ABC AWARDS

Level 1 Award in Automotive Studies 601/7542/4

Learner Practical Evidence Record Book

Learners Name	
ABC Awards Registration Number	
Centre Name	
Assessor 1 Name	
Assessor 2 Name	

October 2017v1.0

DECLARATION OF AUTHENTICITY

This declaration must be completed and signed by the learner and countersigned
by the tutor / assessor and covers all evidence submitted for moderation.

Learner Name			
Unique Learner Number (ULN)		ABC Learner Reg. ID	
Qualification Title			
Centre Name			

Learner statement of Authenticity

Before signing please read the guidance below.

I confirm, that the attached assignment / portfolio is all my own work[1] and does not include any work completed by anyone other than myself. I have completed the assignment / portfolio in accordance with ABC Awards' instructions and within the time limits set by my centre.

Signature		Date	

Centre confirmation of Authenticity

On behalf of …… (Insert centre name), I confirm that the above mentioned learner, to the best of my knowledge, is the sole author of the completed assignment / portfolio attached, and the assessments have been completed under the required conditions.

Signed		Date	
Name			
Title			

Guidance for Learners

You have been asked to sign this Declaration of Authenticity and place it at the front of your portfolio or course work assessment. It confirms that the work you have submitted for assessment is your own and that you have not copied it from someone else or allowed another learner to copy it from you.

When preparing any course work it is good practice to undertake research using information from published sources. If you quote directly from these sources then this must be indicated in your work by using quotation marks and referencing the document from which the quotation was taken. You must then comment in your own words on any ideas expressed.

Assessors, internal verifiers and ABC Awards' external moderators and verifiers are subject specialists who can spot the use of published materials that may be passed as your own words or ideas.
If you do copy words from a published source and do not indicate their reference you will be committing plagiarism. This is considered a form of cheating and may result in your assessment being declared void.

ABC Awards Level 1 Award in Automotive Studies					
Individual Learning Plan					
LEARNERS NAME			ASSESSOR/S NAME/S		
COURSE START DATE		COURSE WEEKLY HOURS		TOTAL COURSE HOURS	

No.	COMPONENT TITLE	Guided Learning Hours	DATE STARTED	DATE COMPLETED
1	Working in an Automotive Industry Environment D/507/5226	30		
2	Using Engineering Materials and Skills L/507/5237	30		
3	Remove and Re-fit Mechanical Components Y/507/5239	30		
4	Introduction to Automotive Electrical Principles L/507/5240	30		
Total		120		

SUMMARY OF ACHIEVEMENT RECORD

QUALIFICATION CLAIMED	FULL AWARD (PASS) (TICK)	FULL AWARD (MERIT) (TICK	FULL AWARD (DISTINCTION) (TICK)	COMPONENT S OF CREDIT (TICK)

No	Component Title	Grade Achieved (P, M, D)	Learner		Tutor		Internal moderator		External Moderator	
			Signature	Date	Signature	Date	Signature	Date	Signature	Date
01	Working in an Automotive Industry Environment D/507/5226									
02	Using Engineering Materials and Skills L/507/5237									
03	Remove and Re-fit Mechanical Components Y/507/5239									
04	Introduction to Automotive Electrical Principles L/507/5240									

QUALIFICATION GRADING

Instructions to Assessors

1) Enter the Grade Points achieved for each unit
Pass 1
Merit 2
Distinction 3
2) Obtain Component Score for each unit by multiplying Grade Point by Weighting

3) Add all the Component Scores together to give a Total Score

4) Compare the Total Score with the grade boundaries to give Learner Qualification Grade

Component	Grade	Grade Points	Multiply by Weighting	Component score
1 Health & Safety	P	1	0.06	0.06
2 Using Engineering Materials and skills			0.18	
3 Remove and Refit Mechanical components			0.18	
4 Introduction to Basic Automotive Electrical Principles			0.18	
External Exam			0.4	
			Total Score	

Overall Grade Boundaries	
Pass	1.00-1.61
Merit	1.62-2.249
Distinction	2.25-2.88
Learner Qualification Grade	

COMPONENT 01 WORKING IN AN AUTOMOTIVE INDUSTRY ENVIRONMENT

ASSESSMENT CRITERIA RECORD

Specification Reference	Assessment Criteria	Task No
1.1	State own responsibilities in relation to health and safety legislation.	1
1.2	State employer responsibilities in relation to health and safety legislation.	1
1.3	Identify safety equipment suitable for use in automotive engineering.	2,3
1.4	Identify safety signs and equipment.	4
2.1	Identify various employment opportunities in the automotive industries.	5
3.1	State key environmental impacts of vehicle emissions.	6
3.2	Identify the potential environmental impacts of waste disposal by the automotive industry.	7
3.3	Identify the environmental impact from the vehicle end of life cycle.	8
3.4	Identify different types of waste produced by the automotive industry.	7
	GRADE AWARDED	P

ASSESSOR FEEDBACK ON COMPLETION
This confirms the component has been completed and should offer supportive guidance to the learner.

Assessor Declaration
In signing this sheet the assessor and learner confirm that all the operations in this unit were carried out by the named learner and the learner observed safe working practices at all times.
Assessor Signature……..... Date……..

Learner Signature ……..…… Date……

Component 01	Assessment Criteria 1.1, 1.2	Task No 1

Responsibilities in Relation to Health and Safety Legislation

The basis of British Health and Safety Law is the Health and Safety at Work Act 1974.
This sets out general duties that employers and employees have to abide by to ensure safety in the working environment.

List THREE Health and Safety responsibilities of the employee.	**List FIVE Health and Safety responsibilities of the employer.**
1) ---------- ---------- 2) ---------- ---------- 3) ---------- ----------	1) ---------- ---------- 2) ---------- ---------- 3) ---------- ---------- 4) ---------- ---------- 5) ---------- ----------

Assessor Checklist	Achieved Y/N
Correct employee responsibilities identified.	
Correct employer responsibilities identified.	

Component 01	Assessment Criteria 1.3	Task No 2

Identify Safety Equipment

Learner Instructions

Draw an outline of the workshop in the space below.
On the plan, identify where the following are located:

- Emergency Exits
- Positions and TYPES of fire extinguishers
- 3 items of garage equipment installed in the workshop

Inspect **3** items of garage equipment and state **one** safety requirement for its use.

Garage Equipment	Safety Requirement
1.	
2.	
3.	

Assessor Checklist	Achieved Y/N
Plan is accurate and all items included.	
Position and TYPES of Fire Extinguisher identified.	
Garage equipment safety requirements identified.	

Component 01	Assessment Criteria 1.3	Task No 3

Personal Protective Equipment
Some Automotive Safety Equipment is designed to be worn and is covered by the Personal Protective Equipment at Work Regulations 1992

Identify the following Personal Protective Equipment and the protection it provides.

		
PPE ---------- Protection from ----------	PPE ---------- Protection from ----------	PPE ---------- Protection from ----------
		
PPE ---------- Protection from ----------	PPE ---------- Protection from ----------	PPE ---------- Protection from ----------

Assessor Checklist	Achieved Y/N
PPE identified.	
Protection identified.	

Component 01	Assessment Criteria 1.4	Task No 4

Safety Signs

Safety signs are controlled by the Safety and Signal Regulations 1996 and have 5 main categories Identify the safety signs below and state which category they belong in.

		
Instruction ---------- Category ----------	Instruction ---------- Category ----------	Instruction ---------- Category ----------
		
Instruction ---------- Category ----------	Instruction ---------- Category ----------	Instruction ---------- Category ----------

Assessor Checklist	Achieved/N
Identification correct.	
Category correct.	

Component 01	Assessment Criteria 2.1	Task No 5

Identify Employment Opportunities

In a vehicle main dealership there are many departments that offer job opportunities.
Study a dealership and state **3** possible employment opportunities for each of the **4** departments

Department	Job Roles / Responsibilities
	1. ---------- 2. ---------- 3. ----------
	1. ---------- 2. ---------- 3. ----------
	1. ---------- 2. ---------- 3. ----------
	1. ---------- 2. ---------- 3. ----------

Choose **one** job role and outline the possible routes into employment.

Assessor Checklist	Achieved Y/N
Job roles identified.	
Responsibilities identified.	
Preferred role identified.	

Component 01	Assessment Criteria 3.1	Task No 6

Environmental Impact of Vehicle Emissions

Petrol and diesel engines produce exhaust gases which can harm the environment.
Identify **3** gases produced by each engine, the possible impact on the environment and the control mechanisms used to limit the emission to the atmosphere.

Petrol Engine	Environmental Harm	Control Mechanism
Gas 1		
Gas 2		
Gas 3		
Diesel Engine	**Environmental Harm**	**Control Mechanism**
Gas 1		
Gas 2		
Gas 3		

Assessor Checklist	Achieved Y/N
Gases identified	
Environmental harm identified.	
Control mechanism identified.	

Component 01	Assessment Criteria 3.2, 4.3	Task No 7

Environmental Impacts of Waste Disposal

The Control of Substances Hazardous to Health (COSHH) Regulations identifies chemicals that are hazardous to health. Many of these substances are used regularly in Motor Vehicle workshops and it is important that the risks are recognised. The chemicals may also be a risk to the environment and must be disposed of legally and safely.

The table below identifies some hazardous waste substances that are used during motor vehicle repairs.

Complete the table by identifying the risks involved and the correct method of disposal.

Substance	Environmental Risk	Personal Risk	Disposal Method
Contaminated petrol			
Antifreeze			
Used engine oil			
Contaminated diesel			
Brake fluid			

Assessor Checklist	Achieved Y/N
Risks identified.	
Correct disposal methods identified.	

Component 01	Assessment Criteria 3.3	Task No 8

Vehicle End-of -Life Cycle

A vehicle that has reached the end of its natural life comes under the End-of Life Regulations 2003, 2005 and 2010 to reduce the impact on the environment.

State **2** requirements for each of the following under the regulations

Vehicle Manufacturer	1. ---------- 2. ----------
Vehicle Dismantler	1. ---------- 2. ----------
Vehicle End User	1. ---------- 2. ----------

During dismantling, certain parts can be salvaged for recycling.
For each of the following, state **ONE** substance that can be reclaimed and **ONE** use for the material.

M.V Component	Material Reclaimed	Possible Use
Tyres		
Batteries		
Body shells		
Plastic bumpers		
Engines		

Assessor Checklist	Achieved Y/N
Regulation requirements identified.	
Recycling materials identified.	

COMPONENT 02 USING ENGINEERING MATERIALS AND SKILLS

ASSESSMENT CRITERIA RECORD

Specification Reference	Assessment Criteria			Grade P/M/D	Task No
1.1	State health and safety legislation applicable to manufacturing vehicle accessories or tools.			P	3 4
1.2	Identify suitable PPE for manufacturing automotive accessories or tools.			P	3 4
	PASS	MERIT	DISTINCTION		
2.1	Identify different types of engineering materials	Identify ferrous, non-ferrous and non-metallic materials	Identify thermoplastic and thermosetting plastics.		1
2.2	Identify different engineering tools.	Identify mechanical fasteners used on the tools..	Identify material properties and characteristics of the tools.		2 2(M)
2.3	State how to handle engineering materials safely.			P	3
3.1	Use written instructions to create a tool / accessory.	Interpret technical drawings to create tools.	Produce a technical drawing to scale of the tool you will create		3 4
3.2	Select and use appropriate hand and power tools following instructions for: measuring & marking out metal cutting and forming drilling Thread forming				
3.3	Use tools safely to produce an automotive tool/accessory	Produce tool/accessory to an accuracy of 3.0mm.	Produce tool to an accuracy of 1.0mm.		3 4
4.1	Know why safety equipment is needed when disposing engineering material waste.			P	5
4.2	Know why engineering material waste should be disposed of safely.			P	5
4.3	Know how to dispose of hazardous and non-hazardous waste engineering materials safely and appropriately.			P	5
	GRADE AWARDED				

ASSESSOR FEEDBACK ON UNIT COMPLETION
This confirms the component has been completed and should offer supportive guidance to the learner.

Assessor Declaration
In signing this sheet the assessor and learner confirm that all the operations in this unit were carried out by the named learner and the learner observed safe working practices at all times.
Assessor Signature……..... Date……..

Learner Signature ……..…… Date……

Component 02	Assessment Criteria 2.1	Task No 1

Identify Engineering Materials

Vehicles are constructed using a variety of materials.

Complete the table below to identify:

- a component which is made from the listed material
- the main reason why this material is used

Material	Component	Reason
Steel		
Rubber		
Aluminum		
Copper		
Plastic		

MERIT GRADE
Identify which of the above materials are:

Ferrous	Non - Ferrous

DISTINCTION GRADE
Identify the main difference between a thermoplastic and thermoset plastic material.

Thermoplastic	
Thermoset plastic	

Assessor Checklist	Achieved Y/N
Components correctly identified.	
Material properties identified. (M)	
Different plastics identified. (D)	

Component 02	Assessment Criteria 2.2	Task No 2

Engineering Tools Identify the engineering tools and equipment and state a use for each one.			
			
Name:	Name:	Name:	Name:
Use:	Use:	Use:	Use:
			
Name:	Name:	Name:	Name:
Use:	Use:	Use:	Use:

Assessor Checklist	Achieved Y/N
Identified the name of each hand tool.	
Identified a use for each tool.	

Component 02	Assessment Criteria 2.2	Task No 2(M)

MERIT GRADE
Identify the mechanical fasteners which are used on motor vehicles.

 1._____	 2._____	 3._____
 4._____	 5._____	 6._____
 7._____	 8._____	 9._____

Assessor Checklist	Achieved Y/N
Identified the name of each fastener.	

Component 02	Assessment Criteria 2.2D 2.3, 3.1, 3.2.	Task No 3

Produce a Vehicle Accessory or Hand Tool Accessory or Hand Tool Planning

NOTE
The manufacture of the hand tool / accessory selected must include all the engineering processes outlined in the Qualification Guide

Complete the planner below:

Name and Purpose	Materials List	For L.O. 2.2 Distinction ONLY Identify the properties of the materials and why they are appropriate for the particular part of the tool / accessory	Tool List	Safety Equipment required

MERIT GRADE	DISTINCTION GRADE
The drawing **used** should be included in the learner evidence.	The drawing **produced** must be signed by the assessor as the learner's own work and included in the learner evidence.

Assessor Checklist	Achieved Y/N
Planner completed.	
Drawing included for merit grade.	
Material properties and assessor verified drawing included.	

Component 02	Assessment Criteria 3.2,3.3	Task No 4

Produce a Vehicle Accessory or Hand Tool
In the space below, outline the process which was followed to produce the tool / accessory.

Merit Grade	Distinction Grade
Tool/accessory is manufactured to within 3.0mm of specification	**Tool/accessory is manufactured to within 1.0mm of specification**

Assessor Checklist	Achieved Y/N
Tools used safely.	
Tool / accessory manufactured to acceptable standard.	
Tool / accessory is within 3.0mm for MERIT GRADE.	
Tool / accessory is within 1.0mm for DISTINCTION GRADE.	

Component 02	Assessment Criteria 4.1,4.2,4.3	Task No 5

Waste Disposal

Producing the tool / accessory will produce waste materials; complete the table below to show the correct method of disposal for 3 waste products.

Waste Product	Safety Equipment Required for Disposal	Disposal Method	Hazardous/Non-Hazardous Waste
1			
2			
3			

Assessor Checklist	Achieved Y/N
Safety equipment identified.	
Correct waste disposal stated.	

COMPONENT 03 REMOVE AND RE-FIT MECHANICAL COMPONENTS

ASSESSMENT CRITERIA RECORD

Specification Reference	Assessment Criteria			Grade P/M/D	Task No
1.1	State health and safety legislation applicable to the removal and re-fit of mechanical components.			P	1,7
1.2	Identify suitable PPE for removing and re-fitting mechanical components.			P	1,7
1.3	Identify suitable workshop tools and equipment required for removal and re-fit of mechanical components			P	1,7
	ASSESSMENT CRITERIA	**MERIT**	**DISTINCTION**		
2.1	Remove: Engine components Brake components Steering components Suspension components	Follow Manufacturer's removal procedures.			2 5 8 10
3.1	Report on the condition and serviceability of: Engine components Brake components Steering components Suspension components	Obtain technical specifications to determine serviceability.	Make recommendations based on the condition and serviceability of the components.		 2 5 8 10
4.1	Re-fit: - Engine components Brake components Steering components Suspension components	Follow manufacturers refit procedures.	Check operation to industry standards.		 3 6 9 11
5.1	Know why safety equipment is needed when disposing of waste associated with the removal and re-fit of components.			P	3,6,9,11
5.2	Know why waste material should be disposed of safely.			P	3,6,9,11
5.3	Know how to dispose of hazardous and non-hazardous Mechanical component waste safely and appropriately.			P	3,6,9,11
	GRADE AWARDED				

ASSESSOR FEEDBACK ON UNIT COMPLETION
This confirms the component has been completed and should offer supportive guidance to the learner.

Assessor Declaration
In signing this sheet the assessor and learner confirm that all the operations in this unit were carried out by the named learner and the learner observed safe working practices at all times.

Assessor Signature……..... Date……..

Learner Signature ……..…… Date……...

Component 03	Assessment Criteria 1.1, 1.2, 1.3	Task No 1

Task: Remove and Refit Engine Components

Learner Instructions

Select **3** engine components or systems which are commonly removed and replaced.
Complete the table below which relates to the removal and refitting of the engine components.

Component / System	Special tools required	Safety equipment required
1.		
2.		
3.		

Assessor Checklist	Achieved Y/N
3 systems listed.	
All special tools listed.	
Safety equipment listed.	

Component 03	Assessment Criteria 2.1, 3.1	Task No 2

Remove Engine Components and Report on their Condition

Remove **ONE** of the components listed in task 1 and complete the following:

Vehicle Details	Tool List	PPE Worn
Make _____ Model _____ Year _____		

PASS GRADE	MERIT GRADE
List the removal procedure:	Include the manufacturer's procedures which were followed:

Inspection Report

PASS GRADE	MERIT GRADE	DISTINCTION GRADE
Inspect the removed component and report on its condition and serviceability below.	List the technical specifications used below.	Make recommendations based on the condition and serviceability.

Assessor Checklist	Achieved Y/N
Vehicle, tools and safety requirements completed.	
Removal and report requirements completed.	

Component 03	Assessment Criteria 4.1, 5.1, 5.2, 5.3	Task No 3

Re-fit Engine Components

PASS GRADE	MERIT GRADE	DISTINCTION GRADE
List the re-fit procedure below:	Include the manufacturer's procedures which were followed:	Describe the procedure to check system operation to industry standards:

Waste Disposal

Identify **3** items of mechanical component waste that has occurred during removal and refitting and complete the table below.

Waste Product	Safety Equipment Required for Disposal	Disposal Method	Hazardous/Non-Hazardous Waste
1.			
2.			
3.			

Assessor Checklist	Achieved Y/N
Table completed	

Component 03	Assessment Criteria 1.1, 1.2, 1.3	Task No 4

Task: Remove and Refit Braking System Components

Learner Instructions

Select **3** braking system components or systems which are commonly removed and replaced.
Complete the table below which relates to the removal and refitting of the braking system components.

Component / System	Special tools required	Safety equipment required
1.		
2.		
3.		

Assessor Checklist	Achieved Y/N
3 systems listed.	
All special tools listed.	
Safety equipment listed.	

Component 03	Assessment Criteria 2.1, 3.1	Task No 5

Remove Braking System Components and Report on their Condition

Remove **ONE** of the components listed in task 4 and complete the following:

Vehicle Details	Tool List	PPE Worn
Make _____ Model _____ Year _____		

PASS GRADE	MERIT GRADE
List the removal procedure:	Include the manufacturer's procedures which were followed:

Inspection Report

PASS GRADE	MERIT GRADE	DISTINCTION GRADE
Inspect the removed component and report on its condition and serviceability below.	List the technical specifications used below.	Make recommendations based on the condition and serviceability.

Assessor Checklist	Achieved Y/N
Vehicle, tools and safety requirements completed .	
Removal and report requirements completed.	

Component 03	Assessment Criteria 4.1, 5.1, 5.2, 5.3	Task No 6

Re-fit Braking System Components

PASS GRADE	MERIT GRADE	DISTINCTION GRADE
List the re-fit procedure below.	Include the manufacturer's procedures which were followed.	Describe the procedure to check system operation to industry standards.

Waste Disposal
Identify **3** items of braking component waste which has occurred during removal and refitting and complete the table below.

Waste Product	Safety Equipment Required for Disposal	Disposal Method	Hazardous / Non-Hazardous Waste
1			
2			
3			

Assessor Checklist	Achieved Y/N
Table completed.	

Component 03	Assessment Criteria 1.1, 1.2, 1.3	Task No 7

Task: Remove and Refit Steering and Suspension System Components

Learner Instructions

Select **2** steering and **2** suspension system components which are commonly removed and replaced. Complete the table below which relates to the removal and refitting of the steering and suspension system components.

Steering Component	Special Tools Required	Safety Equipment Required
1.		
2.		
Suspension Component	**Special Tools Required**	**Safety Equipment Required**
1.		
2.		

Assessor Checklist	Achieved Y/N
4 components listed.	
All special tools listed.	
Safety equipment listed.	

Component 03	Assessment Criteria 2.1, 3.1	Task No 8

Remove Steering System Components and Report on their Condition
Remove **ONE** of the steering components listed in task 7 and complete the following:

Vehicle Details	Tool List	PPE Worn
Make _____ Model _____ Year _____		

PASS GRADE	MERIT GRADE
List the removal procedure:	Include the manufacturer's procedures which were followed:

Inspection Report

PASS GRADE	MERIT GRADE	DISTINCTION GRADE
Inspect the removed component and report on its condition and serviceability below.	List the technical specifications used below.	Make recommendations based on the condition and serviceability.

Assessor Checklist	Achieved Y/N
Vehicle, tools and safety requirements completed.	
Removal and report requirements completed.	

Component 03	Assessment Criteria 4.1, 5.1, 5.2, 5.3	Task No 9

Re-fit Steering System Components

PASS GRADE	MERIT GRADE	DISTINCTION GRADE
List the re-fit procedure below.	Include the manufacturer's procedures which were followed.	Describe the procedure to check system operation to industry standards.

Waste Disposal

Identify **3** items of mechanical component waste that has occurred during removal and refitting and complete the table below.

Waste Product	Safety Equipment Required for Disposal	Disposal Method	Hazardous/Non-Hazardous Waste
1.			
2.			
3.			

Assessor Checklist	Achieved Y/N
Table completed.	

Component 03	Assessment Criteria 2.1, 3.1	Task No 10

Remove Suspension System Components and Report on their Condition

Remove **ONE** of the suspension components listed in task 7 and complete the following

Vehicle Details	Tool List	PPE Worn
Make _____ Model _____ Year _____		

PASS GRADE	MERIT GRADE
List the removal procedure.	Include the manufacturer's procedures which were followed.

Inspection Report

PASS GRADE	MERIT GRADE	DISTINCTION GRADE
Inspect the removed component and report on its condition and serviceability below.	List the technical specifications used below.	Make recommendations based on the condition and serviceability.

Assessor Checklist	Achieved Y/N
Vehicle, Tools and safety requirements completed	
Removal and Report requirements completed	

Component 03	Assessment Criteria 4.1, 5.1, 5.2, 5.3	Task No 11

Re-fit Suspension System Components

PASS GRADE	MERIT GRADE	DISTINCTION GRADE
List the re-fit procedure below.	Include the manufacturer's procedure followed.	Describe the procedure to check system operation to industry standards.

Waste Disposal

Identify **3** items of mechanical component waste that has occurred during removal and refitting and complete the table below.

Waste Product	Safety Equipment Required for Disposal	Disposal Method	Hazardous / Non-Hazardous Waste
1.			
2.			
3.			

Assessor Checklist	Achieved Y/N
Table completed.	

COMPONENT 04 INTRODUCTION TO AUTOMOTIVE ELECTRICAL PRINCIPLES

ASSESSMENT CRITERIA RECORD

Specification Reference	Assessment Criteria			Grade P/M/D	Task No
	ASSESSMENT CRITERIA	**MERIT**	**DISTINCTION**		
1.1	Identify health and safety legislation	Find manufacturers' procedures for fitting electrical components.			6
1.2	Identify safe practices when working on or around a range of automotive vehicles applicable to working on automotive electrical systems.			P	6
1.3	Identify suitable PPE for working on automotive electrical systems.			P	6
1.4	Identify suitable workshop tools and equipment for working on automotive electrical systems.			P	1
2.1	Identify different types of automotive battery.	Obtain technical specifications to determine serviceability.	Evaluate condition and serviceability of circuits and make recommendations.		2, 6
2.2	Understand basic electric circuits.	Be able to identify: -Series circuit - Parallel circuit - Open circuit - Short circuit - High resistance			3
2.3	Identify different types of bulbs, lamps/lighting systems suitable for automotive vehicles.			P	5
3.1	Assemble a working series circuit.	Measure circuit voltages.	Measure circuit current and calculate wattage.		4
3.2	Assemble a working parallel circuit.	Test continuity of circuits.	Fault trace and resolve any issues.		4,6
3.3	Correct faults in the following electrical components: - Battery - Alternator - Lighting cluster			P	6
4.1	Know why safety equipment is needed when disposing electrical waste.			P	7
4.2	Know why electrical material waste should be disposed of safely.			P	7
4.3	Know how to dispose of hazardous and non-hazardous waste engineering materials safely and appropriately.			P	7
	GRADE AWARDED				

ASSESSOR FEEDBACK ON UNIT COMPLETION
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Assessor Declaration
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Assessor Signature……..... Date……..

Learner Signature ……..…… Date……

Component 04	Assessment Criteria 1.4	Task No 1

Task: **Automotive Electrical Equipment**

Identify the vehicle electrical tools and state **one** use for each one.		
		
Name:	Name:	Name:
Use:	Use:	Use:
		
Name:	Name:	Name:
Use:	Use:	Use:

Assessor Checklist	Achieved Y/N
Identified the electrical tools and equipment.	
Identified a use for each tool or equipment.	

Component 04	Assessment Criteria 2.1, 2.1(M)	Task No 2

Vehicle Batteries

Complete the table below by identifying suitable batteries for the vehicles listed.

Vehicle	Battery Type	Voltage
Petrol engine		
Diesel engine		
Hybrid vehicle		

MERIT GRADE

Locate the technical specifications for two batteries and record the information below.

	Voltage	The cold cranking amperage	The Amp / hour rating
Battery suitable for a vehicle with a petrol engine			
Battery suitable for a vehicle with a diesel engine			

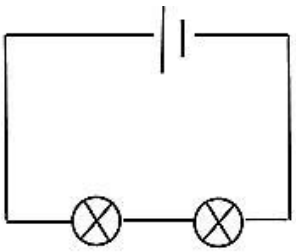
Assessor Checklist	Achieved Y/N
Reports completed using correct data.	

Component 04	Assessment Criteria 2.2	Task No 3

Electrical Circuits

Identify the type of circuits from the diagrams below.

Circuit A



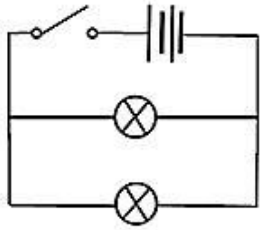
Name ……

What happens if one lamp fails?

……

……

Circuit B



Name ……

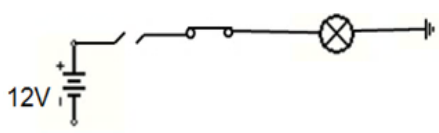
What happens if one lamp fails?

……

……

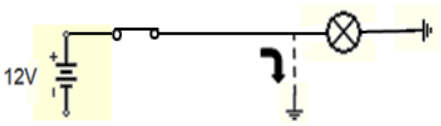
MERIT GRADE

Identify the following circuit faults.



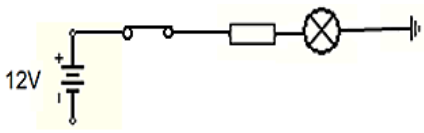
Name ……..

Cause ……..



Name ……..

Cause ……..



Name ……

Cause ……

Assessor Checklist	Achieved Y/N
Circuits correctly identified.	

Component 04	Assessment Criteria 2.2, 3.1,3.2, 3.3	Task No 4

Assemble Electrical Circuits

WARNING
Ensure suitable safety equipment is worn during this task.

1. Assemble a minimum of a 3 resistor working series circuit
2. Assemble a minimum of a 3 resistor working parallel circuit

MERIT AND DISTINCTION GRADES

Measure the following values in each circuit

Series Circuit		**Parallel Circuit**	
Voltage **(M)**		Voltage **(M)**	
Current **(D)**		Current **(D)**	
Calculate Wattage **(D)**		Calculate Wattage **(D)**	

Assessor Checklist	Achieved Y/N
PPE selected and used correctly.	
Circuit assembled correctly.	
Circuit measurements completed.	
Wattage calculation correct.	

Show any calculations in the space below.

Component 04	Assessment Criteria 2.3	Task No 5

Identify Vehicle Lighting Systems

Identify the different types of vehicle lamps and their location on the vehicle.
Identify the different types of bulbs and where they are commonly fitted.

		
Name:	Name:	Name:
Location:	Location:	Location:
		
Name:	Name:	Name:
Where fitted:	Where fitted:	Where fitted:
		
Name:	Name:	Name:
Where fitted:	Where fitted:	Where fitted:

Assessor Checklist	Achieved Y/N
Identified the different types of vehicle lamps.	
Identified the different bulbs.	
Identified where the lights are located.	
Identified where the bulbs are most likely to be fitted.	

Component 04	Assessment Criteria 3.3 1.1(M)	Task No 6

Electrical Component Testing

Carry out tests on the following electrical components and complete the tables below.

Component	Safety Equipment Used	Correct Safe Practice
Battery Serviceability		
Alternator Serviceability		
Lighting Cluster Serviceability		

Component	Equipment used	Faults found	Rectification
Battery			
Alternator			
Lamp cluster			

Assessor Checklist	Achieved Y/N
PPE selected and used correctly.	
Followed recommended procedures or vehicle manufacturer's procedures **(M)**	
Completed the checks.	
Found faults.	
Stated how to rectify the fault. (if applicable)	
Completed the task report.	

Component 04	Assessment Criteria 4.1,4.2,4.3	Task No 7

Waste Disposal
Identify **3** items of electrical component waste and complete the table below.

Waste Product	Safety Equipment Required for Disposal	Disposal Method	Hazardous/ Non-Hazardous
1.			
2.			
3.			

Assessor Checklist	Achieved Y/N
Table completed	