

Subject: BTEC Level 3 Subsidiary Diploma in
Vehicle Technology (Motorsport)

Year Group: Year 12

Term One - Unit 24 (Pass Criteria)

- Explain the ways that actions can reduce the risk to employees, others and vehicles in a temporary workshop at a motorsport event.
- Describe the immediate and follow-up actions to be taken to deal with 2 different types of incidents at a motorsport event.
- Select and use the most appropriate tools and equipment to efficiently disassemble a motorsport vehicle component.
- Select and use the most appropriate tools and equipment to efficiently reassemble a motorsport vehicle component.
- Describe the use of 3 different temporary fasteners with regard to suitability for purpose in motorsport applications.
- Describe the use of 3 different permanent fasteners with regard to suitability for purpose in motorsport applications.
- Select an appropriate material for a given motorsport engine component application.
- Select an appropriate material for a given motorsport chassis component application.

Term Two - Unit 1 (Pass Criteria)

- Describe the layout of a vehicle's transmission.
- Explain the operation of a transmission system and its components.
- Describe the layout of a vehicle's steering system.
- Explain the operation of a steering system and its components.
- Describe the layout of a vehicle's suspension system.
- Explain the operation of a suspension system and its components.
- Describe the layout of a vehicle's braking system.
- Explain the operation of a braking system and its components.

Term Three - Unit 25 (Pass Criteria)

- Record and collate vehicle, competitor and event documentation for a motorsport event.
- Use tools and equipment to prepare a competition vehicle to a given specification.
- Describe the health and safety procedures to be followed when inspecting a motorsport vehicle.
- Use appropriate personal protective equipment when inspecting a motorsport vehicle.
- Carry out pre-competition vehicle inspection and set-up.
- Carry out vehicle inspections during a motorsports event.
- Carry out a post-competition inspection following a motorsports event.
- Identify and record vehicle rectification work required.



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Year Group: 13

Term One - Unit 14 (Pass Criteria)

- Describe the function and operation of two independent front and two independent rear vehicle suspension systems, including suspension requirements and the impact of chassis design.
- Describe the function and operation of the main components of an adaptive suspension system.
- Describe the function and operation of the main components of power assisted steering.
- Distinguish the range of steering characteristics.
- Describe the functional differences between two different wheel and tyre combinations.
- Describe the function and operation of the components found in a given type of braking system.
- Describe the function and operation of the components found in an anti-lock braking system.
- Carry out fault-finding on a suspension system to check for satisfactory operation.
- Carry out fault-finding on a steering system to check for satisfactory operation.
- Carry out fault-finding on a braking system to check for satisfactory operation.
- State the corrective action to be taken for each of the faults found.

Term Two - Unit 7 (Pass Criteria)

- Explain the chemical processes of a lead acid battery.
- Perform calculations to select a battery, based on performance and construction, for a given motor vehicle application.
- Explain the operation of a vehicle's starting system and the function of its components.
- Use a circuit diagram to identify the electrical components of a vehicle's starting system.
- Explain the process of a voltage generation and regulation for a given vehicle application.
- Explain the application of multi-phase electrical output in relationship to a vehicle's charging system.
- Carry out diagnostic tests to identify two different vehicle battery faults.
- Diagnose and rectify two different vehicle starting system faults.
- Diagnose and rectify two different vehicle charging system faults.

Term Three - Unit 3 (Pass Criteria)

- Identify two mechanical system faults on each of two different vehicles from given symptoms.
- Identify two electrical system faults on each of two different vehicles from given systems.
- Prepare two vehicles for fault diagnosis.
- Use appropriate diagnostic equipment and procedures to diagnose faults on two different mechanical systems on each of two different vehicles.
- Use appropriate diagnostic equipment and procedures to diagnose faults on two different electrical systems on each of two different vehicles.
- Describe an alternative rectification procedure for two faults on different mechanical systems.
- Use appropriate diagnostic equipment and procedures to diagnose faults on two different electrical systems on each of two different vehicles.
- Carry out rectification procedures on two different faulty mechanical systems, conforming with manufacturers' specification and safety and legal requirements.



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