



# Looking through the Scope

PMM was invited to sit in on Professional Diagnostics' PicoScope training course, teaching technicians how to get the best out of their oscilloscope.

**T**here is always a danger when you open a new piece of kit, that you find it quite daunting or don't fully understand the way it works to justify using it on a regular basis. That can be quite a waste when you've forked out to buy the kit in the first place.

The training courses run by Professional Diagnostics teach technicians how to fully make use of their PicoScope. Managing Director, Matt Williams set up the automotive training & equipment supplier four years ago and uses the knowledge gained as a former Automotive Technical Specialist at Pico in his course.

The aim of the two-day course is to make technicians feel comfortable using the PicoScope to diagnose vehicle system faults, rather than getting it out as a last resort. The course provides an understanding of the features and functions of an oscilloscope, together with an overview of engine management control systems. Structured to deliver a mixture of theory and practical sessions, delegates will leave the course with the necessary skills to be able to diagnose and rectify electronic control system faults.

All of the technicians on the course we

attended already owned scopes and used them occasionally, but not as often as they would like. They had signed up to the course in order to learn and get more from their scopes.

## Course content

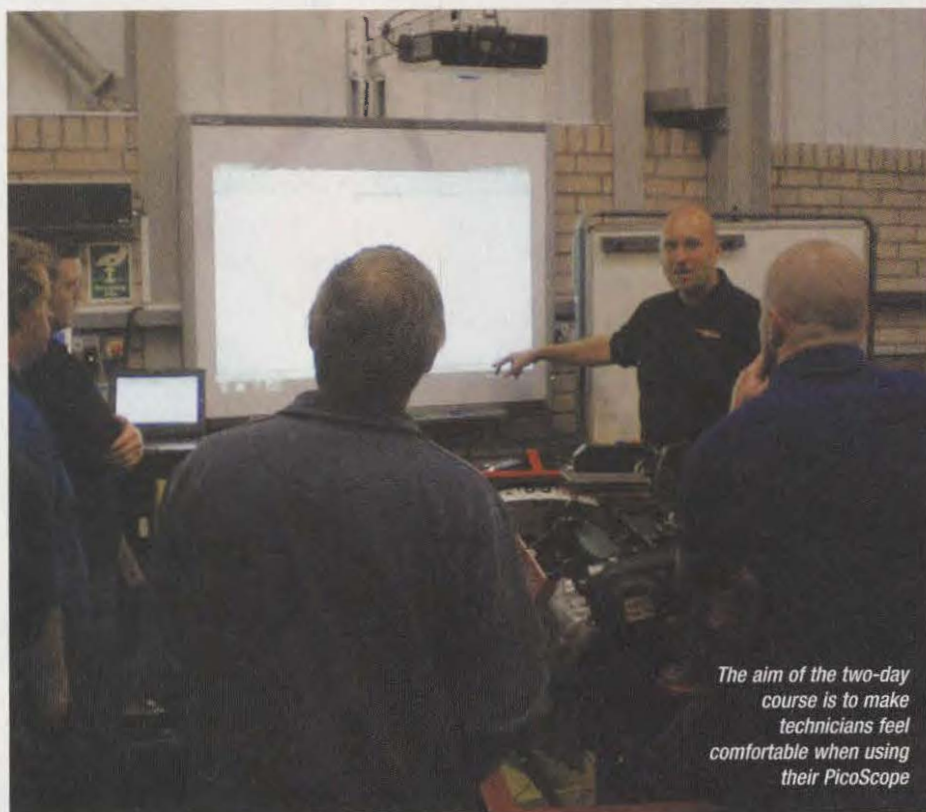
Once the formalities and introductions were out of the way, Matt opened up the Pico Automotive Diagnostic Kit and explained what an oscilloscope actually is. He went on to discuss the basics of the tool and explored some of the scope's terminology. Each part of the scope kit was then passed around the room and its specific function explained in more detail. Delegates were then asked to think

about and talk through an engine management system before getting a brief overview of the basics of electrics, sensors & actuators.

The excellent facilities at Warrington Collegiate were put to good use in the second part of the day as the delegates were given the opportunity to get their hands on the kit for some practical demonstrations on the engine rigs in the workshop. Set various tasks, delegates were able to work as a team and take turns to run through some of the various capabilities of the scope. On day two, after a brief recap of the first day, the course looked at some of the more advanced features of the scope in the morning, before moving onto practical free-form testing in the afternoon.

By the end of the two days delegates should feel competent enough to use the PicoScope in automotive diagnostic applications and have the knowledge and ability to use the scope and its software to retrieve waveforms. In addition they will have an understanding of the working principles of an engine management system, enabling them to assess good and bad signals. A certificate of completion from Pico Technology is presented to qualifying delegates.





The aim of the two-day course is to make technicians feel comfortable when using their PicoScope

Hosted by former Pico employee, Matt Williams (pictured) Professional Diagnostics' training courses take place in the following locations:



Bedford  
Bournemouth  
Glasgow  
Honiton (Exeter)  
Lancaster  
London, Surrey  
Spennymoor, County Durham  
Warrington  
Warwickshire

For more information and training dates visit <https://www.prodiag.co.uk>

## What did the delegates think?

“ The second day was more of use to me, using the engine rigs, we covered how to connect to various sensors and actuators, what to expect to see (voltage scales, time scales and wave patterns). We also covered masking and alarm setups on the scope to warn you of deviations from what might be expected. The Pico diagnostic program was also very interesting.

Although I have been using the scope for around 18 months, I feel I have a deep understanding now and can get the scope to carry out more for me. ”

**Steve Sims,**  
W.N. Sales & Engineering Ltd, Station Garage, Brierley Hill

“ I feel a lot more comfortable using the scope now. I have used the scope since the course, practising with the demo menu and also with live data from a vehicle. I would recommend the course to anyone who purchases a PicoScope, in order to fully understand the benefits of its capabilities. ”

**Chris Ellis,**  
Rawson Road Garage, Liverpool

## DAY 1



- Pico Introduction
- Explanation of automotive kit
- Technical overview of engine management system
- Oscilloscope basics and terminology
- PicoScope introduction and familiarisation, including how to get the best out of the software
- Practical

## DAY 2



- Brief recap of day 1
- PicoScope advanced features
- System components explained
- Practical free-form testing
- Q&A
- Course assessment questionnaire

## MORE INFORMATION

To find request further details about Pico's range of automotive oscilloscopes circle 104.