Delphi Technologies

Training Prospectus 2020

Technical training 2020
Training by the OE experts.

Why train at Delphi Technologies?

- Max group size of 8 students to 1 trainer (excluding diesel product repair courses).
- Credible up-to-date trainers.
- Every course is made up of theory and practical sessions.

  - 50% theory - developing knowledge framework in preparation for practical application

  - 50% practical - real-world diagnostics featuring common vehicle faults.

- Anyone is welcome on any course - Delphi courses are open to all.
- Clear pricing structure.
- Post-training support via our UK technical hotline 02038 161 400.
- Lunch included on every full-day course.

Delphi-accredited Technician Programme

Fast Fit Technician

Level: 🔧🔧

- Braking fundamentals (BR1) — 1
- Exhaust Systems (EXH) — *complete in any order*
- Steering and Suspension (SAS) — *complete in any order*
- Wheel and Tyres (WAT) — *complete in any order*
- Vehicle Inspection Overview (VIO) — *complete in any order*
- Customer service (CST) — *complete in any order*
- IMI Fast Fit Technician Assessment & Online exam (FFT)

Service Technician

Level: 🔧🔧

- Braking fundamentals (BR1) — 1
- Understanding emissions (EU1) — 2
- Vehicle Electrics 1 (VE1) — 3
- Oscilloscope Introduction (OS1) — 4
- Ignition Systems (GE1) — *complete in any order*
- Petrol engine management (GE2) — *complete in any order*
- CR hydraulics diagnosis (CR1) — *complete in any order*
- IMI Service Technician Assessment & Online exam (STT)

Diagnostic Technician

Level: 🔧🔧🔧

- Vehicle Electrics 2 (VE2) — 1
- Turbo Operation and diagnosis (TOD) — *complete in any order*
- Exhaust After Treatment & Diagnosis (EAT) — *complete in any order*
- Gasoline Direct Injection (GD1) — *complete in any order*
- IMI Diagnostic Technician Assessment & Online exam (DTT)

Master Technician

Level: 🔧🔧🔧🔧🔧

- Advanced Electrics (VE3) — 1
- CR Advanced Diagnostics (CR3) — *complete in any order*
- Oscilloscope Advanced (OS2) — *complete in any order*
- IMI *Enhanced* Hybrid Vehicles Level 2&3 combined (HV3) — *complete in any order*
- IMI Advance Driver Assistance Systems - calibration (ADS) — *complete in any order*
- IMI Hybrid Vehicles Advanced L4 (HV4) — *complete in any order*
- IMI Master Technician Assessment & Online exam (MST)

We are pleased to offer Delphi training pathways which ensure that the technician recieves a range of skills relevant to today's vehicles.

When you have completed the courses in the pathway you will then sit a set of practical assessments, and an online exam. Upon passing you will achieve a Delphi-recognised qualification, and an IMI national accreditation at the equivalent level valid for 3 years.

Technical training 2020
Training by the OE experts.

Prepare to repair, with Delphi Technologies.

As vehicle electronics continues to drive the development of today's complex parts and systems, it's no wonder training has become a necessity for technicians.

Think about it. In 1990, 16% of a vehicle's value was electronics. Today that number is 40% and growing. Simple maintenance is now a thing of the past. Garages must be able to reach deep into the system. That means, as well as parts, sophisticated diagnostics and expert knowledge are also a must. Are you ready?

With our technical training you will be! Designed to help you prepare for the very latest vehicle technologies, our extensive training programme covers the key aspects of a vehicle, from chassis to air conditioning, engine management to fuel systems, whether diesel or petrol.

And every level, from basic diagnostics right through to the in-depth knowledge required to service the most advanced OE systems. Whatever it is, we've got you covered. We are constantly updating our courses and in 2020 have added 2 brand new subjects (Hybrid L4 and ADAS). Doing this ensures we meet the demands of a changing aftermarket – including a stronger focus on electrical systems, GDi, and exhaust after treatments.

Based at our state-of-the-art training school in Warwick, our courses are led by our master technicians and features a combination of theoretical and practical exercises, both in the classroom and on the vehicle. Upon successful completion of the course, you will be awarded a training certificate confi rming your newly acquired skills.

Where are we?

Unit 10, Titan Business Centre,
Spartan Close,
Warwick,
England,
CV34 6RR

training.uk@delphi.com

Purpose developed technical centre
Continued investment
IMI apporoved

Technical training 2020

Training by the OE experts.

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Vehicle Electrics 3 (VE3)

Length: **1 day**
Accrediation: **Master Technician**

Scan to view the course intro video

Course Overview

Once you have mastered basic and intermediate electrics, VE3 takes you to the next level. Focusing on networking (CAN, MOST, LIN etc.) you will look at how these systems work, but most importantly how to diagnose and fix them when they don't. On this course will use oscilloscopes to diagnose faulty signals, and use technical data to map out vehicle networks.

Course Content

- Introduction to vehicle networking.
- Smart sensors and actuators.
- Fault diagnosis and repair techniques.
- Exploring how diagnostic systems operate.
- Establishing a strategy based diagnostic procedure.
- Networked vehicle systems diagnostics.

CR Advanced Diagnostics (CR3)

Length: **1 day**
Accrediation: **Master Technician**

Scan to view the course intro video

Course Overview

This course focuses on fault finding on common rail systems at the highest level. This course will build your understanding of pressure and flow within the system, and using specialist tooling you will be able to take the role of the ECU when dealing with pressure regulation. Not all faults with the common rail system can be diagnosed in the workshop, some will only occur under load. Using specialist equipment you will be able to simulate a 2000bar load whilst in the workshop saving time and money. You will also be able to use live data effectively looking and injector quantity offsets and low pressure system testing.

Course Content

- Using Injector adaption live data.
- Using the new HD3000 (YDT840) common rail test equipment, for high pressure and flow testing up to 3000bar.
- Using low pressure test equipment.
- Operation and diagnosis of key emission control components.
- How you would use a J2534 pass-thru device in diagnosis and repair.

Oscilloscope Advanced (OS2)

Length: **1 day**
Accrediation: **Master Technician**

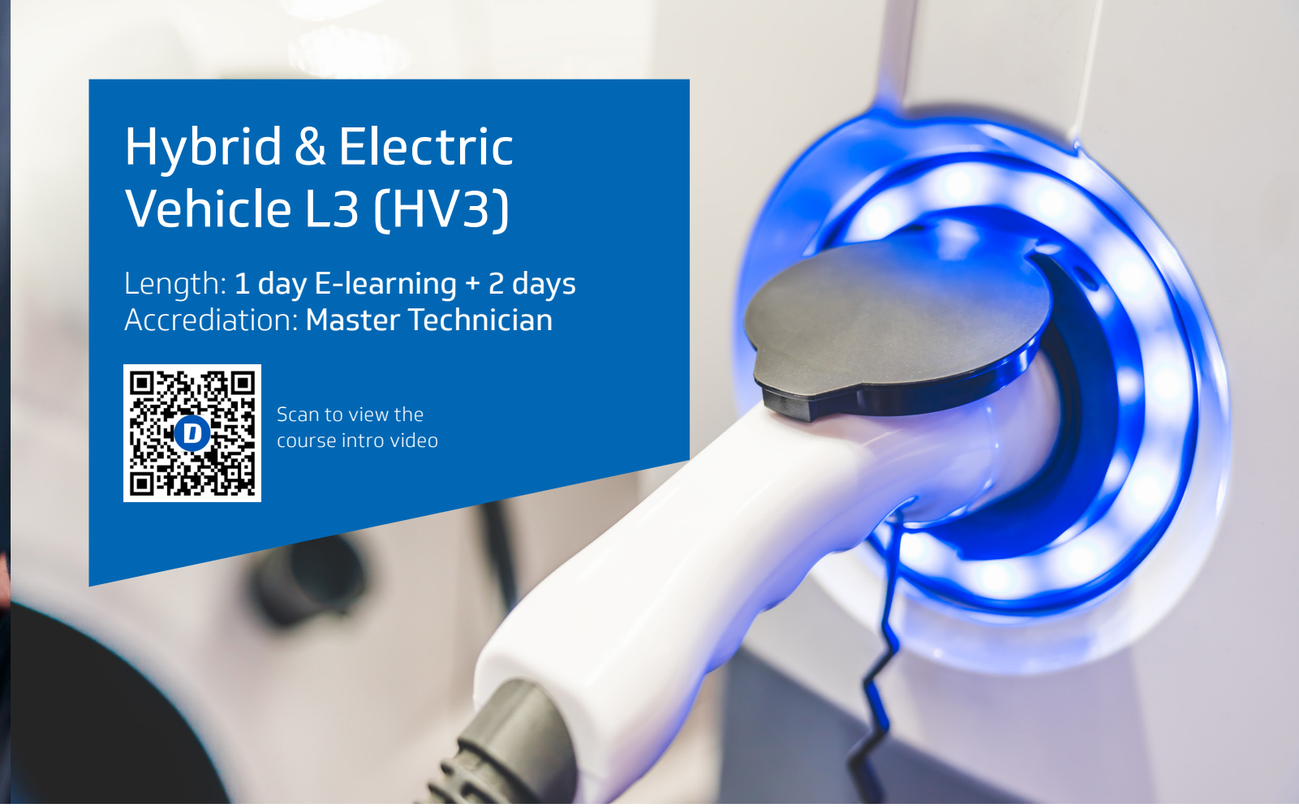
Scan to view the course intro video

Course Overview

When diagnosing electrical and mechanical faults on any vehicle the use of an oscilloscope can give the technician a much better understanding of what is actually happening in a system. On completion of the course you will be confident in using an oscilloscope when fault finding and be able to use captured waveforms to prove where a fault lies.

Course Content

- An detailed overview of the oscilloscopes functions and uses.
- Analysing a wide range of waveforms to confirm faults or correct operation.
- Utilising measurement functions (maths channels) to manipulate waveforms and perform a quicker diagnosis.
- Learning new ways to approach a fault to increase first time fix rate.



Hybrid & Electric Vehicle L3 (HV3)

Length: **1 day E-learning + 2 days**
Accrediation: **Master Technician**

Scan to view the course intro video

Course Overview

With modern vehicles now incorporating hybrid technology, it is vital that today's technicians can work safely around the high voltage system. This course will give you the confidence and capability to safely work on vehicles that utilise hybrid systems on both petrol and diesel. This course also covers the replacement of high voltage components safely and efficiently. This qualification is designed for the technician who maintains and repairs hybrid vehicles, including the hybrid system itself.

Course Content

- Specialist personal protective equipment (PPE).
- Hybrid system types ranging from mild hybrid (12v, 24v, 48v) to full electric (800v).
- Hybrid integration.
- Hybrid and Electric vehicle specific maintenance.
- Making the hybrid system safe.
- Replacing HV components.

ADAS (ADS)

Length: **2 day**
Accrediation: **Master Technician**

Scan to view the course intro video

Course Overview

Cameras, radars and sensors and now becoming common place on cars, vans and trucks. Calibrating these systems is essential to ensure their opperation in both normal driving and emergency situations. This course will give you a core understanding of how these systems operate and more importantly how to calibrate them following maintenance work.

Course Content

- ADAS features and brand examples.
- ADAS components (cameras, radars, lidars, ultrasonics, infrared and night vision systems).
- Wheel alignment and thrust angle.
- V2X (V2V, V2I, and V2G).
- Calibrating camera's and radars.
- Calibrating 360° systems.

Hybrid & Electric Vehicle L4 (HV4)

Length: **2 days**
Accrediation: **Master Technician**

Scan to view the course intro video

Course Overview

Diagnosing faults is difficult when the power is off, our enhanced hybrid and EV level 3 course teaches you how to disable the high voltage system and carry out repairs. With hybrid and EV level 4 we diagnose faults with the high voltage system live. Part of this course also covers in detail how to repair high voltage batteries from various manufacturers.

Course Content

- High voltage component opperation.
- Detailed understanding of the high voltage "power up" and "power down" protocol.
- Working on live high voltage components.
- Battery design and cell chemistry.
- High voltage battery repair.
- Detailed cell balancing process.

IMI Accreditation - Master Technician (MST)

Length: **1 day**
Accreditation: **Master Technician**

Assement Overview

Building upon years of experience in diagnosis and vehicle repair, this final accreditation allows you to validate both your practical ability and supervisory skills. The test will assess your practical skills and technical knowledge, and provide the opportunity to join the official IMI register of accredited master technicians. This assessment is the completion of the Delphi Master technician route. ***Please note that this is an assessment only.***

Assement Content

- Electrical systems - complex.
- Electrical systems (diagnosis/scan tool diagnosis).
- Computer based test equipment - complex.
- Instructional support.
- Vehicle safety inspection and vehicle service.

Vehicle Electrics 2 (VE2)

Length: **1 days**
Accreditation: **Diagnostic Technician**

Scan to view the course intro video

Course Overview

With modern vehicles employing many separate electrical systems, it is vital that the correct system is identified prior to diagnosis. This course will give you the confidence and capability to accurately identify which system requires diagnosis, maximizing your time and profitability. It will focus on practical, hands-on vehicle testing, whilst also providing a solid understanding of the techniques involved in successful diagnosis.

Course Content

- Stop start technology.
- Lighting systems (Xenon, LED, adaptive LED & matrix lighting).
- ABS systems & diagnosis.
- Fault code diagnosis.
- Circuit diagrams.
- Introduction to multiplexing.

Turbo Operation & Diagnosis (TOD)

Length: **1 day**
Accrediation: **Diagnostic Technician**

Scan to view the course intro video

Course Overview

With current trends towards engine downsizing, the global market for turbochargers continues to increase. This presents a great opportunity for garages with the right expertise. This one day module provides a detailed overview of turbocharging systems. It will teach you how to diagnose and repair faults on modern turbocharged vehicles.

Course Content

- Overview of the principles of pressure charging systems.
- Principles of combustion and exhaust gas recirculation.
- Pressure charging system components, sensors and actuators.
- Turbocharger system construction, operation and fault finding.
- The principles of on-vehicle testing and common faults and repair procedures.

Exhaust After Treatment Operation & Diagnosis (EAT)

Length: **1 day**
Accrediation: **Diagnostic Technician**

Scan to view the course intro video

Course Overview

Want to know more about Diesel particulate filters and Selective catalyst reduction? Then this is the course for you. Designed to provide a detailed overview of exhaust aftertreatment theory, it will give you all the skills you need to diagnose and repair faults on vehicles fitted with Exhaust aftertreatment systems. You will learn how to perform diagnostic procedures and preventative maintenance to Delphi Standards using specialist tooling and diagnostic equipment.

Course Content

- Overview of the operating principles of CRi systems.
- Principles of combustion and exhaust gas recirculation.
- Explanation of particulate filter systems and associated electronic control systems.
- DPF system types.
- Detailed overview of selective catalyst reduction operation and diagnosis of system faults.
- Diagnostic strategies for DPF systems with and without additives.
- Static and dynamic regeneration of the DPF.
- Preventative maintenance.
- Principles of on-vehicle testing using Delphi diagnostic tools.
- Common faults and repair.

Gasoline Direct Injection (GD1)

Length: **1 days**
Accrediation: **Diagnostic Technician**

Scan to view the course intro video

Course Overview

Now you have mastered ignition and engine management through GE1 and GE2, this course will enable you to focus on newer high pressure petrol systems. These systems range from 100 - 350+ bar, much more dangerous than any common rail diesel system. You will see from an emission test why we have switched to GDi, but as you will learn on this course it's not all good news when it comes to the emissions. You will be able to safely test the GDi components in isolation to from a solid diagnosis to rely on.

Course Content

- Principles of Operation of Gasoline direct injection.
- Exhaust system component operation and diagnosis covering NOx Cats, wideband oxygen sensors etc.
- Different fuel system operating modes.
- Fuel pressure testing and measurement.
- Common Faults.

IMI Accreditation - Diagnostic Technician (DTT)

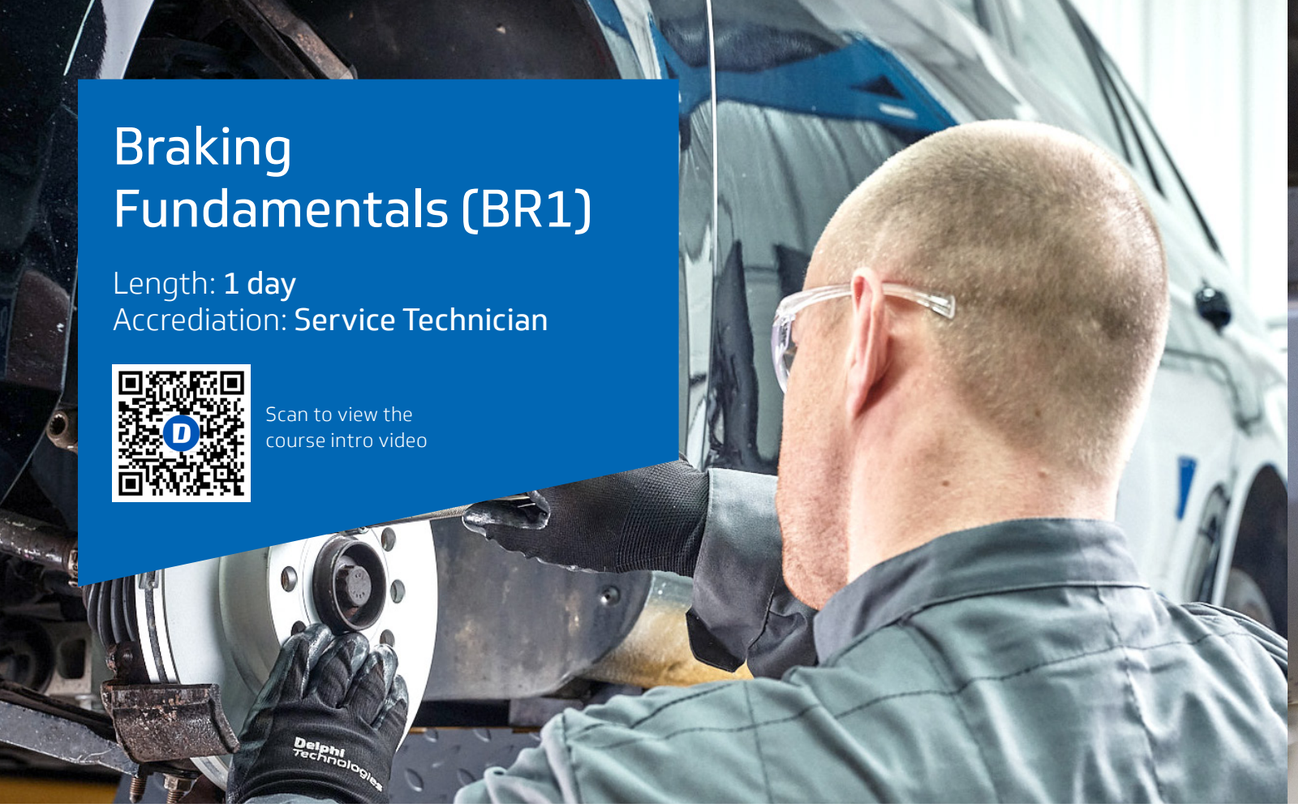
Length: **1 days**
Accrediation: **Diagnostic Technician**

Assesment Overview

To ensure your customers have confidence in your ability to accurately diagnose faults with their vehicle, it is important to demonstrate a thorough understanding of electrical and mechanical systems. The test will assess your practical skills and technical knowledge, and provide the opportunity to join the official IMI register of accredited diagnostic technicians. This assessment is the completion of the Delphi Diagnostic technician route.
Please note that this is an assessment only.

Assesment Content

- Mechanical systems diagnosis.
- Electrical systems diagnosis.
- Computer based test equipment diagnosis.
- Vehicle safety systems.



Braking Fundamentals (BR1)

Length: **1 day**
Accreditation: **Service Technician**

Scan to view the course intro video

Course Overview

The modern braking system has developed over the past 100 years and has become extremely dependable, efficient and automated. Connected systems include the parking brake, brake servo and the anti-lock system (ABS). This course will provide insight into the operation of the systems and the legal requirement to ensure that the vehicle meets the stringent requirement of VOSA (MOT).

Course Content

- Braking component testing and measurement.
- Hydraulic system operation.
- Brake fluid types and testing.
- Working with Electronic Parking Brake (EPB)
- Introduction to ABS.
- Introduction to enhanced vehicle safety systems.

Understanding Emissions (UE1)

Length: **1 day**
Accreditation: **Service Technician**

Course Overview

This course brings the mystery of exhaust gases to light by looking at gasses produced by combustion. You will see that by looking at the tail pipe emissions, you can diagnose a range of faults from misfire, to faulty catalytic convertors. By the end of this course diagnosing and discussing CO2, CO, HC will seem like second nature. This covers all petrol engines.

Course Content

- Typical exhaust gas constituents.
- Catalytic converter operation and diagnosis.
- Exhaust gas emission values and their relationships.
- Interpretation of emissions gas values to aid diagnosis of engine management faults.

Vehicle Electrics 1 (VE1)

Length: **1 day**
Accreditation: **Service Technician**

Scan to view the course intro video

Course Overview

Today's modern vehicle has more computing power than the space shuttle, with up to 50 computers and 1 mile of wiring under the skin. No wonder a good understanding of basic automotive electrical systems has become a necessity for technicians. The vehicle electrical systems course has been especially designed for this reason. With a back to basics approach to electrical fundamentals, it covers both electrical theory and fault finding, with practical exercises in the classroom and the workshop.

Course Content

- Electricity and magnetism.
- Electrical Units and Multimeters.
- Designing and building circuits.
- Connector, cable and component ratings.
- Wiring diagrams and circuit testing.

Oscilloscope Introduction (OS1)

Length: **1 day**
Accreditation: **Service Technician**

Scan to view the course intro video

Course Overview

The oscilloscope is an essential tool for diagnosing many vehicle faults. This course concentrates on oscilloscope set up, component testing, time base, sample rates and triggers. There is an emphasis placed on knowing what you are expecting to see before you test. If you have never used an oscilloscope or you consider yourself a beginner or intermediate user - then this is the course for you.

Course Content

- Setting up of on Oscilloscope.
- Time base and voltage signal testing at sensors and actuators.
- Use of Amp Clamps to measure current.
- Using an oscilloscope for fault finding on ignition and fuel system components.

Ignition Systems (GE1)

Length: **1 day**
Accreditation: **Service Technician**

Scan to view the course intro video

Course Overview

With ever tighter emissions controls and greater demand for extended service intervals and component life this course is designed to provide technicians with an understanding operation and diagnosis of the components in modern petrol engine ignition systems.

Course Content

- How ignition systems work.
- Traditional ignition systems.
- Combustion and emissions.
- Ignition system components.
- Common problems.
- Testing components.

Gasoline Engine Management (GE2)

Length: **1 day**
Accreditation: **Service Technician**

Scan to view the course intro video

Course Overview

GE1 focuses on the ignition system and components, this course (GE2) concentrates on the engine management system design and testing of those components. You will cover how the engine management system works, and structured logical diagnostic procedures.

Course Content

- Engine management systems and components.
- Fuel supply systems & intake air systems.
- Exhaust and emissions control.
- Diagnostics fault memory and adaptions.

CR Hydraulic Diagnostics (CR1)

Length: **1 day**
Accrediation: **Service Technician**

Scan to view the course intro video

Course Overview

This course gives you the best start in working with, and diagnosing common rail diesel vehicles of all brands - not just Delphi. Fuel system pressures started at around 1,400 bar and have now increased to over 2,200 bar, testing these systems will require different techniques depending on the fuel system manufacturer. You will cover how to identify the system and most importantly its components. Then you will use specialist equipment to isolate and test the different components of the common rail system. A structured diagnostics process is key when testing and diagnosing common rail failures.

Course Content

- Identification of system manufacturer and components.
- The principles of hydraulic and basic electrical testing on Delphi, Bosch, Siemens and Denso systems.
- Detailed fault diagnosis and repair procedures using sealed rail, false actuator and DS tools.
- Safe and effective diagnostic strategies.

IMI Accreditation - Service Technician (STT)

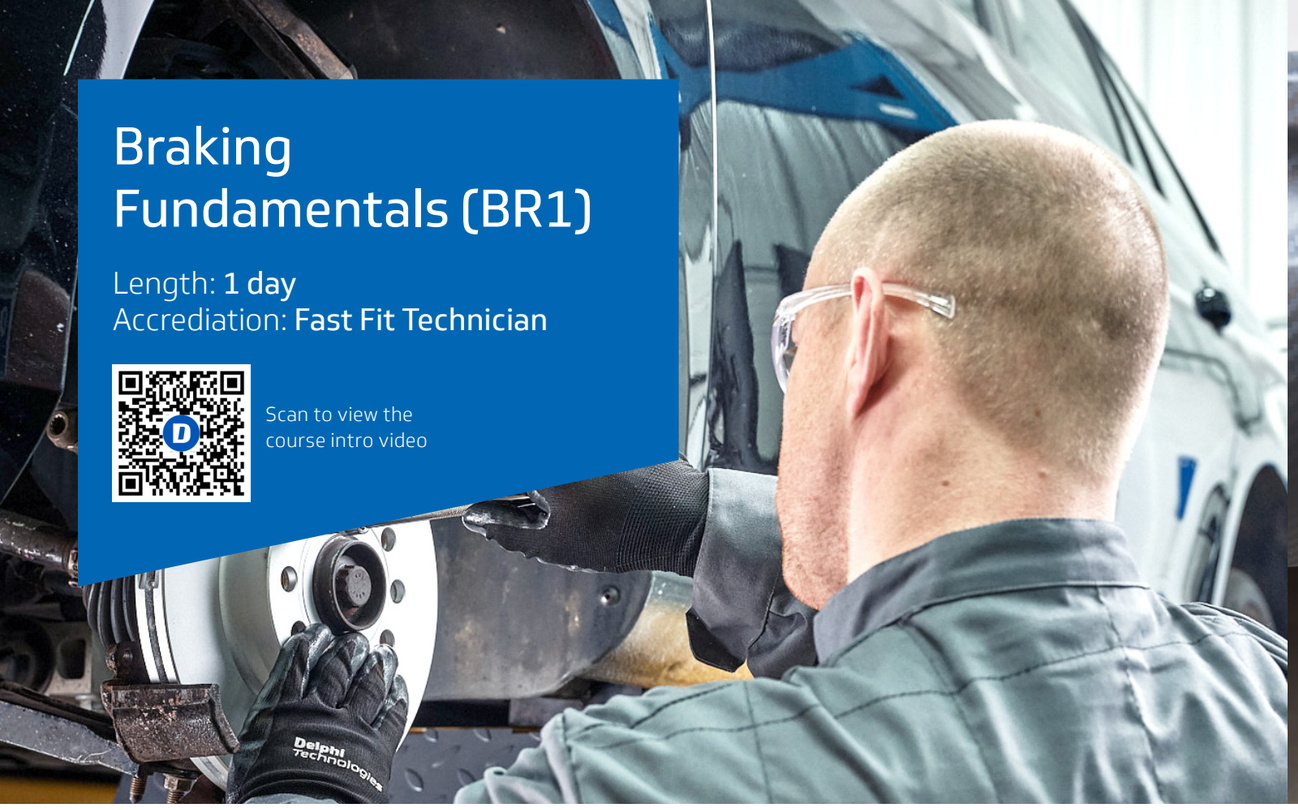
Length: **1 day**
Accrediation: **Service Technician**

Assesment Overview

Routine vehicle services provide a great revenue opportunity for your business, so it's important to show that you are recognized as a professional, capable service maintenance technician. This accreditation validates your experience and familiarity with the skills, knowledge and techniques required to service and maintain light vehicles. This assessment is the completion of the Delphi Service technician route. ***Please note that this is an assessment only.***

Assesment Content

- Mechanical systems.
- Electrical systems – basic.
- Computer based test equipment – basic.
- Braking system.
- Vehicle safety inspection and vehicle service.



Braking Fundamentals (BR1)

Length: **1 day**
Accrediation: **Fast Fit Technician**

Scan to view the course intro video

Course Overview

The modern braking system has developed over the past 100 years and has become extremely dependable, efficient and automated. Connected systems include the parking brake, brake servo and the anti-lock system (ABS). This course will provide insight into the operation of the systems and the legal requirement to ensure that the vehicle meets the stringent requirement of VOSA (MOT).

Course Content

- Braking component testing and measurement.
- Hydraulic system operation.
- Brake fluid types and testing.
- Working with Electronic Parking Brake (EPB)
- Introduction to ABS.
- Introduction to enhanced vehicle safety systems.

Exhaust (EXH)

Length: **1 day**
Accrediation: **Fast Fit Technician**

Course Overview

Servicing exhaust systems is a day-to-day activity for many technicians, this course covers much more than just replacing the exhaust system. It will give you an introduction and overview of exhuast after treatement, exhaust gas recirculation and emissions testing.

Course Content

- Correct fitment and joining techniques.
- Exhuast component construction.
- 4 gas emissions testing.
- Turbo operation and it's role within the exhaust system

Wheels & Tyres (WAT)

Length: **1 day**
Accrediation: **Fast Fit Technician**

Course Overview

One of the highest safety critical components is the one that stands between the vehicle and road surface. With often only a contact patch no bigger than the palm of a hand, it's important that tyres are fitted and repaired correctly. This course enables technicians to provide an end-to-end service from replacement or repair through to TPMS programming.

Course Content

- Tyre construction.
- Tyre fitting techniques.
- Run-flat tyres.
- Wheel balancing.
- TPMS programming.
- Puncture repairs.

Steering & Suspension (SAS)

Length: **1 day**
Accrediation: **Fast Fit Technician**

Course Overview

Steering and suspension faults often manifest themselves in other areas such as incorrect tyre wear, poor driving characteristics and ADAS errors. This course covers correct replacement of springs and dampers and how to correctly perform 4 wheel alignment. We also cover the differences in alignment techniques surrounding air and adaptive suspension.

Course Content

- Suspension types (McPherson strut, beam axle and independent suspension).
- Steering systems.
- Air suspension operation.
- 4 wheel alignment.

Vehicle Inspection Overview (VIO)

Length: **1 day**
Accrediation: **Fast Fit Technician**

Course Overview

Inspecting a vehicle correctly ensures the highest level of safety on our roads. Identifying up defects, both major and minor, is an important step of preventative maintenance. As well as covering the components to check during an inspection, this course also teaches best practise to maximise productivity and efficiency.

Course Content

- Inspection vs MOT checks.
- Lighting checks.
- Full brake check.
- Tyre safety check (tread, pressure & damage).
- Suspension checking techniques.
- Body corrosion.

Customer Service (CST)

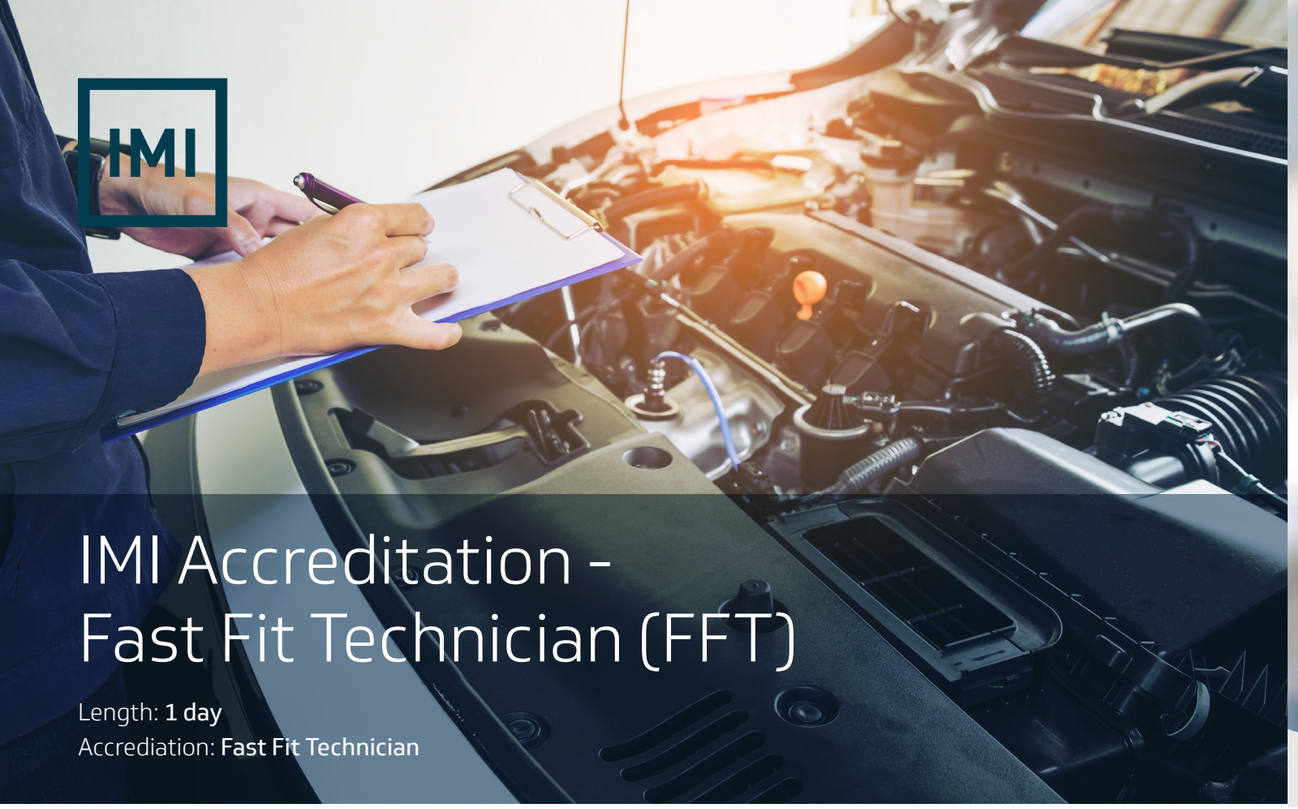
Length: **1 day**
Accrediation: **Fast Fit Technician**

Course Overview

To meet the demands of modern customers and expansion of social media, technicians are often required to adapt their interaction on technical and non technical matters. This course is designed to boost technicians confidence and enable them to improve their communication skills when dealing face to face or over the phone.

Course Content

- Know your customers and frame of approach.
- Listening and understanding skills.
- Giving clear instructions and correct questionning.
- Gathering suitable information and professionalism.



IMI Accreditation - Fast Fit Technician (FFT)

Length: **1 day**
Accrediation: **Fast Fit Technician**

Assement Overview

Building upon years of experience in diagnosis and vehicle repair, this final accreditation allows you to validate both your practical ability and supervisory skills. The test will assess your practical skills and technical knowledge, and provide the opportunity to join the official IMI register of accredited master technicians. This assessment is the completion of the Delphi Fast Fit Technician route. ***Please note that this is an assessment only.***

Assement Content

- 4 wheel alignment.
- Vehicle inspection.
- Wheels and tyres.
- Customer service.
- Exhuast systems.
- Braking systems.
- Using a diagnostic tool.

DS Diagnostic User (DSU)

Length: **1 day**

Course Overview

The course is designed to provide technicians new to the Delphi diagnostic platform with an overview of the features and functionality of the tool, the support available, and to provide them with hands on experience using the equipment in our training workshop.

Course Content

- Using the software – overview of features.
- Technical data overview – *NEW* user interface.
- Using EOBD mode + advance EOBD.
- Setting up and using the flight recorder (data logger).
- Accessing expert mode.
- Help and support.

YDT35 Setup & Use (Y35)

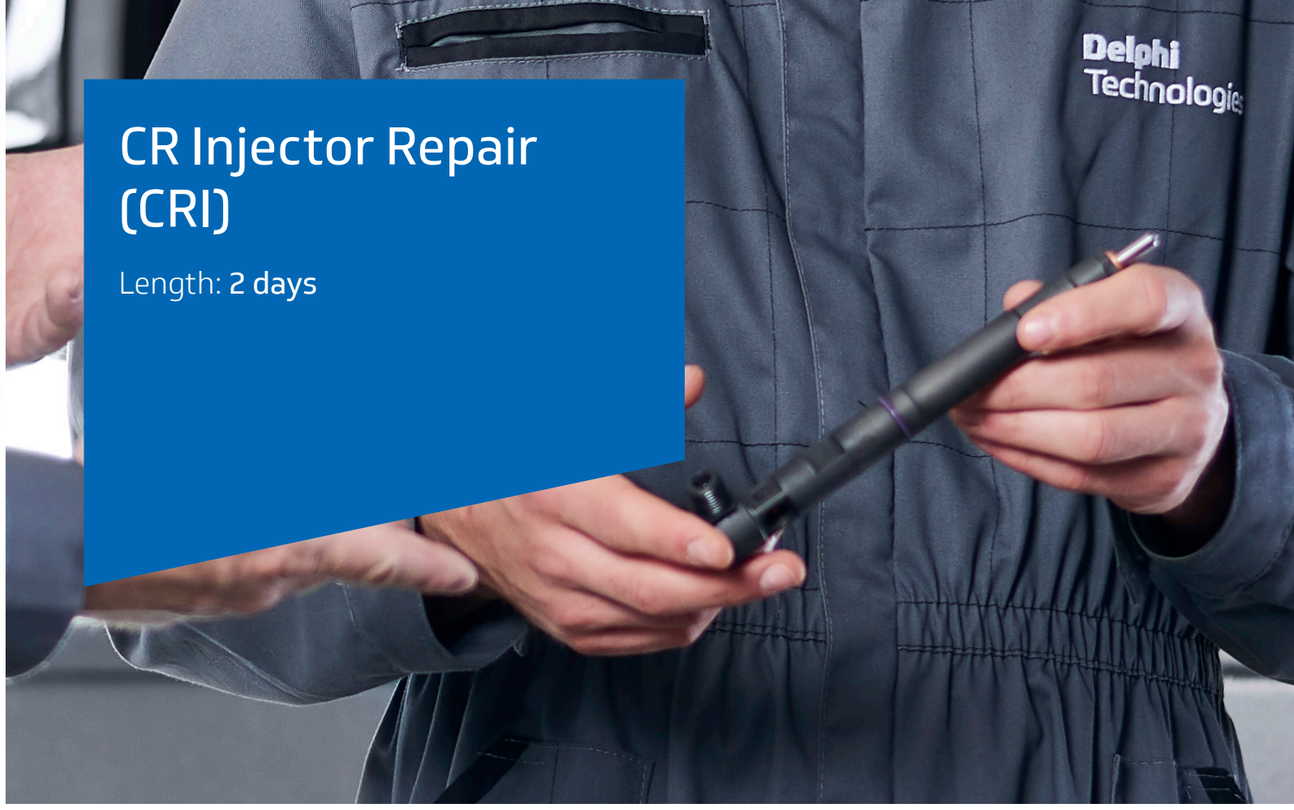
Length: 0.5 **days**

Course Overview

The course is designed to provide technicians with the knowledge required to operate the YDT35 & YDT35-B, safely connect and test all types of common rail fuel injectors and make an informed decision on the serviceability of injectors.

Course Content

- Setting up the YDT35 / 35-B.
- Test oil and filter(s) replacement.
- Maintenance of the YDT35.
- Recognising Common Rail Injectors.
- Pre-checks on solenoid injectors before fitting.
- Pre-checks on Piezo injectors before fitting.
- Injector opening pressure check.



CR Injector Repair (CRI)

Length: **2 days**

Course Overview

With Common Rail injector tolerances being measured in microns, even minute variations can have very big consequences. One injector performing out-of-sync will have a big impact on performance. The result can mean poor fuel efficiency and higher emissions. You will learn how to repair Common Rail injectors to OE standards and to diagnose and repair faults on all Delphi Technologies injectors including the latest generation DFi1.20 fitted to the VAG range of engines. You will perform test procedures to OE-approved standards using the Hartridge AVM2-PC or CRi-PC test benches, specialist diagnostic tools and dedicated test plans.

Course Content

- Principles and operation of Delphi Common Rail fuel injection systems.
- Detailed understanding of the CRi-PC & AVM2-PC test equipment including set-up and use.
- Delphi Common Rail injector fault diagnosis and repair procedures.
- How to use the IRIS software.
- The importance of cleanliness standards.
- Latest DFi1.20 and 2.20 injectors covered (pressurised backleak).

CR Pump Repair (CRP)

Length: **3 days**

Course Overview

With the continued growth in the diesel Common Rail parc, you'll want to know everything there is to know about this technology. After all, these highly sophisticated vehicles will all require expert diagnostics, test and repair by workshops equipped with the right tools and knowledge. As a leading OE manufacturer, we can give you this and more. This in-depth course will teach you how to diagnose and repair faults on the Delphi DFP 1, 3, 4 and 6 series of Common Rail pumps. You will perform test procedures to OE-approved standards using the Hartridge AVM2-PC test bench, specialist diagnostic tools and dedicated test plans.

Course Content

- Principles and operation of Delphi Common Rail fuel injection systems..
- Detailed understanding of the different types of Delphi Common Rail pumps.
- Importance of cleanliness standards.
- Common Rail pump (DFP1, DFP3, DFP4, DFP6 & DFP7), including system operation and key components.
- How to use the AVM2-PC test equipment including set-up and use.
- In-depth knowledge of Delphi Common Rail pump fault diagnosis and repair.

Electronic Unit Injector Repair (EUI)

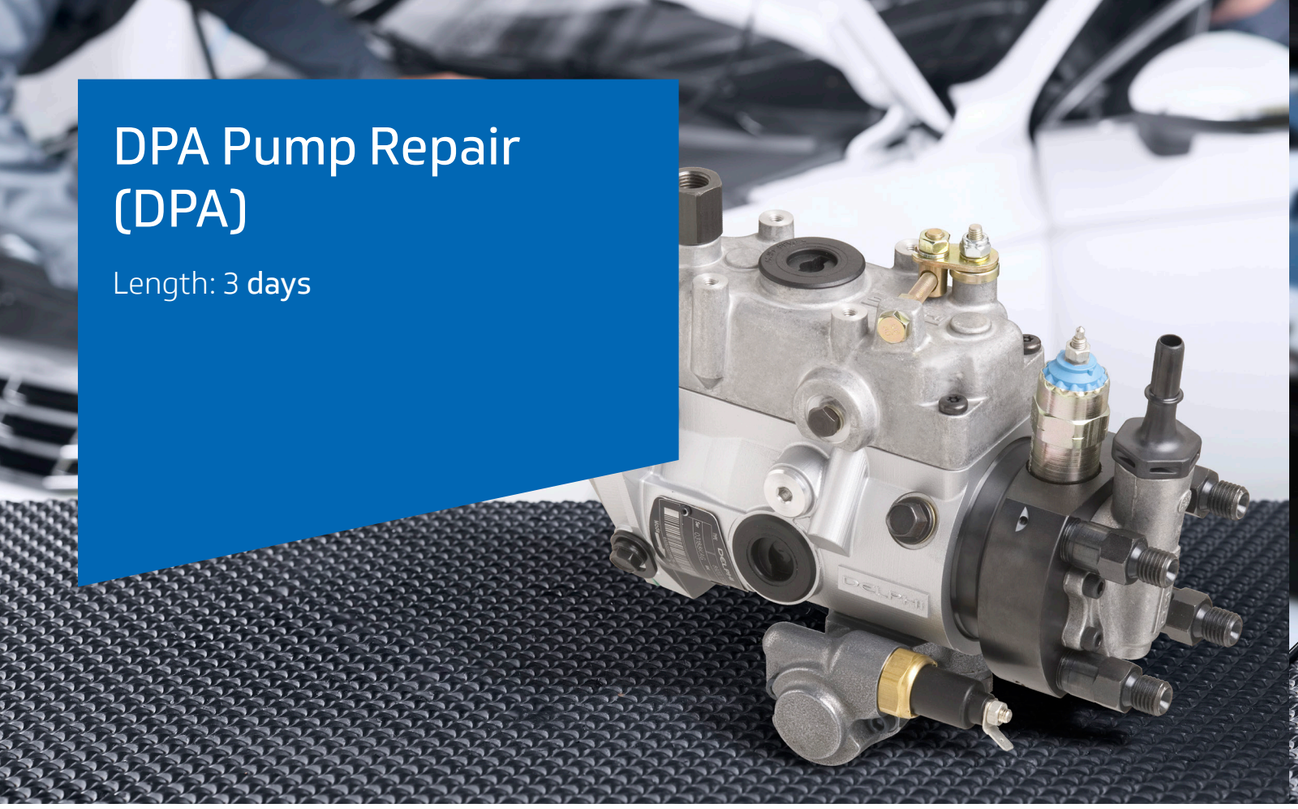
Length: **3 days**

Course Overview

Fitted to on and off highway applications, from 9 to 16 litres, including Volvo, Renault, Mack and Nissan, EUI presents a great service opportunity for workshops equipped with the right skills and knowledge. You won't want to miss out! And who better to learn from than the OE manufacturer. This course will teach you everything you need to know about EUI. On completion you will be able to diagnose and repair faults on the Delphi EUI series of injectors. This includes the ability to perform test procedures to exacting OE standards, using the Hartridge AVM2-PC test bench and other test equipment, as well as specialist tooling and exclusive technical data.

Course Content

- Principle and operation of Delphi Electronic Unit Injectors, covering Land Rover, A, E1 and E3 series.
- Detailed knowledge of the EUI constituent components.
- How to set-up and use authorised test equipment.
- In-depth understanding of Delphi EUI fault diagnosis and repair procedures.
- Overview of the Delphi Direct Evolution system.



DPA Pump Repair (DPA)

Length: 3 **days**

Course Overview

DPA, the best-selling rotary pump worldwide, has been around for a while. Revolutionary for its time, it set new standards for reliability and power. Consequently, there is still a significant parc of vehicles equipped with both DPA and DPS in the field today. And these will all require expert test and repair. This course has been designed to give you the skills to diagnose and repair DPA and DPS rotary pumps. Throughout the course, you will learn how to carry out test procedures to OE standards using the Hartridge AVM test bench and other test equipment. You will also learn how to use the appropriate tooling and technical data.

Course Content

- Principles and operation of direct (DI) and indirect (IDI) diesel combustion engines.
- Principles and operation of Delphi DPA and DPS diesel fuel pumps including the key variations.
- How to locate, read and interpret test plans, timing offsets and parts lists using Direct Evolution.
- Correct procedures for dismantling, inspecting, rebuilding, testing and adjusting DPA and DPS pumps.
- How to set-up and use the Hartridge AVM and other prescribed test benches.

DP210/310 Pump Repair (DP2)

Length: **4 days**

Course Overview

As the OE manufacturer, Delphi DP200 series fuel injection pumps are designed to keep on going and going and going. Your customers will expect the same when it comes to repair. Our extensive four-day course will give you the skills and knowledge required to perform a robust and accurate repair. You will learn how to diagnose, test and repair DP200, DP210 and DP310 pumps using authorised test equipment, tooling and technical data.

Course Content

- Principles and operation of direct (DI) and indirect (IDI) diesel combustion engines.
- Principles and operation of Delphi DPA and DPS diesel fuel pumps including the key variations.
- How to locate, read and interpret test plans, timing offsets and parts lists using Direct Evolution.
- Correct procedures for dismantling, inspecting, rebuilding, testing and adjusting DPA and DPS pumps.
- How to set-up and use the Hartridge AVM and other prescribed test benches.

VDO / Continental injector repair (AMC)

Length: 2 **days**

Course Overview

CR injector technology has been at the forefront of diesel for almost 20 years. Due to tight manufacturing tolerances injectors can be susceptible to early failure from a number of external factors as well as component failure. This course will cover the operation, and various designs of VDO injectors in detail. It will cover how to repair and replace internal components and the tooling requirements to do this. Finally it will cover testing the injector Delivery, response time and backleak in a non-authorised capacity (note this does not cover PPD injectors).

Course Content

- Overview of different VDO injector design.
- Injector operation in detail.
- Tooling requirements for repair.
- Repairing the injector.
- Testing the injector after repair on both Hartridge Sabre CRi-180 and IFT70.
- Creating all makes test plans with guidance on pressure and pulses.

Insitution of the motor industry

Automotive technician accreditation (ATA) & qualification credit framework (QCF)

Overview of the Accreditation.

The IMI Accreditation is recognition of your current competence and commitment to an ethical Code of Conduct. It is governed by the Institute of the Motor Industry (IMI) who are the professional association and Sector Skills Council for the Motor Industry.

The course content and structures are constantly reviewed to ensure they remain current to support skills needs in the sector. To achieve the accreditation, you must pass a series of practical skills and knowledge modules at an approved centre and sign the Code of Conduct. To maintain your accreditation, you must be reassessed every three years. There are various available within each of these courses.

Once you have passed all of the Assessed Outcome Modules (AOM) within a course, you will receive an accreditation card (photo identity card) which is valid for a period of three years. You will also be recognised through the IMI acredited technician public register which allows the consumer to view technicians that are currently competent.

Delphi's Accreditation Assessments & Courses.

Delphi's accrediations courses are carried out over a one day period (ADAS is 2 days), each section of the assessment is given an allotted period of time in which each task must be completed, the individual elements contain both practical and theory based application.

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