



ELECTRONIC SUSPENSION

Réf : SYS-SUSP



Presentation :

The electronic suspension simulator is constituted of a truck under body (miniature) equipped of the rear suspension system with raising axle (6X2). This frame is laying on the lower part.

The truck under body is constituted of :

- The 4 suspension units (cushion suspension and bracket) of the raising axle
- The electro-valves set with electric and pneumatic connexions
- The axle level sensors
- The cushion suspension pressure sensor
- The dash board with controls and suspension state display
- The suspension remote control
- The diagnosis outlet



The lower part includes :

- An air tank
- A load simulation system
- A suspension parameters acquisition board
- A setting board (load, vehicle speed)
- Electrical supply
- Castors to ease the simulator manoeuvres



All those items give a real 6X2 truck reduced scale model with raising axle. The system works with guenuine components as on the real truck.

The suspension system components and the ones used for the simulation are dissociated in order not to confuse students.

All working phases can be simulated and studied very easily and safely.

Pedagogic activities :

The student is going to acquire the following competences :

- Identify the different components as well as different inlets and outlets (supply, control, inlet and outlet pressure, electric supply, inductive sensors, piezzo-electric sensor).
- Know each component location and purpose.
- Analyse the system working :
 - By simulation of different loads on the axle and observation the system reactions in regards to :
 - Under body height changes
 - The suspension air pressure
 - The electro valves controls
 - The signal sent by the air pressure sensors
 - The control of the remote control
- To carry out failure search operations.



This model complies with the requirements from BEP to BTS levels (French national Education).

A technical and pedagogic documentation is supplied with the simulator on USB key.

Approached subjects :

- On board electronic systems smatterings
- Sensors, pre-actuators, actuators
- Systems analysis, study of pneumatic circuits
- Bondage and regulation
- Pressure, effort and flexibility smattering
- Smattering of settings, calibration of the controller and the sensors
- Diagnosis with intelligent and conventional control systems (failure boxes)
- Measures acquisition with traditional acquisition systems

Characteristics :

<u>Energy (V) and (bar) :</u>	<u>Dimensions (mm) :</u>	<u>Weight (Kg) :</u>
220/50 Hz mono phased Air supply 3	Length= 1400 Width= 700 Height= 1200	160

Options :

- USB data acquisitions and exploitations Car&Box
- Slip-cover



CAP

BAC PRO

BTS

SUP

POIDS LOURDS - AUTOMOBILE - AGRICOLE