



# Integrated engine management systems

Course code: AKT/3/IEMS

This is a one day technical course explaining the techniques required to successfully diagnose modern integrated petrol engine management systems. Course content includes the following main subjects:

- Engine control module critical inputs.
- Fuel & ignition systems diagnostics.
- Exhaust gas analysis.
- Catalytic converter diagnosis.
- Closed loop control.
- Fuel trim and adaption.
- Engine management control functions.
- Technical overview of GDI.
- Emission control systems.
- On board diagnostics.
- Live data and fault code analysis.
- Fault finding and diagnostic disciplines.



During the course, participants will learn how to diagnose the engine management system using test tools and diagnostic equipment in conjunction with exhaust gas analyser and all available technical information. They will learn how to evaluate live data and understand what to look for. The course comprises of workshop sessions on live vehicles supported by classroom based technical presentations. Participants each receive a detailed, full colour set of course notes.

By the end of the course, participants will have gained detailed knowledge and understanding of modern petrol engine management systems. They will be able to integrate use of all available diagnostic tools and technical information to diagnose engine management related faults. At the end of the course, participants will receive a certificate from AK Automotive in recognition of their continuing professional development.

## Pre requisites for attending this course

To be accepted on this course, participants must be working in the motor industry or have relevant technical background. They will have a thorough understanding of electrical theory and circuit testing techniques, be fully competent with use of diagnostic equipment, oscilloscope, wiring diagrams and technical information systems. PC skills are also expected at this level.

## Prior relevant courses with AK Automotive

Before attempting this course, candidates may find the following courses useful:

- Vehicle electrical fault finding techniques.
- Electrical components testing techniques.
- Oscilloscope diagnostics.

**Telephone:** 01908 579309 **Mobile:** 07968 842274

**E-mail:** enquiries@akautomotivetraining.co.uk

**www.akautomotivetraining.co.uk**



## About AK Automotive

Based in Milton Keynes, Buckinghamshire, AK Automotive was established in 1999 by ex Saab Master Technician Tony Kitchen. Tony is a fully qualified, apprentice trained vehicle mechanic with over twenty five years hands on motor industry experience. He is also an ex MOT tester and is qualified and experienced in Further and Adult Education and workplace assessment.

AK Automotive offers a comprehensive programme of short technical courses for the motor industry. Courses run throughout the year from selective venues. They can also be delivered on site. Tony Kitchen keeps up to date with vehicle technologies through continuous research and personal development. He also provides diagnostics services for garages and private customers.

As a diagnostic technician, Tony well appreciates the importance of being properly equipped to do the job and regularly invests in purchasing the best available equipment for his business to get the job done properly. AK Automotive uses Omitec diagnostic equipment and is a newly appointed distributor for Omitec.

This means that AK Automotive can call upon a vast experience and detailed technical knowledge of some of the very latest vehicle electronic systems and diagnostic equipment. This knowledge is passed on to you during courses, further supported by examples from real time fault investigations supported by recorded live data captured using leading edge diagnostic equipment.



### Technical courses

- Vehicle electrics • Oscilloscopes •
- CAN bus • Common rail diesel •
- Integrated engine management •
  - Diagnostic equipment •
  - On site training •

Distributor for  
**Omitec**  
Modular Integrated Diagnostics



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Motor Industry Professional  
Technical Services

