



## EMERGENCY BRAKING AID (AFU)

Réf : ANA-AFU

This pedagogic unit allows a complete study of the AFU system associated with ESP and with the distance regulator. It is specially appropriated for functional and structural analyze lessons, mechanics, technology and exercises. It can be used from BAC to BTS (French National Education).

### Presentation:

The model is constituted of:

### A stand with :

- A mastervac equipped with the AFU function and a vacuum pump (RENAULT, AUDI models...).
- A tandem master-cylinder with the brake pedal.
- Two internal braking receivers.
- A drawing to locate real components on the vehicle.
- Stop lights.
- An electronic card accurately reproducing the piloting of AFU by the ABS/ESP calculator.



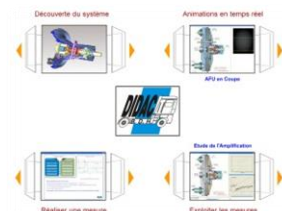
### A measure system (discreet and perfectly integrated) with :

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



### A software with :

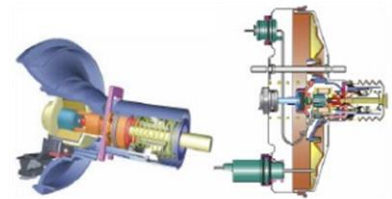
- A part allows to discover the system (in 2D and in 3D)
- A part allows to animate on screen 2D drawings of the mechanism in real time.
- A part allows to carry out measures in different working stages.
- A part allows to « reproduce » those measures animating, for each one, the studied part (assistance,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



### Pedagogic activities :

The student is going to acquire the following competences :

- Locate the components on the vehicle.
- Locate and identify the different components of a mastervac and a master-cylinder.
- Analyze the lack of performance of an assistance device without AFU.
- Analyze the working of the AFU system in the different command modes :
  - Normal mode low speed
  - Normal mode middle speed and high speed
  - Emergency braking mode
  - ABS/ESP active regulation mode
  - distance regulator mode
- analyze the diagnosis stage (reproduction of the CLIP test mode)



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

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

Study of distance regulator mode ;

The user programs the regulator on the dashboard (same as on a real vehicle).

He moves the vehicle (follower equipped with AFU).

He observes the system behaviour on the animated diagram.



### Characteristics :

<u>Energy (V) :</u> Electric 220 . 50 Hz monophased	<u>Dimensions (mm) :</u> Length= 600 Width= 700 Height= 600	<u>Weight (Kg) :</u> 30
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Software and documentation supplied on CD-ROM.

### Options :

- Slip-cover

CAP

BAC PRO

BTS

SUP

**AUTOMOBILE**