



CONTROL MODULE OF THE PA6 SEMIAUTOMATIC GEARBOX

Réf : ANA-BVR.PA6



Since the advent of multiplexing, and communications between the gearbox and engine control systems, semiautomatic gearboxes have been developed for LCVs. The benefits in terms of consumption and a comfortable drive are obvious. Many manufacturers have installed these systems in their vehicles, which are widely used by professionals.

This simulator is based on the latest transmission system developed by RENAULT.

A semiautomatic gearbox is a manual gearbox fitted with a system that automates gear shifts.

This add-on is made up of two electro-hydraulic actuators that shift the gears, one master-slave actuator that operates the clutch and a hydraulic generator that supplies the energy required by the actuators.

This teaching tool faithfully reproduces the workings of a Master fitted with a PA0 gearbox with six forward speeds using a sophisticated simulation that is totally transparent for the user. The connections between the ECUs are reproduced to recreate the usual environment of a gearbox ECU.

Présentation :

A built-in fault unit that can be disabled



The diagnostic connector.



The print of the gearbox with the pawls and synchromesh.



The dashboard with the controls and indicators associated with the semiautomatic gearbox.



The clutch.



The actuators and the hydraulic generator.



Teaching activities:

After completing these activities, trainees will be able to:

- Locate the gearbox on the vehicle.
- Locate and identify the various components of the system.
- Identify the components of the gearbox and clutch control system (actuators, sensors, selection and engagement systems).
- Analyze the gear shifts (control cycles of the actuators, synchronization phase)
- Analyze the gear shift modes (the gear shift laws in the different modes, various safety mechanisms)
- Analyze the electric signals exchanged between the different components (analog signals of the actuators and sensors and multiplexed signals).
- Perform fault-finding and diagnostic operations using conventional tools and the manufacturer's tools.

The quantity of real original components and the advanced simulation allow trainees to make work on concrete cases under conditions close to real life in complete safety.

This model caters for the BAC PRO and BTS levels (French National Education). A comprehensive teaching kit on CD-ROM is supplied with the model.

EXCLUSIVE: Each model is associated with PC software used to control the images from the simulator that gives details of all the operational phases, with a detailed analysis of each component. Consequently, this tool is ideally suited to the teaching of systems analyses.

Subjects covered:

- Notions of onboard electronic systems.
- Sensors, pre-actuators and actuators.
- Study of double effect actuators and the specifics of midpoint actuators.
- Gear controls, locking, mechanical and electronic synchromesh.
- Study and calculation of gear ratios (reasons for conventional and epicycloidal trains).
- Notions of ECU and sensor settings.
- Diagnostics with conventional tools or multibrand diagnostic tool.
- Measurement acquisition with conventional acquisition systems.

General characteristics:

Energy (V):
Electric 220/50 Hz single-phase
pneumatic 7

Dimensions (mm) :
Length= 1400 Width= 700
Height= 1000

Weight (Kg) :
80

Options :

- Protective bag

CAP

BAC PRO

BTS

SUP

POIDS LOURDS - AUTOMOBILE - AGRICOLE

