3 Store work tools in a clean, serviceable and safe manner, which permits ease of access and identification for use
2. Be able to prepare and use vehicle refinishing equipment	2.1 Select, prepare and safely use vehicle refinishing workshop equipment 2.2 Report any faulty or damaged equipment to the relevant person(s) clearly and promptly 2.3 Store work equipment in a clean, serviceable and safe manner, which permits ease of access and use
Mapping to National Occupational Standards Directly mapped to IMI SSC Accident Repair – Paint NOS 2010, unit PO01	

Knowledge of Working with Plastic Materials and Components

Unit Reference	Y/601/6119	
Level	3	
Credit Value	6	
Guided Learning (GL)	45	
Unit Summary	This unit enables the learner to develop an understanding for identifying substrates and plastics whilst undertaking paint operations following guidelines and procedures	
Learning Outcomes (1 to 3)	Assessment Criteria (1.1 to 3.11)	
The learner will	The learner can	
1. Understand how to identify plastic body surfaces requiring the application of foundation materials in vehicle refinishing	1.1	Identify the types of substrate likely to be found in vehicle refinishing
	1.2	Identify the main methods used to determine the vehicle substrate
	1.3	Identify the properties of the substrate
	1.4	Identify substrate to determine the selection of the preparation process and suitable foundation material
	1.5	Identify the types of plastic likely to be found in vehicle body manufacturing
2. Understand how to prepare plastic body surfaces prior to application of foundation materials	2.1	Describe the choice and use of surface cleaning agents prior to applying foundation materials to plastics
	2.2	Describe how to condition and clean surfaces prior to the application of foundation coatings to ensure adequate adhesion

3. Understand how to mix and apply foundation materials onto plastics in vehicle refinishing	3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9 3.10 3.11	Describe how to mix and check the viscosity of foundation materials Describe the importance of viscosity and its effects on the surface finish Describe the properties of the foundation materials Describe the principles of paint mixing, the importance of the right additive (hardener or thinner) in the correct ratio Describe the curing and drying recommendations for the various foundation materials to plastics Describe how to apply foundation coatings Describe how to find and interpret sources of information relevant to the mixing and application of foundation coatings relating to plastics Describe how to avoid application defects Outline and describe the masking procedures, methods and techniques for part or whole vehicles Describe how to carry out masking procedures to avoid material wastage and vehicle contamination for each stage of the process Identify the requirements for protecting the vehicle and contents from damage before, during and after preparing and applying foundation materials to plastics
Mapping to National Occupational Standards Directly mapped to IMI SSC Accident Repair – Paint NOS 2010, unit PO03		

Skills in Working with Plastic Materials and Components

Unit Reference	J/601/6231	
Level	3	
Credit Value	5	
Guided Learning (GL)	45	
Unit Summary	This unit will help the learner to develop the skills required to carry out the identification of plastic substrates. Mixing and adjusting the viscosity of foundation materials. Applying foundation materials to plastics following guidelines and procedures	
Learning Outcomes (1 to 5)	Assessment Criteria (1.1 to 5.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out preparation and application of foundation materials to plastics used in vehicle refinishing	1.1	Use suitable personal protective equipment and vehicle coverings throughout all preparation and application of foundation materials to plastics used in vehicle refinishing
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to use relevant information to carry out the task	2.1	Select suitable sources of technical information to support preparation and application of foundation materials to plastics in vehicle refinishing
	2.2	Use technical information to support preparation and application of foundation materials to plastics in vehicle refinishing
3. Be able to use appropriate tools and equipment	3.1	Select the appropriate tools and equipment necessary for carrying out preparation and application of foundation materials to plastics in vehicle refinishing

	3.2	Ensure that equipment has been calibrated to meet manufacturers requirements
	3.3	Use the correct tools and equipment in the way specified by manufacturers when carrying out preparation and application of foundation materials to plastics in vehicle refinishing
	3.4	Leave all application equipment in a clean and serviceable condition
4. Be able to carry out preparation and application of foundation materials to plastics used in vehicle refinishing	4.1	Identify the type of plastic component prior to working on the vehicle
	4.2	Remove and store safely any components likely to be affected by the preparation process
	4.3	Keep the work area clean and tidy throughout all preparation activities
	4.4	Use surface cleaning agents and protect adjacent panels to those being repaired
	4.5	Leave the prepared areas free from contamination and ready for the application of foundation materials
	4.6	Check the viscosity of foundation materials
	4.7	Prepare and apply all foundation materials to plastics
	4.8	Dry and cure all foundation materials to plastics
	4.9	Dispose of waste material to conform with legal and workplace requirements
	4.10	Ensure all completed repairs are finished to an agreed standard ready for the next process

5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	5.2	Make suitable and justifiable recommendations for cost effective repairs
	5.3	Record and report any additional faults identified during the course of their work promptly in the format required

Mapping to National Occupational Standards

Directly mapped to IMI SSC Accident Repair – Paint NOS 2010, unit PO03

Knowledge of Repairing Minor Paint Defects

Unit Reference	Y/601/6122	
Level	2	
Credit Value	6	
Guided Learning (GL)	45	
Unit Summary	This unit enables the learner to develop an understanding about the causes and rectification of minor paint defects using a range of tools, equipment and materials	
Learning Outcomes (1 to 2)	Assessment Criteria (1.1 to 2.8)	
The learner will	The learner can	
1. Understand how to identify the body surface requiring the rectification of minor paint defects	1.1	Describe how to identify the existing paint surface finish on which the minor paint defect has occurred
	1.2	Identify the minor paint defects, their cause and methods of rectification suitable for the paint finish
2. Understand how to repair minor paint defects	2.1	Describe how to carry out flatting, burnishing, polishing and touch in techniques to correct minor paint defects
	2.2	Describe how to use polishing machines, denibbing blocks and flatting equipment
	2.3	Describe how to use compounds, flatting papers, polishes, pre-prepared paints and glazes
	2.4	Identify the factors affecting the choice and use of materials in the rectification of minor paint defects
	2.5	Describe how to prevent further paint damage during rectification

	2.6	Describe the importance of proper cleaning to the vehicle and work area prior to and after rectification work
	2.7	Describe the importance of keeping equipment and materials clean and free from contamination during rectification work
	2.8	Identify the requirements for protecting the vehicle and contents from damage before, during and after repairing minor paint defects
Mapping to National Occupational Standards Directly mapped to IMI SSC Accident Repair – Paint NOS 2010, unit PO06		

Skills in Repairing Minor Paint Defects

Unit Reference	F/601/6244	
Level	2	
Credit Value	5	
Guided Learning (GL)	45	
Unit Summary	This unit will help the learner to develop the skills required to carry out the rectification of minor paint defects using a range of tools, equipment and materials. It also covers the importance of following guidelines and recommended procedures	
Learning Outcomes (1 to 5)	Assessment Criteria (1.1 to 5.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out the rectification of minor paint defects	1.1	Use suitable personal protective equipment and vehicle coverings when carrying out the rectification of minor paint defects
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to use relevant information to carry out the task	2.1	Select suitable sources of technical information to support the rectification of minor paint defect
	2.2	Use technical information to support the rectification of minor paint defects
3. Be able to use appropriate tools and equipment	3.1	Select the appropriate tools and equipment necessary for carrying out the rectification of minor paint defects
	3.2	Ensure that the equipment is safe and has been calibrated to meet manufacturers requirements

	3.3	Use the correct tools and equipment in the way specified by manufacturers when carrying out the rectification of minor paint defects
	3.4	Leave all equipment in a clean and serviceable condition
4. Be able to carry out the rectification of minor paint defects	4.1	Identify the type of paint defect prior to working on the vehicle
	4.2	Use surface cleaning agents and protect all surfaces adjacent to those being prepared and rectified using the specified method
	4.3	Remove and store safely any components likely to be affected by the preparation and rectification process
	4.4	Correct defects using the approved tools and equipment required
	4.5	Keep the work area clean and tidy throughout all rectification activities
	4.6	Dispose of waste materials to conform with legal and workplace requirements
	4.7	Ensure all minor paint defects are rectified to a commercially acceptable standard
5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	5.2	Make suitable and justifiable recommendations for cost effective repairs
	5.3	Record and report any additional faults identified during the course of their work promptly in the format required
Mapping to National Occupational Standards Directly mapped to IMI SSC Accident Repair – Paint NOS 2010, unit PO06		

Knowledge of Vehicle Colour Matching

Unit Reference	R/601/6135	
Level	3	
Credit Value	6	
Guided Learning (GL)	45	
Unit Summary	This unit enables the learner to develop an understanding of colours, undercoats paints, identification, mixing and matching of vehicle paint colours including the use of tinters and preparation of test cards	
Learning Outcomes (1 to 3)	Assessment Criteria (1.1 to 3.9)	
The learner will	The learner can	
1. Understand about colour theory	1.1	Describe the colours of the spectrum
	1.2	Identify the primary colours
	1.3	Explain the effect by which pigments produce visible colour, including black and white
	1.4	Identify and recognise colour classification systems
	1.5	Describe the terms colour, strength, hue, chroma
	1.6	Explain the effects of the viewing environment on colour matching
	1.7	Explain the terms gloss, opacity and metamerism and their effects on colour matching
2. Understand about vehicle paint coatings, ingredients and their application	2.1	Explain the purpose of paint materials
	2.2	Describe the kinds of undercoats, their functions and use on motor vehicles

	2.3	Describe the kinds of topcoats, their functions and use on motor vehicles including > solid colours > clear over base colours > metallic colours > pearl colours
	2.4	Identify and explain the basic ingredients of paints
	2.5	Explain the types of paints available and their function including > single pack > two pack > acrylic
	2.6	Explain the types of pigments available and their function
	2.7	Explain the types of solvents available and their function
	2.8	Explain the purpose of testing paint materials
3. Understand about mixing and matching vehicle paint colours	3.1	Describe how to find, interpret and use sources of information relevant to the mixing and matching of vehicle paint colours
	3.2	Describe how to identify the paint substrate and the importance of doing so
	3.3	Explain how to compare, mix, test and adjust colour tones and effects, including metallic and mica effects
	3.4	Explain the consequences of adding too much of one type of tinter and the process for correcting and adjusting it
	3.5	Describe how to use test panels and colour test cards including drying and the importance of doing so

	3.6	Explain how spray equipment adjustments can alter colour
	3.7	Explain how to identify the causes of colour mismatch and how to rectify
	3.8	Explain how to assess and evaluate the need for blending techniques to achieve and acceptable colour match
	3.9	Describe the importance of correctly preparing the existing finish for colour matching and checking the match using the correct light source
Mapping to National Occupational Standards Directly mapped to IMI SSC Accident Repair – Paint NOS 2010, unit PO13		

Skills in Vehicle Colour Matching

Unit Reference	T/601/6256	
Level	3	
Credit Value	5	
Guided Learning (GL)	45	
Unit Summary	This unit will help the learner to develop the skills required to identify, mix and match vehicle paint colours including the use of tinters and preparation of test cards	
Learning Outcomes (1 to 5)	Assessment Criteria (1.1 to 5.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out vehicle mixing and matching	1.1	Use suitable personal protective equipment and vehicle coverings when carrying vehicle mixing and matching
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to use relevant information to carry out the task	2.1	Select suitable sources of technical information to support paint mixing and matching activities
	2.2	Use technical information to support paint mixing and matching activities
3. Be able to use appropriate tools and equipment	3.1	Select the appropriate tools and equipment necessary for carrying out paint mixing and matching activities
	3.2	Ensure that equipment has been calibrated to meet manufacturers requirements
	3.3	Use the correct tools and equipment in the way specified by manufacturers when carrying out paint mixing and matching activities

	3.4	Leave all mixing and application equipment in a clean and serviceable condition
4. Be able to carry out vehicle mixing and matching activities	4.1	Identify prior to working on the vehicle the type of substrate to be painted
	4.2	Prepare all the refinishing systems and materials required following health and safety requirements
	4.3	Mix, compare and adjust colour tones and effects using suitable mixing and matching techniques
	4.4	Ensure all refinishing systems and materials prepared meet the specification required for colour and viscosity prior to application
	4.5	Apply refinishing systems and materials to colour test cards
	4.6	Dry all colour test cards before checking colour
	4.7	Ensure the colour produced meets the material manufacturer's requirements, the customer requirements and is a blendable match to the existing colour
	4.8	Dispose of waste materials to conform with legal and workplace requirements
5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	5.2	Make suitable and justifiable recommendations for cost effective repairs
	5.3	Record and report any additional faults noticed during the course of their work promptly in the format required

Mapping to National Occupational Standards

Directly mapped to IMI SSC Accident Repair – Paint NOS 2010, unit PO13

Introduction to Vehicle Refinishing

Unit Reference	Y/501/7020	
Level	1	
Credit Value	4	
Guided Learning (GL)	40	
Unit Summary	In this unit learners will investigate bodywork and materials preparation, using correct abrasives, masking materials and different refinishing techniques. Learners will also identify and rectify paint defects and carry out surface enhancement	
Learning Outcomes (1 to 7)	Assessment Criteria (1.1 to 7.2)	
The learner will	The learner can	
1. Work safely	1.1	Use safe working practices when undertaking vehicle refinishing
2. Know about surface preparation	2.1	Select and use abrasives to prepare various substrates for the next operation
	2.2	Demonstrate the safe use of power equipment with particular attention to correct PPE
3. Understand the procedure for bodywork preparation prior to refinishing	3.1	Identify substrate to be refinished
	3.2	Demonstrate the correct methods and stages of surface preparation
	3.3	Demonstrate the correct methods of masking paintwork for the refinishing operation
4. Know how to mix and apply primers	4.1	Demonstrate the correct methods of preparing a range of primers for use
	4.2	Demonstrate the correct and safe methods of painting with primer/s to an acceptable standard

	4.3	Prepare primed surface to accept top coat
5. Know how to apply a top coat	5.1	Demonstrate the correct methods of preparing a range of top coats and application equipment for use
	5.2	Demonstrate the correct safe method of painting panels with top coat
	5.3	Demonstrate the correct and safe method of servicing equipment after use with the above painting techniques
6. Know how to identify and correct basic paint defects	6.1	Identify basic paint defects
	6.2	Identify cause and rectification of paint defects
7. Know how to enhance paint finishes	7.1	Demonstrate the correct procedure for compounding, machine or hand glazing
	7.2	Apply polishes to protect the refinished surface
Mapping to National Occupational Standards IMI SSC Vehicle Body and Paint Operations 2005 BP07 (EK: 2, 3, 5, 6, 9, 10, 11, 12, 18, 24. PO: a, c, e, g, j, k, l) BP09 (EK: 1, 3, 6, 10, 13, 20. PO: a, b, f) BP08 (EK: 1, 3, 6, 10, 13, 15, 17, 19, 20, 21, 22, 26. PO: a, b, d, e, g, h, i, j)		

Knowledge of Inspection, Repair and Replacement of Motorcycle Tyres

Unit Reference	R/601/6040	
Level	2	
Credit Value	3	
Guided Learning (GL)	24	
Unit Summary	This unit enables the learner to develop and understanding of inspection, fitting, repairing and maintaining motorcycle, quad bike, tricycle, scooter, moped and sidecar combination wheels and tyres	
Learning Outcomes (1 to 4)	Assessment Criteria (1.1 to 4.6)	
The learner will	The learner can	
1. Know motorcycle tyre construction, legislation and special workplace procedures	1.1	Describe the purpose, function and construction of motorcycle wheels and tyres
	1.2	Describe the current legal requirements for motorcycle tyres
	1.3	Describe the relevant parts of the British and European Standard for the repair of motorcycle tyres
	1.4	Give examples of how to deal with specialist waste materials in their workplace
2. Know about the tools and equipment used when working with motorcycle tyres	2.1	Give examples of how to select, prepare and use tools and equipment appropriate to working with motorcycle wheels and tyres
	2.2	Describe specialist maintenance requirements of wheel balancing and tyre removal and refitting machinery

3. Know about materials used in the repair of motorcycle tyres	3.1	Understand the materials used in the repair of motorcycle tyres
4. Know about the inspection, removal, repair and replacement of motorcycle tyres	3.2	Describe the types of repair materials available and when it may be permissible for them to be used
	4.1	Describe the types of valve used in motorcycle tyres and their removal and installation techniques
	4.2	Give examples of the meanings of markings used on motorcycle tyres and tubes and where these can be found
	4.3	Describe the inspection and fault identification methods and procedures associated with motorcycle tyres, rims and valves.
	4.4	Give examples of the common faults associated with motorcycle tyres, wheels and valves
	4.5	Describe motorcycle wheel, tyre and tube removal and refitting methods and procedures
	4.6	Describe the principles of wheel balancing. To include > static balancing > dynamic balancing
Mapping to National Occupational Standards Directly mapped to IMI SSC Vehicle fitting NOS 2010, unit VF04		

Skills in Inspection, Repair and Replacement of Motorcycle Tyres

Unit Reference	T/601/6094	
Level	2	
Credit Value	4	
Guided Learning (GL)	36	
Unit Summary	This unit will enable the learner to develop the skills required to inspect, fit, repair and maintain motorcycle, quad bike, tricycle, scooter, moped and sidecar combination tyres	
Learning Outcomes (1 to 4)	Assessment Criteria (1.1 to 4.6)	
The learner will	The learner can	
1. Be able to work safely when carrying out removal and replacement activities	1.1	Use suitable personal protective equipment and vehicle coverings when working on vehicles
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to inspect motorcycle tyres	2.1	Inspect motorcycle wheels and tyres using suitable tools, sources of information, and equipment. To include > visual inspection > measurement of tread depth > tyre pressures > balance
3. Be able to repair and replace motorcycle tyres and tubes	3.1	Remove front and rear wheels from motorcycles to facilitate tyre removal and refitment
	3.2	Carry out tyre repair activities using > suitable tools and equipment > correct repair and replacement techniques > correct type and size of replacement components > correct materials

	3.3	Carry out tyre replacements activities within appropriate timescales
	3.4	Use suitable equipment to align front and rear wheels following wheel refitment
4. Be able to balance wheels and tyres as part of final checks on motorcycles	4.1	Carry out wheel balancing to manufacturers' tolerances
	4.2	Carry out final vehicle safety checks in the workshop, prior to releasing the motorcycle to the customer
5. Be able to record information and make suitable recommendations	5.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	5.2	Make suitable and justifiable recommendations for cost effective repairs
	5.3	Record and report any additional faults noticed during the course of their work promptly in the format required
Mapping to National Occupational Standards Directly mapped to IMI SSC Vehicle fitting NOS 2010, unit VF04		

Knowledge of Inspection and Repair of Light Vehicle Clutches

Unit Reference	H/601/6060	
Level	2	
Credit Value	2	
Guided Learning (GL)	12	
Unit Summary	This unit enables the learner to develop knowledge of the inspection, repair and replacement of light vehicle clutches and components	
Learning Outcomes (1 to 3)	Assessment Criteria (1.1 to 3.5)	
The learner will	The learner can	
1. Know the specialist tools and equipment used when inspecting and replacing clutches	1.1	Describe the types, function and use of clutch removal, alignment and replacement tools and equipment
2. Know about different types of light vehicle clutches	2.1	Describe different types of clutch and operating systems and how they and their associated components operate
3. Know how to inspect and replace light vehicle clutches	3.1	Describe different types of clutch inspection techniques and how to carry them out
	3.2	Explain how to make checks and adjustments to clutches
	3.3	Describe the common faults associated with clutch systems, their causes and how to identify and rectify them
	3.4	Describe removal and replacement procedures associated with clutch systems
	3.5	Describe how to adjust clutch working tolerances

Mapping to National Occupational Standards

Directly mapped to IMI SSC Vehicle fitting NOS 2010, unit VF08

Skills in Inspection and Repair of Light Vehicle Clutches

Unit Reference	D/601/6753	
Level	2	
Credit Value	4	
Guided Learning (GL)	32	
Unit Summary	This unit will enable the learner to develop the skills required to inspect, repair and replace light vehicle clutches and components	
Learning Outcomes (1 to 4)	Assessment Criteria (1.1 to 4.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out removal and replacement activities	1.1	Use suitable personal protective equipment and vehicle coverings when working on vehicles
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to inspect light vehicle clutches and components	2.1	Inspect light vehicle clutches and components using suitable tools, sources of information and equipment
3. Be able to replace light vehicle clutches and components	3.1	Carry out replacement of clutch within appropriate timescales, using > suitable equipment and technical information > correct repair and replacement techniques > correct type and size of replacement components > correct materials
	3.2	Adjust clutch if required and carry out final vehicle safety checks in the workshop, prior to releasing the vehicle to the customer

4. Be able to record information and make suitable recommendations	4.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	4.2	Make suitable and justifiable recommendations for cost effective repairs
	4.3	Record and report any additional faults noticed during the course of their work promptly in the format required

Mapping to National Occupational Standards

Directly mapped to IMI SSC Vehicle fitting NOS 2010, unit VF08

Knowledge of Inspection and Replacement of Light Vehicle Exhaust Components		
Unit Reference	Y/601/6072	
Level	2	
Credit Value	2	
Guided Learning (GL)	14	
Unit Summary	This unit enables the learner to develop knowledge of the inspecting exhaust components for replacement or continued serviceability and removing replacing components identified as being faulty, damaged, deteriorated or where the customer has requested replacement	
Learning Outcomes (1 to 3)	Assessment Criteria (1.1 to 3.5)	
The learner will	The learner can	
1. Know the specialist tools and equipment used when inspecting and replacing exhaust components	1.1	Describe the types, selection, safety checks and safe use of tools and equipment for the removal and replacement of exhausts
	1.2	Describe how to use oxy-acetylene equipment when working on exhausts
2. Know about exhaust system components	2.1	Describe the purpose, function, construction and layout of exhaust system components
	2.2	Describe exhaust related emission control systems
	2.3	Describe the legal requirements relating to exhaust systems
3. Know how to inspect and replace exhaust systems	3.1	Describe inspection techniques for exhaust system faults and how to carry them out
	3.2	Describe common faults associated with exhaust systems.

	3.3	Describe the effective sequence of working when removing and replacing exhaust systems
	3.4	Describe how to remove, replace or re-thread broken, damaged or seized exhaust fixings
	3.5	Describe how to check exhaust system components are functioning correctly after refitting or replacement
Mapping to National Occupational Standards Directly mapped to IMI SSC Vehicle fitting NOS 2010, unit VF09		

Skills in Inspection and Replacement of Light Vehicle Exhaust Components

Unit Reference	A/601/6842	
Level	2	
Credit Value	3	
Guided Learning (GL)	24	
Unit Summary	This unit will enable the learner to develop the skills required to inspect exhaust components for replacement or continued serviceability and removing and replacing components identified as being faulty, damaged, deteriorated or where the customer has requested replacement	
Learning Outcomes (1 to 4)	Assessment Criteria (1.1 to 4.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out removal and replacement activities	1.1	Use suitable personal protective equipment and vehicle coverings when working on vehicle exhaust systems and components
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to inspect exhaust components	2.1	Inspect exhaust systems and components to identify faults using suitable tools, sources of information and equipment
3. Be able to repair and replace exhaust components	3.1	Carry out repair and replacement of exhaust components within appropriate timescales, using > suitable equipment and technical information > suitable repair and replacement techniques > suitable type and size of replacement components and fixings > suitable materials

	3.2	Carry out final adjustments and checks in the workshop, prior to releasing the vehicle to the customer. To include > correct fitment > correct alignment > leakage
4. Be able to record information and make suitable recommendations	4.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	4.2	Make suitable and justifiable recommendations for cost effective repairs
	4.3	Record and report any additional faults noticed during the course of their work promptly in the format required
Mapping to National Occupational Standards Directly mapped to IMI SSC Vehicle fitting NOS 2010, unit VF09		

Knowledge of Inspection, Testing and Replacement of Vehicle Batteries and Related Components

Unit Reference	F/601/6082	
Level	2	
Credit Value	2	
Guided Learning (GL)	18	
Unit Summary	This unit enables the learner to develop knowledge of carrying out tests which identify faulty batteries, and then the removal and replacement of them. This can be on light vehicles, medium and large goods vehicles, motorcycles, mopeds and scooters	
Learning Outcomes (1 to 3)	Assessment Criteria (1.1 to 3.5)	
The learner will	The learner can	
1. Know the tools and equipment used when inspecting, testing and replacing vehicle batteries	1.1	Explain the selection, function and safe use of battery testing equipment
	1.2	Describe code saving devices and how and when to use them
2. Know about different types of vehicle battery and charging system	2.1	Describe the purpose, function and layout of automotive batteries and charging systems.
	2.2	Describe battery ratings and the circumstances in which differently rated batteries should be fitted
	2.3	Describe legal requirements relating to storage, selection and disposal of vehicle batteries and components
3. Know how to inspect, test and replace light vehicle batteries	3.1	Describe fault identification methods and procedures and safe testing techniques associated with batteries and components
	3.2	Describe the common faults associated with batteries and charging systems

	3.3	Describe safe removal and replacement procedures associated with batteries and components
	3.4	Describe how to check drive belt adjustment
	3.5	Describe how to check that batteries and components are > functioning correctly after refitting or replacement > of the correct type and quality for the vehicle and conform to legal requirements where relevant
Mapping to National Occupational Standards Directly mapped to IMI SSC Vehicle fitting NOS 2010, unit VF10		

Skills in Inspection, Testing and Replacement of Vehicle Batteries and Related Components

Unit Reference	K/601/8179	
Level	2	
Credit Value	3	
Guided Learning (GL)	25	
Unit Summary	This unit will enable the learner to develop the skills required to carry out tests which identify faulty batteries, and then the removal and replacement of them. This can be on light vehicles, medium and large goods vehicles, motorcycles, mopeds and scooters	
Learning Outcomes (1 to 3)	Assessment Criteria (1.1 to 4.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out testing and replacement activities	1.1	Use suitable personal protective equipment and vehicle coverings when working on vehicles
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to inspect and test batteries and components	2.1	Inspect and test batteries, charging systems and associated components using suitable tools, sources of information and equipment
3. Be able to remove and replace batteries and components	3.1	Perform battery removal and replacement activities within appropriate timescales, using > suitable equipment and technical information > suitable removal and replacement techniques > suitable type and size of replacement components and fixings

	3.2	Perform final battery and component checks in the workshop, prior to releasing the vehicle to the customer
4. Be able to record information and make suitable recommendations	4.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	4.2	Make suitable and justifiable recommendations for cost effective repairs
	4.3	Record and report any additional faults noticed during the course of their work promptly in the format required
Mapping to National Occupational Standards Directly mapped to IMI SSC Vehicle fitting NOS 2010, unit VF10		

Knowledge of Inspection and Replacement of Light Vehicle Suspension Dampers and Springs

Unit Reference	J/601/6083	
Level	2	
Credit Value	2	
Guided Learning (GL)	14	
Unit Summary	This unit enables the learner to develop knowledge of the inspection and replacement of suspension dampers and springs using a variety of equipment and testing techniques	
Learning Outcomes (1 to 3)	Assessment Criteria (1.1 to 3.5)	
The learner will	The learner can	
1. Know the tools and equipment used when inspecting and replacing light vehicle suspension dampers and springs	1.1	Describe the selection, safety checks and safe use of tools and equipment for the replacement of suspension dampers and springs
2. Know about different types of suspension dampers and springs	2.1	Describe the types, purpose, function and location of light vehicle suspension dampers and springs
	2.2	Describe legal requirements relating to light vehicle dampers and springs
3. Know how to inspect, test and replace suspension dampers and springs	3.1	Describe safe testing techniques and procedures associated with suspension dampers and springs
	3.2	Describe the common faults associated with light vehicle suspension dampers and springs
	3.3	Describe safe removal and replacement procedures associated with light vehicle suspension dampers and springs
	3.4	Describe how to check camber setting and road wheel alignment

	3.5	Describe how to check that components are > functioning and adjusted correctly after refitting or replacement > of the correct type and quality for the vehicle and conform to legal requirements where relevant
Mapping to National Occupational Standards Directly mapped to IMI SSC Vehicle fitting NOS 2010, unit VF11		

Skills in Inspection and Replacement of Light Vehicle Suspension Dampers and Springs

Unit Reference	F/601/6857	
Level	2	
Credit Value	3	
Guided Learning (GL)	24	
Unit Summary	This unit will enable the learner to develop the skills required to carry out the inspection, testing and replacement of suspension dampers and springs using a variety of equipment and testing techniques	
Learning Outcomes (1 to 4)	Assessment Criteria (1.1 to 4.3)	
The learner will	The learner can	
1. Be able to work safely when carrying out removal and replacement activities	1.1	Use suitable personal protective equipment and vehicle coverings when working on vehicle suspension systems and components
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to inspect and test light vehicle suspension dampers and springs	2.1	Inspect and test suspension dampers and springs using suitable tools, sources of information and equipment
3. Be able to remove and replace light vehicle suspension dampers and springs	3.1	Perform removal and replacement activities within appropriate timescales, using > suitable equipment and technical information > suitable removal and replacement techniques > suitable type and size of replacement components and fixings

	3.2	Carry out wheel alignment checks and adjustments as appropriate before release to the customer
	3.3	Perform final suspension damper and spring function checks in the workshop, prior to releasing the vehicle to the customer
4. Be able to record information and make suitable recommendations	4.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	4.2	Make suitable and justifiable recommendations for cost effective repairs
	4.3	Record and report any additional faults noticed during the course of their work promptly in the format required
Mapping to National Occupational Standards Directly mapped to IMI SSC Vehicle fitting NOS 2010, unit VF11		

Knowledge of Inspection, Adjustment and Replacement of Light Vehicle Braking Systems and Components

Unit Reference	L/601/6084	
Level	2	
Credit Value	2	
Guided Learning (GL)	18	
Unit Summary	This unit enables the learner to develop knowledge of the inspection, adjustment and replacement of light vehicle braking systems	
Learning Outcomes (1 to 3)	Assessment Criteria (1.1 to 3.5)	
The learner will	The learner can	
1. Know the tools and equipment used when inspecting, adjusting and replacing light vehicle braking system components	1.1	Describe the selection, safety checks and safe use of tools and equipment for the inspection, adjustment and replacement of light vehicle braking system components
2. Know about different types of light vehicle braking systems and components	2.1	Describe the purpose, function and layout of typical light vehicle braking systems
	2.2	Describe legal requirements relating to light vehicle braking systems
	2.3	Describe how to identify electronic braking systems
3. Know how to inspect, test, adjust and replace light vehicle braking systems and components	3.1	Describe safe inspection and testing techniques and procedures associated with braking systems
	3.2	Describe the common faults associated with light vehicle braking systems
	3.3	Describe safe removal and replacement procedures associated with light vehicle braking system components
	3.4	Describe how to make adjustments to braking systems

	3.5	Describe how to check that components are > functioning and adjusted correctly after refitting or replacement > of the correct type and quality for the vehicle and conform to legal requirements where relevant
Mapping to National Occupational Standards Directly mapped to IMI SSC Vehicle fitting NOS 2010, unit VF12		

Skills in Inspection and Replacement of Light Vehicle Braking Systems and Components

Unit Reference	L/601/6862	
Level	2	
Credit Value	4	
Guided Learning (GL)	32	
Unit Summary	This unit will enable the learner to develop the skills required to carry out the inspection of light vehicle braking systems and the replacement and adjustment of braking system components	
Learning Outcomes (1 to 4)	Assessment Criteria (1.1 to 4.4)	
The learner will	The learner can	
1. Be able to work safely when carrying out removal and replacement activities	1.1	Use suitable personal protective equipment and vehicle coverings when working on vehicles
	1.2	Work in a way which minimises the risk of damage or injury to the vehicle, people and the environment
2. Be able to inspect and test light vehicle braking systems	2.1	Inspect and test braking systems using suitable tools, sources of information and equipment
3. Be able to replace light vehicle braking system components	3.1	Carry out removal and replacement activities within appropriate timescales, using > suitable equipment and technical information > suitable removal and replacement techniques > suitable type and size of replacement components and fixings
	3.2	Carry out final braking system function checks in the workshop, prior to releasing the vehicle to the customer

4. Be able to record information and make suitable recommendations	4.1	Produce work records that are accurate, complete and passed to the relevant person(s) promptly in the format required
	4.2	Make suitable and justifiable recommendations for cost effective repairs
	4.3	Record and report any additional faults noticed during the course of their work promptly in the format required
	4.4	Give advice on procedures for bedding in new brakes before release to the customer
Mapping to National Occupational Standards Directly mapped to IMI SSC Vehicle fitting NOS 2010, unit VF12		

Recognition of Prior Learning (RPL), Exemptions, Credit Transfers and Equivalencies

Skills and Education Group Awards policy enables learners to avoid duplication of learning and assessment in a number of ways:

- > **Recognition of Prior Learning (RPL)** – a method of assessment that considers whether a learner can demonstrate that they can meet the assessment requirements for a unit through knowledge, understanding or skills they already possess and do not need to develop through a course of learning.
- > **Exemption** - Exemption applies to any certificated achievement which is deemed to be of equivalent value to a unit within Skills and Education Group Awards qualification but which does not necessarily share the exact learning outcomes and assessment criteria. It is the assessor's responsibility, in conjunction with the Internal Moderator, to map this previous achievement against the assessment requirements of the Skills and Education Group Awards qualification to be achieved in order to determine its equivalence.
 - > Any queries about the relevance of any certificated evidence should be referred in the first instance to your centre's internal moderator and then to Skills and Education Group Awards.
 - > It is important to note that there may be restrictions upon a learner's ability to claim exemption or credit transfer which will be dependent upon the currency of the unit/qualification and a learner's existing levels of skill or knowledge.
 - > Where past certification only provides evidence that could be considered for exemption of part of a unit, learners must be able to offer additional evidence of previous or recent learning to supplement their evidence of achievement.
- > **Credit Transfer** – Skills and Education Group Awards may attach credit to a qualification, a unit or a component. Credit transfer is the process of using certificated credits achieved in one qualification and transferring that achievement as a valid contribution to the award of another qualification. Units/Components transferred must share the same learning outcomes and assessment criteria along with the same unit number. Assessors must ensure that they review and verify the evidence through sight of:
 - > Original certificates OR
 - > Copies of certificates that have been signed and dated by the internal moderator confirming the photocopy is a real copy and make these available for scrutiny by the External Moderator.
- > **Equivalencies** – opportunities to count credits from the unit(s) from other qualifications or from unit(s) submitted by other recognised organisations towards the place of mandatory or optional unit(s) specified in the rule of combination. The unit must have the same credit value or greater than the unit(s) in question and be at the same level or higher.

Skills and Education Group Awards encourages its centres to recognise the previous achievements of learners through Recognition of Prior Learning (RPL), Exemption, Credit Transfer and Equivalencies. Prior achievements may have resulted from past or present employment, previous study or voluntary activities. Centres should provide advice and guidance to the learner on what is appropriate evidence and present that evidence to the external moderator in the usual way.

Further guidance can be found in 'Delivering and Assessing Skills and Education Group Awards Qualifications' which can be downloaded from skillsandeducationgroupawards.co.uk/for-centres

Certification

Learners will be certificated for all units and qualifications that are achieved and claimed.

Skills and Education Group Awards' policies and procedures are available on the website.

Exemptions

This qualification contains no exemptions. For further details see Recognition of Prior Learning (RPL), Exemptions, Credit Transfers and Equivalencies.

Glossary of Terms

GL (Guided Learning)

GL is where the learner participates in education or training under the immediate guidance or supervision of a tutor (or other appropriate provider of education or training). It may be helpful to think – ‘Would I need to plan for a member of staff to be present to give guidance or supervision?’

GL is calculated at qualification level and not unit/component level.

Examples of Guided Learning include:

- > Face-to-face meeting with a tutor
- > Telephone conversation with a tutor
- > Instant messaging with a tutor
- > Taking part in a live webinar
- > Classroom-based instruction
- > Supervised work
- > Taking part in a supervised or invigilated formative assessment
- > The learner is being observed as part of a formative assessment.

TQT (Total Qualification Time)

The number of notional hours which represents an estimate of the total amount of time that could reasonably be expected to be required, in order for a learner to achieve and demonstrate the achievement of the level of attainment necessary for the award of a qualification.’ The size of a qualification is determined by the TQT.

TQT is made up of the Guided Learning (GL) plus all other time taken in preparation, study or any other form of participation in education or training but not under the direct supervision of a lecturer, supervisor or tutor.

TQT is calculated at qualification level and not unit/component level.

Examples of unsupervised activities that could contribute to TQT include:

- > Researching a topic and writing a report
- > Watching an instructional online video at home/e-learning
- > Watching a recorded webinar
- > Compiling a portfolio in preparation for assessment
- > Completing an unsupervised practical activity or work
- > Rehearsing a presentation away from the classroom
- > Practising skills unsupervised
- > Requesting guidance via email – will not guarantee an immediate response.