Continuous Professional Development (CPD)

Subject Framework

Body Sector

BS10125 Compliance

Body Sector BS10125 Compliance

Introduction

The IMI has worked with the industry to provide a Continuous Professional Development (CPD) body sector, BS10125 compliance. The following points are derived from the requirements set out in BS10125, in support of Annex A and from direct working with body sector representatives:

- CPD enables individuals to maintain their knowledge and skills for repair task areas as detailed in BS10125, by completing and passing relevant and approved CPD within 3 years of achieving the initial recognition, to retain recognition against BS10125
- All CPD must be approved by an Awarding Organisation, in line with the requirements set out in BS10125.
- CPD will be delivered in various ways, such as, but not limited to face to face training, virtual classrooms and eLearning. The delivery method must be in a format that enables the most effective assessment to take place for the given knowledge or competence-based repair task, detailed within BS10125.
- Knowledge assessments will be a Multiple-Choice Question (MCQ) test. MCQs will consist of a stem/question followed by four possible answers. One answer should be the correct choice plus three distractors.
- It is recognised that if delivering more than one 'C' unit together rules of combination may apply. Providing efficiencies of CPD delivery, due to a reduced number of learning hours where there are similarities in learning content.
- Delivering multiple "C" units together could also provide efficiencies for the CPD assessment requirements, in terms of a knowledge test and practical skills as shown in each 'C' unit where assessment crossover applies.
- CPD practical skills assessments can be carried out in a training environment, or the individual's workplace, all assessments must be appropriate skills repair tasks and observed by competent assessors, as agreed with the relevant Awarding Organisation.

  Resources, including vehicles used for practical skills assessments, must be suitable for the task, i.e. if using a vehicle for the practical skills assessment in C0 – Repair Preparation, it must be a vehicle with suitable safety related damage, where a safe & appropriate repair process can be established within the maximum permissible time for that assessment.
- Assessments will be internally and externally quality assured by the provider of the assessment(s) and the relevant Awarding Organisation.

The CPD subject framework set out in this document has been developed and agreed with an IMI Sector Advisory Group and Technical Working Group. There are 18 subject areas within the framework, aligned to the standard and Annex A. Each subject area has a given number of learning hours and the type of assessment required.

PLEASE NOTE: Time for assessments **is not** included in the CPD unit hours. Example: C1 would be a minimum of 10hrs CPD, plus 75 minutes for the knowledge assessment.

Best practice events will be scheduled annually and attended by Awarding Organisations, to support a standardised approach for the delivery of this framework.

This framework will be reviewed annually to ensure the content remains up to date and relevant, any updates being agreed by the IMI Sector Advisory Group and Technical Working Group in line with sector requirements and changes to BS10125.

For further information please email the IMI at hello@theimi.org.uk

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Version and date	Change detail	Section/page
V1 - October 2022	Original	N/A
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Contents

Section One – Preparation

Unit Title:	**C0** – Repair Preparation	
Task:	Carrying out repair preparation relevant and suitable to the repair capabilities declared.	
Entry Requirements	This unit allows the technician to plan CPD requirements across single or combined BS10125 criteria after initial entry requirements have been met, as shown below, within proven competence. **Proven Competence:** Apprenticeship or awarding organisation issued qualification and/or accreditation certificates in accident repair processes and procedures. To conduct a risk assessment of the vehicle's mechanical and electrical systems and identify requirements for safe isolation, discharge and/or quarantine of high-voltage, gas or fuel systems prior to commencing work on a vehicle. Isolation, discharge and/or quarantine of high-voltage, gas or fuel systems where required by the risk assessment or defined by the vehicle manufacturer, methodically and accurately inspect and assess all elements, including vehicle systems and identification of component part fitment, of a vehicle that has sustained damage and requires repair. Identify and record the assessed damage on a vehicle and determine (using prescribed relevant repair methods) which parts of the vehicle should be repaired or replaced and define and document the repair process; including reinstatement requirements.	
CPD Requirements		Hours
	Knowledge retained through recognised CPD: **C0.1** Material construction and chemical composition of steels and aluminium's used in vehicle manufacturing and effects of cross contamination **C0.2** To correctly identify the substrate material and select the appropriate repair process **C0.3** The use and purpose of the various consumables used in corrosion protection and panel surface finishing **C.SRS1** SRS and trim components used in vehicle construction** **C.ADAS1** Advanced Driver Assistance Systems (ADAS) including identification of and the potential impacts on system functionality as a result of repair** **C.HV1** High Voltage systems and the associated hazards and dangers with conducting repairs on a vehicle with high voltage systems on board** ** SRS, ADAS and HV may be achieved separately or prior to this CPD unit	10
	Practical Skills retained through recognised CPD: Current competence in automotive repair preparation techniques	

CPD Hours = C0 single unit – 10 Hours includes ADAS and High Voltage (if not already achieved)		
Assessment Method:	Knowledge and Practical Skills Assessment	
Assessment Type	Multiple Choice Questions	Maximum duration: 80 Minutes Number of questions: 40 4 questions from each knowledge topic (as shown above) Pass mark: 80%

Assessment Type:	Practical Skills	Max Duration: 2 hours List of Competencies: **C0.4** Establish incident circumstances including the use of images **C0.5** Establish and record vehicle data **C0.6** Establish and record vehicle occupancy at the time of the incident **C0.7** Establish and record the direction and area of impact of the incident damage **C0.8** Establish and accurately create and/or record an appropriate repair method(s) **C0.9** Identify and record all safety related components **C0.10** Establish a safe & appropriate repair process

Section Two – Body and Frame

Unit Title:	**C1** – Dent Removal on Steel and Aluminium Panels		
Task:	Panel beating, dent removal, shrinking, filling and surface preparation to remove cosmetic level damage to exterior or interior metal panels.		
Entry Requirements	This unit allows the technician to plan CPD requirements across single or combined BS10125 criteria after initial entry requirements have been met, as shown below, within proven competence. **Proven Competence:** Apprenticeship or awarding organisation issued qualification certificate in the removal and refitting of soft and hard trim and the application of panel beating, shrinking techniques, dent pulling, surface finishing and filling.		
CPD Requirements			Hours
	Knowledge retained through recognised CPD: **C1.1** Material construction and chemical composition of steels and aluminium used in vehicle manufacturing and effects of cross-contamination **C1.2** Correctly identify the substrate material and select the appropriate repair process **C1.3** The use and purpose for the various consumables used in corrosion protection and panel surface finishing **C.SRS1** SRS and trim components used in vehicle construction** **C.ADAS1** Advanced Driver Assistance Systems (ADAS) including identification of and the potential impacts on system functionality as a result of repair** **C.HV1** High Voltage systems and the associated hazards and dangers with conducting repairs on a vehicle with high voltage systems on board** ** SRS, ADAS and HV may be achieved separately or prior to this CPD unit		10
CPD Hours = C1 single unit – 10 Hours includes ADAS and High Voltage (if not already achieved)			
Assessment Method:	Knowledge assessment only		
Assessment Type	Multiple Choice Questions	Maximum duration: 75 Minutes Number of questions: 36 6 questions from each knowledge topic (as shown above) Pass mark: 80%	

Unit Title:	**C2** – Plastic Repair and Surface Refinishing of Exterior and Interior Components		
Task:	Repair of scuffs, scratches and cracks, plastic welding of broken lugs and fixings.		
Entry Requirements	This unit allows the technician to plan CPD requirements across single or combined BS10125 criteria after initial entry requirements have been met as shown below within proven competence. **Proven Competence:** Apprenticeship or awarding organisation issued qualification certificate in removal and refitting of soft and hard trim & in the application of plastic welding, surface finishing and filling.		
CPD Requirements			Hours
	Knowledge retained through recognised CPD: **C2.1** Material construction and chemical composition of plastics in vehicle manufacturing and effects of cross-contamination **C2.2** To correctly identify the substrate material and select the appropriate repair process. **C2.3** The use and purpose for various consumables used in plastic repair **C.SRS1** SRS and trim components used in vehicle construction** **C.ADAS1** Advanced Driver Assistance Systems (ADAS) including identification of and the potential impacts on system functionality as a result of repair** **C.HV1** High Voltage systems and the associated hazards and dangers with conducting repairs on a vehicle with high voltage systems on board** ** SRS, ADAS and HV may be achieved separately or prior to this CPD unit		10
CPD Hours = C2 single unit – 10 Hours includes ADAS and High Voltage (if not already achieved)			
Assessment Method:	Knowledge assessment only		
Assessment Type:	Multiple Choice Questions	Maximum duration: 75 minutes Number of questions: 36 6 questions from each knowledge topic (as shown above) Pass mark: 80%	

Unit Title:	**C3** – Refinishing	
Task:	Prepare surfaces; mix, apply and cure refinish products.	
Entry Requirements	This unit allows the technician to plan CPD requirements across single or combined BS10125 criteria after initial entry requirements have been met as shown below within proven competence. **Proven Competence:** Apprenticeship or awarding organisation issued qualification certificate to prepare the vehicle for painting, including surface preparation, masking of panels, paint mixing and colour matching. In the application of refinishing materials, polishing and paint defect rectification.	
CPD Requirements		Hours
	Knowledge retained through recognised CPD: **C3.1** Material construction and chemical composition of materials used in vehicle manufacturing and effects of cross-contamination. **C3.2** Correctly identify the substrate material and select the appropriate refinish process. **C.ADAS1** Advanced Driver Assistance Systems (ADAS) including identification of and the potential impacts on system functionality as a result of repair** **C.HV1** High Voltage systems and the associated hazards and dangers with conducting repairs on a vehicle with high voltage systems on board** ** ADAS and HV may be achieved separately or prior to this CPD unit	10
CPD Hours = C3 single unit – 10 Hours includes ADAS and High Voltage (if not already achieved)		
Assessment Method:	Knowledge assessment only	
Assessment Type:	Multiple Choice Questions	Maximum duration: 80 minutes Number of questions: 40 10 questions from each knowledge topic (as shown above) Pass mark: 80%

Unit Title:	**C4** – Hot Metal Joining for Steel		
Task:	Resistance, MAG and MIG Braze welding of two or more steel materials to form a permanent joint of the materials.		
Entry Requirements	This unit allows the technician to plan CPD requirements across single or combined BS10125 criteria after initial entry requirements have been met as shown below within proven competence. **Proven Competence:** Apprenticeship or awarding organisation issued qualification certificate to safely remove and replace permanently fixed steel panels, including sections. Competent in the application of Metal Active Gas (MAG) Welding & Metal Inert Gas (MIG) Brazing Operations & Resistance Spot Welding operations.		
CPD Requirements			Hours
	Knowledge retained through recognised CPD: **C4.1** Material construction and chemical composition of steel in vehicle manufacturing and effects of cross-contamination **C4.2** Correctly identify the substrate material and select the appropriate repair process **C4.3** The use and purpose for the various consumables used in corrosion protection and panel surface finishing **C.SRS1** SRS and trim components used in vehicle construction** **C.ADAS1** Advanced Driver Assistance Systems (ADAS) including identification of and the potential impacts on system functionality as a result of repair** **C.HV1** High Voltage systems and the associated hazards and dangers with conducting repairs on a vehicle with high voltage systems on board** ** SRS, ADAS and HV may be achieved separately or prior to this CPD unit		10
	Practical Skills retained through recognised CPD: • Current competence in automotive joining techniques using steel materials		
CPD Hours = C4 single unit – 10 Hours includes ADAS and High Voltage (if not already achieved)			
Assessment Method:	Knowledge and Practical Skills Assessment		
Assessment Type:	Multiple Choice Questions	Maximum duration: 75 minutes Number of questions: 36 6 questions from each knowledge topic (as shown above) Pass mark: 80%	

Assessment Type:	Practical Skills	Max Duration: 4 hours List of Competencies: **C4.4** Using appropriate personal protective equipment (PPE) including fume mask, extraction (HSE STSU1 – 2019 Requirement) and demonstrate working safely throughout the practical activity **C4.5** Using appropriate sources of information throughout the assessment activity **C4.6** Setting up all welding equipment **C4.7** Carrying out test pieces and assess the suitability of MAG welds **C4.8** Preparing all metal materials appropriately and accurately **C4.9** Carrying out test pieces and assess the suitability of MAG and spot welds **C4.10** Completing a continuous vertical and overhead up MAG weld – fillet and butt **C4.11** Completing a series of resistance spot welds

Unit Title:	**C5** – Hot Metal Joining for Aluminium	
Task:	MIG welding of two or more aluminium materials to form a permanent joint of the materials.	
Entry Requirements	This unit allows the technician to plan CPD requirements across single or combined BS10125 criteria after initial entry requirements have been met as shown below within proven competence. **Proven Competence:** Apprenticeship or awarding organisation issued qualification certificate to safely remove and replace permanently fixed aluminium panels, including sections. Competent in the application of MIG Welding Operations.	
CPD Requirements		Hours
	Knowledge retained through recognised CPD: **C5.1** Material construction and chemical composition of aluminium in vehicle manufacturing and effects of cross-contamination **C5.2** Correctly identify the substrate material and select the appropriate repair process **C5.3** The use and purpose for the various consumables used in corrosion protection and panel surface finishing **C.SRS1** SRS and trim components used in vehicle construction** **C.ADAS1** Advanced Driver Assistance Systems (ADAS) including identification of and the potential impacts on system functionality as a result of repair** **C.HV1** High Voltage systems and the associated hazards and dangers with conducting repairs on a vehicle with high voltage systems on board** ** SRS, ADAS and HV may be achieved separately or prior to this CPD unit	10
	Practical Skills retained through recognised CPD: • Current competence in automotive joining techniques using aluminium materials	
CPD Hours = C5 single unit – 10 Hours includes ADAS and High Voltage (if not already achieved)		
Assessment Method:	Knowledge and Practical Skills Assessment	
Assessment Type:	Multiple Choice Questions	Maximum duration: 75 minutes Number of questions: 36 6 questions from each knowledge topic (as shown above) Pass mark: 80%

Assessment Type:	Practical Skills	Max Duration: 4 hours List of Competencies: **C5.4** Using appropriate personal protective equipment (PPE) including fume mask, extraction (HSE STSU1 – 2019 Requirement) and demonstrate working safely throughout the practical activity **C5.5** Using appropriate sources of information throughout the assessment activity **C5.6** Set up all welding equipment **C5.7** Carrying out test pieces and assess the suitability of welds **C5.8** Preparing all metal materials appropriately and accurately **C5.9** Completing an aluminium MIG weld **C5.10** Quality checks to all finished welds

Unit Title:	**C6** – Cold Joining of Mixed and Multiple Materials		
Task:	Riveting and/or bonding of two or more material types to form a permanent joint of the materials.		
Entry Requirements	This unit allows the technician to plan CPD requirements across single or combined BS10125 criteria after initial entry requirements have been met as shown below within proven competence. **Proven Competence:** Apprenticeship or awarding organisation issued qualification certificate to remove and replace permanently fixed (bonded/riveted) panels. Competent in the application of riveting and bonding agents.		
CPD Requirements			Hours
	Knowledge retained through recognised CPD: **C6.1** Identify various material types used in vehicle construction and the safe and appropriate joining techniques **C6.2** The use and purpose for various consumables used in cold joining of materials **C.SRS1** SRS and trim components used in vehicle construction** **C.ADAS1** Advanced Driver Assistance Systems (ADAS) including identification of and the potential impacts on system functionality as a result of repair** **C.HV1** High Voltage systems and the associated hazards and dangers with conducting repairs on a vehicle with high voltage systems on board** ** SRS, ADAS and HV may be achieved separately or prior to this CPD unit		10
	Practical Skills retained through recognised CPD: • Current competence in automotive cold joining techniques using mixed and multiple materials		
CPD Hours = C6 single unit – 10 Hours includes ADAS and High Voltage (if not already achieved)			
Assessment Method:	Knowledge and Practical Skills Assessment		
Assessment Type:	Multiple Choice Questions	Maximum duration: 60 minutes Number of questions: 30 6 questions from each knowledge topic (as shown above) Pass mark: 80%	

Assessment Type:	Practical Skills	Max Duration: 4 hours 30 minutes List of Competencies: **C6.3** Using appropriate personal protective equipment (PPE), vehicle protective equipment (VPE) and work safely throughout the practical activity **C6.4** Use appropriate sources of information throughout the assessment activity **C6.5** Use the correct tools and equipment throughout the assessment **C6.6** Prepare an existing bonded and mechanically fixed panel section without causing damage **C6.7** Prepare panel flanges, the replacement panel and the backing plate edges to receive adhesive and mechanical fastenings **C6.8** Prepare and 'dry fit' the replacement panel section and backing plate to check the alignment/measurements **C6.9** Prepare adhesive bonding material and application equipment **C6.10** Produce adhesive test beads **C6.11** Apply adhesive bonding material in accordance with the manufacturer's specification **C6.12** Fitting and aligning of the replacement panel section **C6.13** Remove excess bonding adhesive and achieve an acceptable cosmetic finish **C6.14** Quality checks to joints formed and take necessary action

Unit Title:	**C7** – Autoglazing		
Task:	Removal and replacement of direct bonded automotive glass.		
Entry Requirements	This unit allows the technician to plan CPD requirements across single or combined BS10125 criteria after initial entry requirements have been met as shown below within proven competence. **Proven Competence:** Apprenticeship or awarding organisation issued qualification certificate to safely remove and replace the direct bonded glass.		
CPD Requirements			Hours
	Knowledge retained through recognised CPD: **C7.1** Use current techniques, methods, tools, and equipment **C7.2** The use of direct glazing systems and how to select the appropriate products to use with a range of vehicle substrates and glazing materials **C.SRS1** SRS and trim components used in vehicle construction** **C.ADAS1** Advanced Driver Assistance Systems (ADAS) including identification of and the potential impacts on system functionality as a result of repair** **C.HV1** High Voltage systems and the associated hazards and dangers with conducting repairs on a vehicle with high voltage systems on board** ** SRS, ADAS and HV may be achieved separately or prior to this CPD unit		10
	Practical Skills retained through recognised CPD: Current competence in automotive glazing techniques		
CPD Hours = C7 single unit – 10 Hours includes ADAS and High Voltage (if not already achieved)			
Assessment Method:	Knowledge and Practical Skills Assessment		
Assessment Type:	Multiple Choice Questions	Maximum duration: 80 minutes Number of questions: 40 8 questions from each knowledge topic (as shown above) Pass mark: 80%	

Assessment Type:	Practical Skills	Max Duration: 2 hours 30 minutes List of Competencies: **C7.3** Using appropriate personal protective equipment (PPE), vehicle protective equipment (VPE) and work safely throughout the practical activity **C7.4** Complete a pre-inspection of the vehicle, identifying all glazing related systems and their operation **C7.5** Check new or existing glazing components for compatibility i.e. Correct quality of glass **C7.6** Prepare the vehicle by removing all necessary MET components **C7.7** Remove and replace vehicle system components using recognised procedures **C7.8** Remove glazing components using approved researched repair methods, manufacturer's technical data and without causing trauma to the vehicle body **C7.9** Inspect and identify any defects once the glazing components have been removed from the vehicle **C7.10** Carry out a 'dry fit' of the new or replaced glazing unit **C7.11** Fit glazing unit and MET components following approved researched repair methods and manufacturer's technical data **C7.12** Carry out suitable checks to ensure all components are fitted and working correctly

Unit Title:	**C8** – Vehicle Body Alignment and Rectification		
Task:	Undertake measurements and realign any out of tolerance body or frame components to original specification.		
Entry Requirements	This unit allows the technician to plan CPD requirements across single or combined BS10125 criteria after initial entry requirements have been met as shown below within proven competence. **Proven Competence:** Apprenticeship or awarding organisation issued qualification certificate to accurately identify misalignment of body/frame and ability to realign to original tolerances/spec. Ability to record pre and post-repair measurements accurately and to use pulling/pushing equipment and measuring equipment safely and effectively in such a way so as to not affect the structural integrity of the vehicle.		
CPD Requirements			Hours
	Knowledge retained through recognised CPD: **C8.1** Identify various material types and joining technology used in vehicle construction and understand the effects of body alignment on these **C8.2** The appropriate clean down processes necessary to avoid any cross-contamination exposure **C8.3** To accurately interpret measurement data **C.SRS1** SRS and trim components used in vehicle construction** **C.ADAS1** Advanced Driver Assistance Systems (ADAS) including identification of and the potential impacts on system functionality as a result of repair** **C.HV1** High Voltage systems and the associated hazards and dangers with conducting repairs on a vehicle with high voltage systems on board** ** SRS, ADAS and HV may be achieved separately or prior to this CPD unit		10
	Practical Skills retained through recognised CPD: • Current competence in vehicle realignment techniques		
CPD Hours = C8 single unit – 10 Hours includes ADAS and High Voltage (if not already achieved)			
Assessment Method:	Knowledge and Practical Skills Assessment		
Assessment Type:	Multiple Choice Questions	Maximum duration: 75 minutes Number of questions: 36 6 questions from each knowledge topic (as shown above) Pass mark: 80%	

Assessment Type:	Practical Skills	Max Duration: 4 hours 30 minutes List of Competencies: **C8.4** Using appropriate personal protective equipment (PPE), vehicle protective equipment (VPE) and work safely throughout the practical activity **C8.5** Using appropriate sources of information throughout the assessment activity including vehicle jig data sheets **C8.6** Assess and check for pre-existing damage in the area of the vehicle **C8.7** Identify and carry out a safe method of securing the vehicle to the alignment jig using the manufacturer's information **C8.8** Identify and undertake the correct procedures for rectifying and realigning the vehicle to include: – Identifying and carrying out preparation procedures to the underside of the damaged area before starting the measuring and repair process – Ensuring that the vehicle is positioned/mounted to the jig safely and securely before carrying out the realignment/measuring – Selecting the datum '0', the starting point on a reliable part of the vehicle – Establishing secondary measurement positions to determine the alignment of the vehicle – Recording and diagnosing measurements taken from the vehicle – Aligning a vehicle within the vehicle manufacturer's tolerances – Removing and dismounting the vehicle from the alignment system

Section Three – Electrical and Mechanical systems

Unit Title:	**C9** – Road Wheels and Tyres		
Task:	Identification of faults and damage within road wheels, tyres and rectification through removal, repair, replacement and refit.		
Entry Requirements	This unit allows the technician to plan CPD requirements across single or combined BS10125 criteria after initial entry requirements have been met as shown below within proven competence. **Proven Competence:** Apprenticeship or awarding organisation issued qualification certificate to undertake checks to identify damaged or out-of-tolerance components and reinstate them to the manufacturer's technical specification. Remove and replace tyres and to balance and torque road wheels.		
CPD Requirements			Hours
	Knowledge retained through recognised CPD: **C9.1** To correctly identify component and system faults associated with wheels, tyres **C9.2** Directional/asymmetric, ultra-low profile and run-flat wheel and tyre assemblies **C.ADAS1** Advanced Driver Assistance Systems (ADAS) including identification of and the potential impacts on system functionality as a result of repair** ** ADAS may be achieved separately or prior to this CPD unit		10
CPD Hours = C9 single unit – 10 Hours includes ADAS and High Voltage (if not already achieved)			
Assessment Method:	Knowledge Assessment Only		
Assessment Type:	Multiple Choice Questions	Maximum duration: 60 minutes Number of questions: 30 10 questions from each knowledge topic (as shown above) Pass mark: 80%	

Unit Title:	**C10** – Steering, Suspension and Braking Systems	
Task:	Identification of faults and damage within steering, suspension and braking systems, rectification through removal, repair, replacement and refit of systems components.	
Entry Requirements	This unit allows the technician to plan CPD requirements across single or combined BS10125 criteria after initial entry requirements have been met as shown below within proven competence. **Proven Competence:** Apprenticeship or awarding organisation issued qualification certificate to undertake system checks, identify damaged or out-of-tolerance components, remove, refit and replace components and assemblies of steering, suspension and braking systems and reinstate systems to manufacturer's technical specification. To carry out pre and post-repair data measurements of wheel alignment with the ability to make adjustments to align wheels, steering and suspension to manufacturers' specifications.	
CPD Requirements		Hours
	Knowledge retained through recognised CPD: **C10.1** Electrically controlled suspension, air ride and related sensors **C10.2** Geometry and four-wheel alignment including identification of and the potential impacts on system functionality as a result of steering or suspension damage **C.ADAS1** Advanced Driver Assistance Systems (ADAS) including identification of and the potential impacts on system functionality as a result of repair** **C.HV1** High Voltage systems and the associated hazards and dangers with conducting repairs on a vehicle with high voltage systems on board** ** ADAS and HV may be achieved separately or prior to this CPD unit	10
	Practical Skills retained through recognised CPD: • Current competence in wheel alignment	
CPD Hours = C10 single unit – 10 Hours includes ADAS and High Voltage (if not already achieved)		
Assessment Method:	Knowledge and Practical Skills Assessment	
Assessment Type:	Multiple Choice Questions	Maximum duration: 80 minutes Number of questions: 40 10 questions from each knowledge topic (as shown above) Pass mark: 80%

Assessment Type:	Practical Skills	Max Duration: 3 hours List of Competencies: **C10.3** Using appropriate personal protective equipment (PPE), vehicle protective equipment (VPE) and demonstrate working safely throughout the practical activity **C10.4** Using appropriate sources of information throughout the assessment activity **C10.5** Carryout an accurate pre-wheel alignment checks **C10.6** Set up wheel alignment equipment **C10.7** Check rear wheel alignment, then front wheel alignment and record geometry readings **C10.8** Compare all readings obtained against those set by manufacturer's data/specification **C10.9** Record any deviation from the vehicle manufacturer's specification **C10.10** Carryout adjustments in the correct sequence to ensure correct wheel alignment **C10.11** Carry out final quality checks

Unit Title:	**C11** – Advanced Driver Assistance and Automated Systems (ADAS)		
Task:	Alignment, calibration and reinstatement of advanced driver assistance and automated vehicle systems.		
Entry Requirements	This unit allows the technician to plan CPD requirements across single or combined BS10125 criteria after initial entry requirements have been met as shown below within proven competence. **Proven Competence:** Apprenticeship or awarding organisation issued qualification certificate to identify sensors associated with Advanced Driver Assistance Systems (ADAS) and automated systems, diagnosing damaged and out-of-tolerance components, remove, refit and replace components and assemblies of ADAS and automated systems. Reinstate systems to manufacturer's technical specification and carry out pre and post data measurements of wheel alignment with the ability to make adjustments to align wheels, steering and suspension to manufacturer's specifications.		
CPD Requirements			Hours
	Knowledge retained through recognised CPD: **C11.1** The types of sensors, and purpose, associated with ADAS and automated systems. **C11.2** The potential impacts on system functionality as a result of repair **C11.3** Geometry and four-wheel alignment including identification of and the potential impacts on system functionality as a result of steering or suspension damage **C.HV1** High Voltage systems and the associated hazards and dangers with conducting repairs on a vehicle with high voltage systems on board** ** HV may be achieved separately or prior to this CPD unit		8
	Practical Skills retained through recognised CPD: • Current competence in ADAS calibration		
CPD Hours = C11 single unit – 8 Hours includes High Voltage (if not already achieved)			
Assessment Method:	Knowledge and Practical Skills Assessment		
Assessment Type:	Multiple Choice Questions	Maximum duration: 80 minutes Number of questions: 40 10 questions from each knowledge topic (as shown above) Pass mark: 80%	

Assessment Type:	Practical Skills	Max Duration: 2 hours List of Competencies: **C11.4** Using appropriate personal protective equipment (PPE), vehicle protective equipment (VPE) and demonstrate working safely throughout the practical activity **C11.5** Using appropriate sources of information throughout the assessment activity **C11.6** Identify ADAS features in-vehicle set-up **C11.7** Set up the calibration environment by the manufacturer's instructions **C11.8** Use diagnostic equipment for fault code reading and calibration process **C11.9** Carryout calibration of ADAS sensors on a vehicle **C11.10** Ensure all ADAS systems are functioning correctly on completion

Unit Title:	**C12** – Supplementary Restraint Systems (SRS) Components	
Task:	Removal and refitting of interior and exterior trims (hard and soft); removal and refitting, correct/safe storage and replacement of SRS systems. Carry out pre and post-repair checks.	
Entry Requirements	This unit allows the technician to plan CPD requirements across single or combined BS10125 criteria after initial entry requirements have been met as shown below within proven competence. **Proven Competence:** Apprenticeship or awarding organisation issued qualification certificate to safely remove, store and replace soft, hard trim and SRS systems. Carry out pre and post-repair checks on systems, and interpret and report findings of diagnostic checks.	
CPD Requirements		Hours
	Knowledge retained through recognised CPD: **C12.1** SRS components used in vehicle construction and the tools and equipment required to remove and fit such components including diagnostic equipment **C12.2** Ensure the safe storage of displaced parts **C.ADAS1** Advanced Driver Assistance Systems (ADAS) including identification of and the potential impacts on system functionality as a result of repair** **C.HV1** High Voltage systems and the associated hazards and dangers with conducting repairs on a vehicle with high voltage systems on board** ** ADAS and HV may be achieved separately or prior to this CPD unit	10
CPD Hours = C12 single unit – 10 Hours includes ADAS and High Voltage (if not already achieved)		
Assessment Method:	Knowledge assessment only	
Assessment Type:	Multiple Choice Questions	Maximum duration: 80 minutes Number of questions: 40 10 questions from each knowledge topic (as shown above) Pass mark: 80%

Unit Title:	**C13** – Make Safe and Repair Vehicle Electrical Systems of a low/medium Voltage	
Task:	Inspect, diagnose, repair or replace electrical systems and or components powered from the 12/24/48v power source.	
Entry Requirements	This unit allows the technician to plan CPD requirements across single or combined BS10125 criteria after initial entry requirements have been met as shown below within proven competence. **Proven Competence:** Apprenticeship or awarding organisation issued qualification certificate to carry out varied forms of systems diagnostics including visual, functional and computerised inspections, checking systems for electrical malfunction and damage. To safely remove, refit or replace components of the electrical system. The use of multi-meters to diagnose, open, short and resistive circuit to include volt drop testing.	
CPD Requirements		Hours
	Knowledge retained through recognised CPD: **C13.1** To identify electrical systems and components and the associated voltage of the power source **C.ADAS1** Advanced Driver Assistance Systems (ADAS) including identification of and the potential impacts on system functionality as a result of repair** **C.HV1** High Voltage systems and the associated hazards and dangers with conducting repairs on a vehicle with high voltage systems on board** ** ADAS and HV may be achieved separately or prior to this CPD unit	10
CPD Hours = C13 single unit – 10 Hours includes ADAS and High Voltage (if not already achieved)		
Assessment Method:	Knowledge Assessment Only	
Assessment Type:	Multiple Choice Questions	Maximum duration: 60 minutes Number of questions: 30 10 questions from each knowledge topic (as shown above) Pass mark: 80%

Unit Title:	**C14** – Transmission, Air Conditioning and other Driveline Systems	
Task:	Inspect, refit or renew damaged transmission and driveline components. Evacuate, repair and recharge the AC system.	
Entry Requirements	This unit allows the technician to plan CPD requirements across single or combined BS10125 criteria after initial entry requirements have been met as shown below within proven competence. **Proven Competence:** Apprenticeship or awarding organisation issued qualification certificate to carry out varied forms of systems diagnostics including aural, visual, functional and computerized inspection, checking system for leaks, malfunctions and damage. To safely remove, refit or replace components and fluids of the mechanical and electrical systems of the vehicle. To remove, refit or replace driveline components including wheel hubs, cv joints, bearings, shafts etc.	
CPD Requirements		Hours
	Knowledge retained through recognised CPD: **C14.1** Emission control systems **C14.2** To drain, store and replenish air conditioning systems **C14.3** Identify and rectify leaks to vehicle systems **C14.4** Driveline systems **C.ADAS1** Advanced Driver Assistance Systems (ADAS) including identification of and the potential impacts on system functionality as a result of repair** **C.HV1** High Voltage systems and the associated hazards and dangers with conducting repairs on a vehicle with high voltage systems on board** ** ADAS and HV may be achieved separately or prior to this CPD unit	10
CPD Hours = C14 single unit – 10 Hours includes ADAS and High Voltage (if not already achieved)		
Assessment Method:	Knowledge Assessment Only	
Assessment Type:	Multiple Choice Questions	Maximum duration: 60 minutes Number of questions: 30 10 questions from each knowledge topic (as shown above) Pass mark: 80%

Section Four – Powertrain

Unit Title:	**C15** – Internal Combustion Engine		
Task:	Inspect, refit or renew damaged engine and fuel system components.		
Entry Requirements	This unit allows the technician to plan CPD requirements across single or combined BS10125 criteria after initial entry requirements have been met as shown below within proven competence. **Proven Competence:** Apprenticeship or awarding organisation issued qualification certificate to carry out varied forms of systems diagnostics including, aural, visual, functional and computerised inspection, checking system for leaks, malfunctions and damage. To safely remove, refit or replace components and fluids of the engine and fuel systems. Remove and refitting of a high-pressure fuel pump, fuel tank/ in-tank fuel pump/fuel pipes/injectors.		
CPD Requirements			Hours
	Knowledge retained through recognised CPD: **C15.1** To drain, store and replenish engine and fuel fluids **C.ADAS1** Advanced Driver Assistance Systems (ADAS) including identification of and the potential impacts on system functionality as a result of repair** **C.HV1** High Voltage systems and the associated hazards and dangers with conducting repairs on a vehicle with high voltage systems on board** ** ADAS and HV may be achieved separately or prior to this CPD unit		10
CPD Hours = C15 single unit – 10 Hours includes ADAS and High Voltage (if not already achieved)			
Assessment Method:	Knowledge Assessment Only		
Assessment Type:	Multiple Choice Questions	Maximum duration: 60 minutes Number of questions: 30 10 questions from each knowledge topic (as shown above) Pass mark: 80%	

Unit Title:	**C16** – Make Safe Mild or High Voltage Electrical Systems	
Task:	Isolate/discharge and quarantine electrical systems powered from the 48/60v, or above, power source. Perform system checks, inspect, diagnose, repair or replace components of the system.	
Entry Requirements	This unit allows the technician to plan CPD requirements across single or combined BS10125 criteria after initial entry requirements have been met as shown below within proven competence. **Proven Competence:** Apprenticeship or awarding organisation issued qualification certificate to be able to safely shut down and isolate the High Voltage system. The use of multi-meters to diagnose, open, short and resistive circuit to include volt drop testing. Carry out varied forms of systems diagnostics including visual, functional and computerised inspection, checking system for electrical malfunctions and damage. To safely remove, refit or replace components of the High Voltage electrical system and complete system diagnostics and fully reinstate the High Voltage system.	
CPD Requirements		Hours
	Knowledge retained through recognised CPD: **C16.1** High Voltage (HV) systems and the associated hazards and dangers with conducting repairs on a vehicle with HV systems on board **C16.2** High Voltage electrics auxiliary and cooling systems **C16.3** Ensure safe storage of components of a high voltage system **C.ADAS1** Advanced Driver Assistance Systems (ADAS) including identification of and the potential impacts on system functionality as a result of repair** ** ADAS may be achieved separately or prior to this CPD unit	8
	Practical Skills retained through recognised CPD: • Current competence to safely shut down and isolate High Voltage Systems	
CPD Hours = C16 single unit – 8 Hours		
Assessment Method:	Knowledge and Practical Skills Assessment	
Assessment Type:	Multiple Choice Questions	Maximum duration: 60 minutes Number of questions: 30 10 questions from each knowledge topic (as shown above) Pass mark: 80%

Assessment Type:	Practical Skills	Max Duration: 1 Hour List of Competencies: **C16.4** Using appropriate personal protective equipment (PPE), vehicle protective equipment (VPE) and demonstrate working safely throughout the practical activity **C16.5** Using appropriate sources of information throughout the assessment activity **C16.6** Identify AC and DC voltage symbols **C16.7** Identify high voltage cabling & components **C16.8** Identify vehicle high voltage status - pre/during/post service & repair activities **C16.9** Follow procedures before removing/disarming the HV safety device **C16.10** Measure any voltages to identify the vehicle is in a safe condition to carry out any other service/repair work **C16.11** Identify how to connect an additional power source to a high voltage vehicle **C16.12** Competently and safely use test equipment- including multi-meter/equipment to measure AC and DC voltages **C16.13** Reset vehicle systems post repair to ensure the vehicle is in condition to handover to the customer

Unit Title:	**C17** – Isolate/discharge, and Quarantine Hydrogen Fuel Systems		
Task:	Inspect, diagnose, repair or replace hydrogen fuel systems and components.		
Entry Requirements	This unit allows the technician to plan CPD requirements across single or combined BS10125 criteria after initial entry requirements have been met as shown below within proven competence. **Proven Competence:** Apprenticeship or awarding organisation issued qualification certificate to be able to safely shut down and isolate the hydrogen system. Carry out varied forms of system diagnostics including visual, functional and computerised inspections, checking hydrogen systems for leaks, malfunctions and damage. To safely remove, refit or replace components, fluids and gases of the Hydrogen system and complete system diagnostics and fully reinstate the Hydrogen system.		
CPD Requirements			Hours
	Knowledge retained through recognised CPD: **C17.1** Identify the different types of hydrogen fuel cell electric vehicle systems and associated hydrogen storage systems **C17.2** Understand health and safety legislation, industry codes of practice and workplace procedures when working with hydrogen fuel cell electric vehicles **C17.3** Ensure safe storage of components of a Hydrogen system **C.ADAS1** Advanced Driver Assistance Systems (ADAS) including identification of and the potential impacts on system functionality as a result of repair** ** ADAS may be achieved separately or prior to this CPD unit		10
	Practical Skills retained through recognised CPD: • Current competence to safely shut down and isolate Hydrogen Systems		
CPD Hours = C17 single unit – 10 Hours includes ADAS (if not already achieved)			
Assessment Method:	Knowledge and Practical Skills Assessment		
Assessment Type:	Multiple Choice Questions	Maximum duration: 80 minutes Number of questions: 40 10 questions from each knowledge topic (as shown above) Pass mark: 80%	

Assessment Type:	Practical Skills	Max Duration: 1 Hour 30 minutes List of Competencies: **C17.4** Using appropriate personal protective equipment (PPE), vehicle protective equipment (VPE) and work safely throughout the practical activity **C17.5** Ensure the work area is clearly identified using signs and barriers as appropriate, following environmental standards and regulations at all times **C17.6** Using appropriate sources of information throughout the assessment activity **C17.7** Identify that the vehicle has a hydrogen fuel cell system and collect relevant technical information **C17.8** Follow procedures before removing/disarming the hydrogen fuel cell system, and, where relevant the HV safety device **C17.9** Measure any hydrogen system pressures, or system voltages to identify the vehicle is in a safe condition to carry out any other service/repair work **C17.10** Competently and safely use test equipment **C17.11** Reset vehicle systems post repair to ensure the vehicle is in condition to handover to the customer