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SPe - Automotive Electronic Workshop Tool

Other Electronic Control Units

Recently, new increasingly sophisticated systems have been fitted on the vehicle. In particular it is worth mentioning:

-Electronic parking brake: the old type of handbrake has been replaced by a push button which controls an actuator which stops automatically the vehicle when it is switched off. The introduction of this system requires test equipment capable of safely accessing the brake pads, programming the braking power, unlocking the wheels when the vehicle is at standstill, checking the state of the push button for disabling the parking brake, etc.

-Suspensions, steer by wire and traction control, the real technical progress of the last few years (besides the hybrid vehicles) is the introduction of vehicle control and management systems during the different running conditions. At the diagnosis is therefore required commands for checking the height of the body measured by the control unit, height sensor programming, moving suspensions, wheel motion actuation, wheel and steering position measurement, electronic alignment of the assembly wheel/steering/suspensions, etc.

- In Car Entertainment: from the simple after-market fitted radio, we have passed to highly sophisticated information and entertainment systems, such as GPS, cd/dvd reproduction, hi-tech hi-fi systems, MP3 readers, Bluetooth connection with mobile phones. Diagnosis equipment shall connect to these systems in order to set them up and repair them if necessary.

-Parking sensors and camera: this technology enables sometimes to park automatically. Needless to say that especially in case of accident these systems need diagnosis and repair.

- Tyre pressure control: checking the tyre electronically is surely one of the challenges of the future. As a matter of fact beside the "mechanical" technical progress of tyres and wheel rims of the last years, for the time being there is not yet any active safety system for the tyre. The first step in this direction are the pressure sensors fitted inside the tyre which monitor in real time its pressure. For making diagnosis of this system, it is necessary to view the pressure and temperature data measured by the sensors, program the replaced sensors, enable the transmission antennas, etc.

- Light management: the introduction of Xenon lights and directional lights has turned the management of a simple light bulb into a complex system in which, through diagnosis, it is possible to check the beam orientation and the absorbed power, align the mechanical position with the electronic position sensor, check the light emission for different vehicle speed rates, enable the light motion, etc.

- Management of rearview mirrors, central locking system, window lifter, lights and seats: all the actuators fitted inside the vehicle are controlled by an electronic control unit, which enables to make a diagnosis of the component, enable the motion or the starting, check the state of the control for starting/moving these devices, adjusting if necessary due to the replacement of some part, etc.