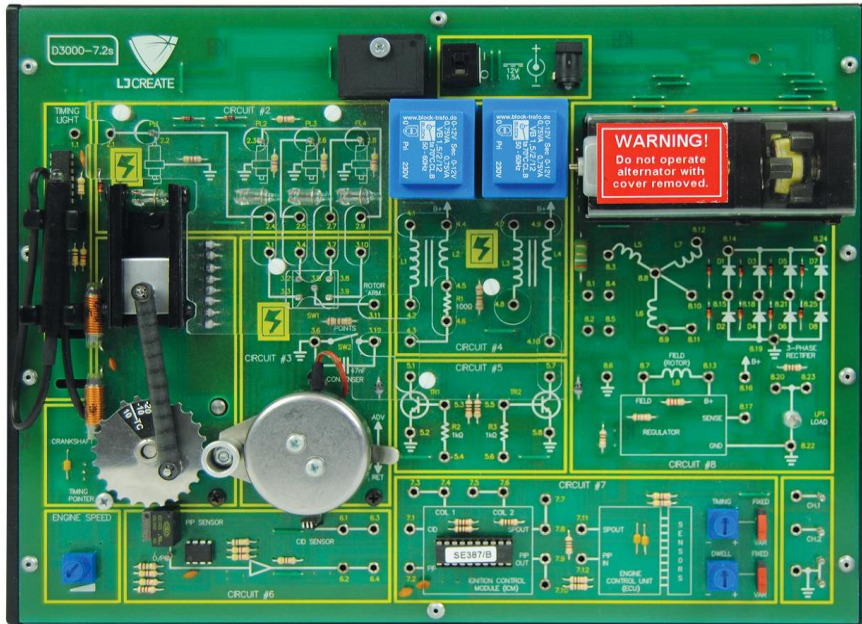


Product Information Sheet

Ignition and Charging Systems Board



This hands-on learning resource allows students to investigate a variety of starting, charging, and ignition circuits using a range of on-board components. Students are set tasks that encourage them to explore a variety of ignition and charging circuits practically to help develop their understanding of components, circuits and systems. The resource is also focused on the development of diagnostic and fault-finding skills using real test equipment.

This resource is supplied with a curriculum manual CD containing practical tasks and activities.

The trainer can also be used in conjunction with our optional cloud-based software, which offers online practical electronics tasks as well as interactive theory presentations, investigations, and assessments, which link directly to the practical activities carried out using this resource.

Practical Topics Covered Include:

- Semiconductor basic principles
- Contact breaker ignition systems
- Electronic ignition systems
- Spark plugs
- Dynamo charging systems
- Alternator charging systems

Typical Activities Include:

- Recognize the principle of the PN junction.
- Recognize what is meant by the term 'dwell angle' and its effect on performance.
- Recognize the operating principle of the ignition coil.
- Make measurements of the resistance and voltage at the coil primary and secondary windings.

- Diagnose faults in the contact breaker ignition system.
- Recognize the operating principle of the transistor assisted contact breaker ignition system.
- Identify the range of sensors required to provide input to the ECU.
- Make measurements with an oscilloscope of an inductive pickup ignition circuit.
- Compare the secondary wave patterns of each cylinder of a multi-cylinder engine.
- Recognize that the dynamo current is rectified through a mechanical commutator.
- Recognize the differences in construction and operating principle between the dynamo and alternator.
- Diagnose faults in the rotor circuit.

The circuit board provides the following features:

- Timing light
- Spark plugs
- Crankshaft and timing pointer
- Distributor
- Coils
- Coil drivers
- Engine speed control
- Crankshaft position sensor
- Camshaft position sensor
- Electronic ignition control
- Three-phase alternator
- 10 Switched faults

Product Information Sheet (Continued)

Ignition and Charging Systems Board



Items Included:

- Trainer
- Trainer Storage Case
- Curriculum manual CD

Other Items Required:

- Lab Scope
- 707-01 Autotronics Accessory Pack

General Information:

Trainer dimensions: 290 x 210 x 50 mm (W, D, H)

Packed Volume: Approx 0.007 m³

Packed Weight: Approx 1.4 kg

Order Code: 720-01

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For more information visit www.ljcreate.com