



MASTERVAC and MASTER-CYLINDER

Réf : ANA-MMC



This pedagogic unit allows a complete study of the braking assistance device (mastervac) and of the master-cylinder. It is specially appropriated for functional and structural analyze lessons, mechanics, technology and exercises. It can be used from BEP to BTS (French National Education).

Presentation :

The model is constituted of:

A stand with :

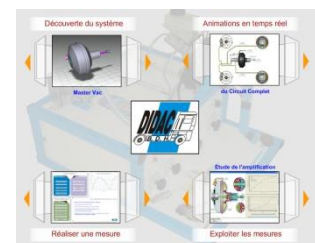
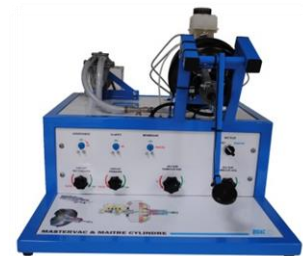
- A mastervac and its vacuum pump.
- A tandem master-cylinder tandem and the brake pedal.
- Two internal brake receivers.
- A drawing to locate real components on the vehicle.
- Brake fixing devices.
- Failures simulation devices (assistance and hydraulic circuit).

A measure system (discreet and perfectly integrated) with :

- Sensors (effort, pressure, race).
- An acquisition card (into the stand and in connection with a computer through a USB cable).

A software with :

- A part allowing to discover the system (in 2D and in **3D**)
- A part allowing to **animate** on screen 2D drawings of the **mechanism in real time**.
- A part allowing to carry out measures in different working stages.
- A part allowing to « reproduce » those measures animating, for each one, the studied part (master-cylinder, assistance, regulation).



Pedagogic activities :

The student is going to acquire the following competences :

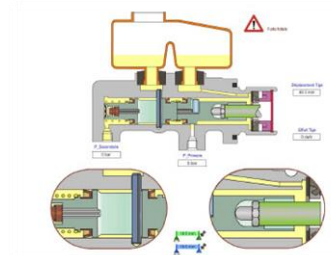
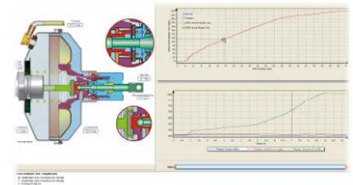
- Locate the components in the vehicle
- Locate and identify the different components of a mastervac and a master-cylinder.

For the MASTERVAC

- Analyze the qualitative working of a mastervac (amplification, saturation, regulation) but also the quantitative working (assistance rules, efforts and concerned pressure).
- Analyze the failures (lack of assistance, internal failure, valve out of service).

For the MASTER-CYLINDER

- Analyze the internal working stages of the master-cylinder (rise in pressure according to the brake fixing tests).
- Quantify the rates, pressure and efforts concerned.
- Analyze the failures due to a hydraulic leakage (partial or total).



Real components associated to measures and animations of great quality (images quality and technologic rigor) allow a complete exploitation of the model.

The students will « see inside » thanks to animations and have a very concrete and rigorous of the working.

Thanks to measures, the students will be able to apply analysis and mechanics tools developed and to have a relevant connection with the diagnosis operations.

Characteristics :

Energy (V) :
Electric 220
50 Hz monophased

Dimensions (mm) :
Length= 650 Width= 700
Height= 650

Weight (Kg) :
50

Software and documentation supplied on USB key

CAP

BAC PRO

BTS

SUP

AUTOMOBILE