

Assessment Requirements

Unit AE05K – Knowledge of Diagnosis and Rectification of Transmission and Chassis Electrical Faults

Content:

Identification of various types of electrical/electronic transmission control systems

- a. Electronic clutch control, torque converter control systems.
- b. Electronically controlled manual transmission/powershift.
- c. Electronically controlled automatic transmission.
- d. Retarders and diff-lock systems

The function and operating principles of each of these areas

- a. Electronic clutch control, torque converter control systems.
- b. Electronically controlled manual transmission/powershift.
- c. Electronically controlled automatic transmission.
- d. Retarders and diff-lock systems.

Common faults and basic tests for these systems

- a. Hand held diagnostics, meters and oscilloscopes.
- b. Electronic Clutch Control, torque converter control systems.
- c. Electronically controlled manual transmission/powershift.
- d. Electronically controlled automatic transmission.
- e. Retarders and diff-lock systems.

The function and operating principles of the following systems

- a. ABS
- b. Traction control.

Identification of components and their function within the system

- a. Sensors, actuators, modulators and the control system for ABS.
- b. Sensors, actuators, modulators and the control system for traction control.

Common faults and basic tests for these systems

- a. ABS
- b. Traction control

Function and operating principles of steering systems

- a. Electro/hydraulic systems.
- b. Speed sensitive systems.
- c. Full electric assistance systems.
- d. 4 Wheel steering systems.

Identification of all components and their function within the steering system

- a. Sensors, actuators and control systems for each system.

Common faults and basic tests for these steering systems

- a. Electro/hydraulic systems.
- b. Speed sensitive systems.
- c. Full electric assistance systems.

Function and operating principles of electric/electronic suspension control

- a. Sensors, actuators and control systems
- b. Hydra-electric systems
- c. Pneumatic electric

Identification of all components and their function within the suspension systems

- a. Sensors, actuators and control systems
- b. Hydra-electric systems
- c. Pneumatic electric

Common faults and basic tests for these suspension systems

- a. Sensors, actuators and control systems
- b. Hydra-electric systems
- c. Pneumatic electric

How the below systems come together to create a stability control system

- a. Aerodynamic control systems
- b. Transmission systems
- c. ABS/traction control systems
- d. Steering systems
- e. Suspension systems
- f. Engine management system

Identification and description how all these systems unite to create stability control

- a. Aerodynamic control systems
- b. Transmission systems
- c. ABS/traction control systems
- d. Steering systems
- e. Suspension systems
- f. Engine management system

Common faults and basic tests for these combined systems

- a. Aerodynamic control systems
- b. Transmission systems
- c. ABS/traction control systems
- d. Steering systems
- e. Suspension systems
- f. Engine management system