

XENON headlights trainer



Ref.: 9EQXENON6C - 230 V

Ref.: 9EQXENON3C - 115 V

The equipment incorporates a system of bi-xenon headlights assembled with their electrical installation, sensors, actuators and vehicle controls.

To illuminate the full headlights, use the xenon lamp accompanied by a halogen lamp and for dipped headlights only use the xenon lamp as its luminosity is limited by means of a diaphragm in order not to dazzle other drivers.

Automatic checking for the height of the lights is used to maintain the lights well adjusted when the bodywork tilts. This adjustment is done using an electrical motor which is controlled by the UCE, based on the bodywork position information, which is transmitted by the front and rear sensors.

The trainer is equipped with all the components and accessories which are necessary for correct operation in conditions which are similar to that of a vehicle.

Didactic application

The learning model is based on developing activities with real vehicle components, available in a didactic medium to ease the student's learning process, so that:

- It has real application, integrating effectively all the target contents for learning about lighting.
- It helps to significantly reduce learning time in the procedure-related activities thanks to the easy accessibility of the components and checking points. Furthermore it maintains the characteristics of the equipment assembled on the vehicle.
- It is motivating for the student.



Didactic characteristics

The student uses this equipment to develop the following skills:

1. Analysis of the operating principle for xenon headlights.
2. Interpretation of diagrams.
3. Circuit analysis.
4. Identifying and locating components.
5. Checking and analysing components.
6. Handling and interpreting technical documentation.
7. Handling instrumentation for checking and diagnosis.
8. Diagnosis and repair of faults.

There is a system designed by Alecop, integrated into the control panel, which makes it possible to measure the signals of all the components within the lighting system, the analysis, diagnosis and repair of faults including:

- Terminal plate for analysis and diagnosis of all the signals in the system.
- Module to generate dysfunctions or faults which are similar to what can really be produced in vehicles.
- Operation authorisation and equipment use switch.
- Indicators for correct battery operation, safety alarm, etc.
- Start up key, battery ON-OFF switch, light panel and instrument panel simulator.
- Shaft sensors, for the system which automatically regulates the height of the headlights with vehicle simulation.



Technical characteristics

- Complete bi-xenon light.
- Ignition amplifier.
- Electronic ballast.
- Actuator motor to adjust the height of the focus.
- Front module sensor.
- Rear sensor.
- Headlight cleaner simulator.
- Light control box.
- Ignition key.
- Potentiometer to simulate the vehicle speed.
- Diagnosis connector which is standard EOBD (EOBDII).
- Relays and fuses used in the system.
- Module to generate faults.
- RS-232C series line connector.
- Safety systems made up of:
 - Operation permission press button.
 - Safety micro-switch for access to headlight components.
- Checking terminal protection.
- Equipment dimensions: 900 x 555 x 355 mm.
- Approx. weight: 16 Kg.

User manual.

This incorporates the total description of the equipment containing the features, usage standards, installation and set up, maintenance, safety measures, wiring diagrams, list of fault generation and their symptoms, etc.

Manual of practical activities.

This is a manual which proposes the different types of practical which can be done with the trainer with the correct answer or solution for the activities to make the teacher's job easier. Individual identification of components, identification of systems, checking sensors and actuators, checking

signals, reproduction and identification of fault symptoms, looking for and locating faults, diagnosis code reading, proposal to resolve defects, virtual repairs, etc.



Real car components

Bi-xenon headlight.



Front sensor with integrated module and rear sensor.





BREAKDOWNS

The equipment has the possibility of introducing dysfunctions or faults in its operation by means of a programming-repair system.

There are two options:

- Manual fault repair system (using switches).
- Intelligent system for virtual computer aided fault repair (SIRVAUT), which by using interactive software allows not only analysis of the fault but also virtual repair of the fault generating a report to be evaluated by the teacher.

Relays, fuses, RS-232C and EOBD II connectors.



SIRVAUT Software integrated into the equipment.

