

Motorsport Engineering Diploma Level 3

Welcome to the Automotive Department

The Automotive Team have a wealth of knowledge that they want to share with you, we pride ourselves on developing you to be industry ready and have a great adventure while learning the subject of Automotive.

Please find your summer project work enclosed in this booklet.

This work is a pre – requisite for the course, **it is not optional.**

Please bring your completed work with you on your first day of College.

UNIT REF: MS3K	WRITTEN ASSESSMENTS KNOWLEDGE OF MOTORSPORT RACE MEETING REGULATIONS
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Pass mark 60%

This assessment is designed to show an understanding of motorsport race meeting regulations to ensure safe, effective and efficient race meeting can take place when attending race meetings

Each question is allocated 25 marks. Because of the nature of the unit, acceptable answers may vary considerably. It is expected that the assessor will allocate marks within each question accordingly which will take into account learner specialism.

Summative Assessment:

1. Explain using diagrams where appropriate, the key organisational structures, functions, roles and limits of responsibility, of the personnel in a typical race team within the motorsport work environment.
2. Describe how the areas listed below would relate to each other within a large motorsport race team:
 - a. body shop
 - b. workshop
 - c. paint shop
 - d. valeting
 - e. parts department
 - f. main office
 - g. design office
 - h. reception
3. State the role of each of the following organisations involved in the control of motorsport vehicles
 - i. MSA
 - ii. FIA
 - iii. Organizing Club – such as 750 Motor Club
 - iv. VOSA
 - v. Clerk of the Course

4. State what restrictions apply to the movement of vehicles at a motorsport event and identify who has access to the track

5. Identify the flags and flag signals used at a race meeting including lights used

6. State the rules and regulations that apply to:
 - (i) the working area including pit lane or service area
 - (ii) vehicle preparation
 - (iii) typical penalties that can be imposed by the officials
 - (iv) practice
 - (v) behaviour

Assessment Guidance:

The assessment should:

- be completed by each learner on an individual basis.
- use explanations and descriptions which are comprehensive and where appropriate, include labelled diagrams.
- show in-depth understanding of the subject matter.

When completing this summative assessment the following assessment criteria should be referred to.

Unit MS3K:

- 1.1 Identify the purpose of the different sections/areas of a motorsport race meeting
- 1.2 Identify organisational structures and lines of communication within the motorsport event work environment
- 1.3 Describe levels of responsibility within specific job roles in a motorsport team
- 1.4 Identify definitions and categories of meetings
- 1.6 State the terms of reference and duties of the officials
- 2.4 Describe the restrictions that apply to the movement of vehicles at a motorsport event
- 2.5 Identify who has access to the track
- 2.6 Identify flags and flag signals used at a race meeting including lights
- 2.7 Describe the regulations applying to practice
- 2.8 State the rules and regulations that apply to the working area and vehicle preparation
- 2.9 State the behaviour that is required during an event
- 2.10 State typical penalties that can be imposed by the officials
- 2.11 Describe the definition of the pit lane or service area, and pit lane or service area procedures

UNIT REF: MS57K	WRITTEN ASSESSMENTS KNOWLEDGE OF INSPECTING A MOTORSPORT VEHICLE DURING COMPETITION
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Pass Mark 60%

1. This question is concerned with general motorsport maintenance inspections. (16 marks)
 - a. State two tools that would assist with an inspection of suspension and steering systems.
MS57 (1.11) (4 marks)
 - b. State how you would check for excessive play in: MS57 (1.3) (10 marks)
 - i. wheel bearings
 - ii. suspension bushes
 - iii. steering ball joints
 - iv. constant velocity joint
 - v. the steering column top bush
 - c. During an inspection, you find that the right hand rear suspension damper is leaking. What action would you recommend on your report? MS57 (1.7) (2 marks)
2. This question is concerned with motorsport vehicle braking systems and the inspection of system components. (18 marks)
 - a. You are inspecting the brake system of a vehicle. Describe the checks you would carry out to determine the safety and condition of the: MS57 (1.3) (6 marks)
 - i. brake discs
 - ii. disc pads
 - iii. hydraulic system

- b. State the procedure for checking a vacuum operated brake servo. MS57 (1.3) (4 marks)
- c. State two checks, which should be carried out on the vehicle brake fluid as part of the inspection? MS57 (1.2) (4 marks)
- d. State two faults for each of the following which would cause you to classify them unserviceable:
- i. parking brake
 - ii. rear drum brake MS57 (1.5) (2 marks each)
3. This question is concerned with general motorsport maintenance inspections the (24 marks)
- a. State what checks would be carried out on the following systems: MS57 (1.3) (6 marks)
- i. fluids and lubricants
 - ii. washers and wipers
 - iii. body and interior
- b. What action should you take if you find a fault with the bodywork during an inspection and why?
- MS57 (1.10) (4 marks)
- c. Explain why it is important to establish a logical, systematic procedure when inspecting motorsport vehicles. MS57 (1.3) (4 marks)
- d. State ONE MOT regulation related to each of the following items: MS57 (1.4) (10 marks)
- i. Seat belt buckle (2)
 - ii. Seat belt mounting (2)
 - iii. Rear lamp lens (2)
 - iv. Head lamp main beam alignment (2)
 - v. Park brake efficiency (2)

4. This question is concerned with the documentation requirements for inspecting motorsport vehicles (20 marks)

a. List five pieces of information you can get from the vehicle, which could be recorded on the inspection report. MS57 (1.6) (10 marks)

b. Explain why it is advisable to accurately record the results of an inspection. MS57 (1.6) (4 marks)

c. Why is it important that the technician who inspects the vehicle signs the inspection report?
MS57 (1.9) (2 marks)

d. State two other pieces of paperwork that can be written from the inspection report.
MS57 (1.7) (4 marks)