

Category	Category 2 <sup>nd</sup> tier	Category 3 <sup>rd</sup> tier	Category 4 <sup>th</sup> tier	Category 5 <sup>th</sup> tier	Chapter Number
Fundamentals	Electrics	Essential Electrical Skills	Introduction to Electrics		166909
Fundamentals	Electrics	Essential Electrical Skills	Voltage, Current and Resistance		147570
Fundamentals	Electrics	Essential Electrical Skills	Types of Circuit		166893
Fundamentals	Electrics	Essential Electrical Skills	The differences between DC and AC		166894
Fundamentals	Electrics	Essential Electrical Skills	Facts about Voltage		166895
Fundamentals	Electrics	Essential Electrical Skills	Fact One Explained		166896
Fundamentals	Electrics	Essential Electrical Skills	Fact Two Explained		166897
Fundamentals	Electrics	Essential Electrical Skills	Fact Three Explained		166898
Fundamentals	Electrics	Essential Electrical Skills	Fact Four Explained		166899
Fundamentals	Electrics	Essential Electrical Skills	Ohm's Law		166900
Fundamentals	Electrics	Essential Electrical Skills	NTC Coolant Temperature Sensor Circuit		172006
Fundamentals	Electrics	Essential Electrical Skills	Why Use Volt Drop?		170814
Fundamentals	Electrics	Essential Electrical Skills	Relays		177643
Fundamentals	Electrics	Essential Electrical Skills	Calculating Resistance of Series Circuits		166901
Fundamentals	Electrics	Essential Electrical Skills	Current flow through Parallel Circuits		166902
Fundamentals	Electrics	Essential Electrical Skills	Current flow and the unrestricted path		166903
Fundamentals	Electrics	Essential Electrical Skills	Calculating identical Parallel Resistances		166904
Fundamentals	Electrics	Essential Electrical Skills	Calculating differing Parallel Resistances		166905
Fundamentals	Electrics	Essential Electrical Skills	Calculating differing Parallel Resistances continued		166906
Fundamentals	Electrics	Essential Electrical Skills	Wiring Batteries into Circuits		166907
Fundamentals	Electrics	Essential Electrical Skills	Watt's Law		166908
Fundamentals	Electrics	Essential Electrical Skills	Essential Electrical Skills Course Test		167760
Fundamentals	Oscilloscopes	Principles of Oscilloscopes	Principles of Oscilloscope		147572
Fundamentals	Electrics	Further Electrics	Hall Effect		152119
Fundamentals	Electrics	Further Electrics	The Piezoelectric Effect		152120
Fundamentals	Electrics	Further Electrics	The Principles of MRE Sensors		152122
Fundamentals	Electrics	Further Electrics	Transformers		152129
Fundamentals	Electrics	Further Electrics	PWM		152135
Fundamentals	Electrics	Further Electrics	The Principles of PTC		163703

Fundamentals	Oscilloscopes	Advanced Oscilloscope Functionality	Triggers			147573
Fundamentals	Oscilloscopes	Advanced Oscilloscope Functionality	Rulers / Cursors			213154
Fundamentals	Measurement	Vernier Caliper				147601
Fundamentals	Measurement	Micrometer				216421
Fundamentals	Measurement	DTI – Dial Test Indicator				216942
Vehicle Electrics	Multiplexing	Types of Multiplexed Networks	MOST			147574
Vehicle Electrics	Multiplexing	Types of Multiplexed Networks	SENT			156132
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	12V Batteries and their Differences - Part 1		499467
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	12V Batteries and their Differences - Part 2		499468
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	12V Batteries and their Differences - End Test		503946
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	How Lead Acid Batteries Work – Part 1		517881
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	How Lead Acid Batteries Work – Part 2		517882
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	How Lead Acid Batteries Work – Part 3		517883
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	How Lead Acid Batteries Work – End Test		527676
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	Battery Construction		519860
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	Battery Construction – End Test		527677
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	Battery Capacities		523720
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	Battery Capacities – End Test		527678
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	State of Charge (SoC) - Part 1		527029
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	State of Charge (SoC) - Part 2		527030
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	State of Charge (SoC) – End Test		527667
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	Battery Diagnosis – Introduction		543298
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	Battery Diagnosis – Safety		543299
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	Battery Diagnosis – High Rate Discharge Testing		543300
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	Battery Diagnosis – Carbon Pile Load Testing		543301
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	Battery Diagnosis – PicoScope Testing		547212
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	Battery Diagnosis – Conductance Testing		548191
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	Battery Diagnosis – End Test		584192
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	Battery Charging – Rate of Charge		568375
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	Battery Charging – Connecting a charger		567985
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	Battery Charging – Off Vehicle Charging		567988
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	Battery Charging – Charging Voltage		567992
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	Battery Charging – Types of Chargers		568376
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	Battery Charging – Battery Support		568377
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	Jump Starting		582327
Vehicle Electrics	Starting and Charging	12V Batteries	12V - Lead Acid Batteries	Charging and Jump Starting – End Test		582328

Engine Management	Generic Sensors and Actuators	Sensors	Engine Speed Sensor- Inductive Type		142568
Engine Management	Generic Sensors and Actuators	Sensors	Camshaft Position Sensor		145061
Engine Management	Generic Sensors and Actuators	Sensors	The Relationship Between Crankshaft and Camshaft Sensor Signal		156166
Engine Management	Generic Sensors and Actuators	Actuators	The operation of a 6 pin Siemens VDO electronic throttle		262768
Engine Management	Petrol	Direct Fuel Injection Systems	High Pressure Fuel Supply	Introduction to Petrol Direct Injection Systems	163169
Engine Management	Petrol	Direct Fuel Injection Systems	High Pressure Fuel Supply	High Pressure Fuel Pump	163172
Engine Management	Petrol	Direct Fuel Injection Systems	High Pressure Fuel Supply	High Pressure Injectors- Piezo	163173
Engine Management	Petrol	Ignition Systems	Fundamental Principles of an Ignition Coil		177530
Engine Management	Petrol	Ignition Systems	Ignition Integrated Phase Detection		147468
Engine Management	Petrol	Ignition Systems	Operating Principles of Wasted Spark Ignition Systems		200694
Engine Management	Petrol	Emissions	Understanding Lambda		163701
Engine Management	Petrol	Emissions	Zirconium Dioxide Oxygen Sensor		177260
Engine Management	Petrol	Emissions	The Principles of Catalytic Converters		147469
Engine Management	Petrol	Emissions	Understanding 4 Gas Analysis	4 Gas Analysis – Introduction	468214
Engine Management	Petrol	Emissions	Understanding 4 Gas Analysis	4 Gas Analysis – Lambda	468215
Engine Management	Petrol	Emissions	Understanding 4 Gas Analysis	4 Gas Analysis – Air and Fuel	468216
Engine Management	Petrol	Emissions	Understanding 4 Gas Analysis	4 Gas Analysis – Perfect Combustion	470561
Engine Management	Petrol	Emissions	Understanding 4 Gas Analysis	4 Gas Analysis – True Combustion	471184
Engine Management	Petrol	Emissions	Understanding 4 Gas Analysis	4 Gas Analysis – The Role of the Catalytic Converter	471185

Engine Management	Petrol	Emissions	Understanding 4 Gas Analysis	4 Gas Analysis – Prechecks	471186
Engine Management	Petrol	Emissions	Understanding 4 Gas Analysis	4 Gas Analysis – True Catalytic Converter Operation	480035
Engine Management	Petrol	Emissions	Understanding 4 Gas Analysis	4 Gas Analysis – Deviations from Lambda 1	482951
Engine Management	Petrol	Emissions	Understanding 4 Gas Analysis	4 Gas Analysis – Fuelling Maps	483965
Engine Management	Petrol	Emissions	Understanding 4 Gas Analysis	4 Gas Analysis – Fuel Trim – The Theory	490199
Engine Management	Petrol	Emissions	Understanding 4 Gas Analysis	4 Gas Analysis – Fuel Trim – The Realities	490200
Engine Management	Petrol	Emissions	Understanding 4 Gas Analysis	4 Gas Analysis – Fuel Trim – Indicators of Common Faults	490201
Engine Management	Petrol	Emissions	Understanding 4 Gas Analysis	4 Gas Analysis – Diagnosing using a Gas Analyser	495166
Engine Management	Petrol	Emissions	Understanding 4 Gas Analysis	4 Gas Analysis – Diagnostic Scenarios	496893
Engine Management	Diesel	Diesel Components	Introduction to IMV Common Rail Diesel – Part 1		392805
Engine Management	Diesel	Diesel Components	Introduction to IMV Common Rail Diesel – Part 2		396325
Engine Management	Diesel	Diesel Components	Introduction to IMV Common Rail Diesel – End Test		396326
Engine Management	Diesel	Diesel Components	Diesel Particulate Filter (DPF) - The Chemistry of Combustion - Pt1		147457
Engine Management	Diesel	Diesel Components	Diesel Particulate Filter (DPF) - Operation - Part 2		378349
Engine Management	Diesel	Diesel Components	Diesel Particulate Filter (DPF) - Workshop Intervention - Part 3		387821
Engine Management	Diesel	Diesel Components	Diesel Particulate Filter (DPF) – End Test		387822
Engine Management	Diesel	Diesel Diagnostics	Leak-off Testing Solenoid Operated Diesel Injectors - Part 1		147456
Engine Management	Diesel	Diesel Diagnostics	Leak-off Testing Solenoid Operated Diesel Injectors - Part 2		358474
Engine Management	Diesel	Diesel Diagnostics	Leak-off Testing Solenoid Operated Diesel Injectors – End Test		358475

Engine Management	Diesel	Diesel Diagnostics	Testing Negative Pressure Low Pressure Supply Circuits – Pt. 1		429236
Engine Management	Diesel	Diesel Diagnostics	Testing Negative Pressure Low Pressure Supply Circuits – Pt. 2		431510
Engine Management	Diesel	Diesel Diagnostics	Testing Negative Pressure Low Pressure Supply Circuits – End Test		431511
Engine Management	Diesel	Diesel Diagnostics	Diagnosing Inlet Metered High Pressure Diesel Pumps - Part 1		450650
Engine Management	Diesel	Diesel Diagnostics	Diagnosing Inlet Metered High Pressure Diesel Pumps - Part 2		451686
Engine Management	Diesel	Diesel Diagnostics	Diagnosing Inlet Metered High Pressure Diesel Pumps - Part 3		453026
Engine Management	Diesel	Diesel Diagnostics	Diagnosing Inlet Metered High Pressure Diesel Pumps - Part 4		454622
Engine Management	Diesel	Diesel Diagnostics	Diagnosing Inlet Metered High Pressure Diesel Pumps – End Test		454623
Engine Mechanical	Diagnosis	Pressure Measurement	Relative Compression Testing		147838
Chassis	ABS	ABS	Calculating Slip Ratio		319719
Chassis	ABS	ABS	ABS – Four Channel Four Sensor System		147609
Chassis	Wheels and Tyres	Tyres	Tyre tread depth measurement		147647
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Introduction to hybrid	What is hybrid?		147775
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Introduction to hybrid	Hybrid Components		198479
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Introduction to hybrid	Types of hybrid		198480
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Introduction to hybrid	Introduction to hybrid technology End Test		200646
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Safety	Health Conditions and Working on Hybrid and Electric Vehicles		349628
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Safety	Ready Mode		147773
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Safety	Ready Mode - End Test		293694
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Safety	Electrocution		296286
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Safety	Electrocution – End Test		296287

Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Safety	Measuring High Voltage Safely		333831
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Safety	Measuring High Voltage Safely – End Test		333986
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Safety	Isolating the High Voltage Components ('03 - '09 Toyota Prius NHW20) - Part 1 - The Components		311269
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Safety	Isolating the High Voltage Components ('03 - '09 Toyota Prius NHW20) - Part 2 - The De-energising procedure		311270
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Safety	Isolating the High Voltage Components ('03 - '09 Toyota Prius NHW20) - Part 3 - Confirming the System is Safe to Work on		311272
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Safety	Isolating the High Voltage Components ('03 - '09 Toyota Prius NHW20) – End Test		311274
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Maintenance	Dealing with a Hybrid in the Workshop		147772
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Maintenance	Dealing with a Hybrid in the Workshop – End Test		298836
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Maintenance	Plug-in Hybrid and EV Charging – Safety		414563
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Maintenance	Plug-in Hybrid and EV Charging – Modes		414564
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Maintenance	Plug-in Hybrid and EV Charging – Plug Types		414565
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Maintenance	Plug-in Hybrid and EV Charging – User Experience		414566
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Maintenance	Plug-in Hybrid and EV Charging – End Test		414567
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Components	System Main Relays		147774
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Components	System Main Relays – End Test		302186
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Components	Hybrid Electric Motor Generators (Permanent Magnet Synchronous Motors) - Part 1		323640
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Components	Hybrid Electric Motor Generators (Permanent Magnet Synchronous Motors) - Part 1 – End Test		323838

Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Components	Nickel Metal Hydride Batteries – Part 1 – Introduction		338944
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Components	Nickel Metal Hydride Batteries – Part 2 – Battery Monitoring		339485
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Components	Nickel Metal Hydride Batteries – Part 3 – Data Analysis		342974
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Components	Nickel Metal Hydride Batteries – Part 4 – Electrolyte Leakage		344756
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Components	Nickel Metal Hydride Batteries – End Test		344763
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Components	Hybrid Braking Systems – Part 1		443622
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Components	Hybrid Braking Systems – Part 2		443623
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Components	Hybrid Braking Systems – Part 3		443624
Hybrid and Electric vehicles	Hybrid & plug in hybrid	Hybrid Components	Hybrid Braking Systems – End Test		443625
Hybrid and Electric vehicles	Hydrogen Fuel Cell Vehicles	An Introduction to Hydrogen Fuel Cell Vehicles			458305
HVAC	Air Conditioning	The AC Refrigerant Cycle	The AC Refrigerant Cycle – Part 1 - Introduction		147563
HVAC	Air Conditioning	The AC Refrigerant Cycle	The AC Refrigerant Cycle – Part 2 – The Properties of Refrigerant		236260
HVAC	Air Conditioning	The AC Refrigerant Cycle	The AC Refrigerant Cycle – Part 3 – Sensible Heat and Latent Heat		236261
HVAC	Air Conditioning	The AC Refrigerant Cycle	The AC Refrigerant Cycle – Part 4 – The Effect of Pressure on Boiling Point		236262
HVAC	Air Conditioning	The AC Refrigerant Cycle	The AC Refrigerant Cycle – Part 5 – The Cycle Explained		238964
HVAC	Air Conditioning	The AC Refrigerant Cycle	The AC Refrigerant Cycle – End Test		243243
HVAC	Air Conditioning	Components of the Air Conditioning System	Fixed Swash Plate Air Conditioning Compressor		147565
HVAC	Air Conditioning	Components of the Air Conditioning System	The operation of Electromagnetic Clutches		243228
HVAC	Air Conditioning	Components of the Air Conditioning System	Variable Displacement Swash Plate Air Conditioning Compressor Part 1		255067
HVAC	Air Conditioning	Components of the Air Conditioning System	Variable Displacement Swash Plate Air Conditioning Compressor Part 2		260973

HVAC	Air Conditioning	Components of the Air Conditioning System	The Fixed Orifice Tube Air Conditioning System		259146
HVAC	Air Conditioning	Components of the Air Conditioning System	Controlling Air Conditioning Systems – Part 1		269069
HVAC	Air Conditioning	Components of the Air Conditioning System	Controlling Air Conditioning Systems – Part 2		275815
HVAC	Air Conditioning	Components of the Air Conditioning System	Controlling Air Conditioning Systems – Part 3		277863
HVAC	Air Conditioning	Components of the Air Conditioning System	Controlling Air Conditioning Systems – End Test		277866
HVAC	Air Conditioning	Diagnostics	Air Conditioning Diagnostics - Part 1 - Introduction		147567
HVAC	Air Conditioning	Diagnostics	Air Conditioning Diagnostics - Part 2 - Insufficient Cooling at the Condenser		264222
HVAC	Air Conditioning	Diagnostics	Air Conditioning Diagnostics - Part 3 - Low Compressor Efficiency		264223
HVAC	Air Conditioning	Diagnostics	Air Conditioning Diagnostics - Part 4 - Blockage in the Refrigerant Circuit		264224
HVAC	Air Conditioning	Diagnostics	Air Conditioning Diagnostics - Part 5 - Low Refrigerant		264425
HVAC	Air Conditioning	Diagnostics	Air Conditioning Diagnostics - Part 6 - Variable Displacement Compressor Faults		264226
HVAC	Air Conditioning	Diagnostics	Air Conditioning Diagnostics - Part 7 - Summary		264227
HVAC	Air Conditioning	Diagnostics	Air Conditioning Diagnostics - End Test		265942
HVAC	Air Conditioning	Diagnostics	Air Conditioning System - Leak Detection		281118
HVAC	Air Conditioning	Diagnostics	Air Conditioning System - Leak Detection End Test		281122
HVAC	Air Conditioning	Servicing Air Conditioning Systems	Performance Testing Air Conditioning Systems		253300
HVAC	Air Conditioning	Servicing Air Conditioning Systems	Performance Testing Air Conditioning Systems – End Test		254605
HVAC	Air Conditioning	Servicing Air Conditioning Systems	The Lubricants of Air Conditioning Systems		253301
HVAC	Air Conditioning	Servicing Air Conditioning Systems	The Lubricants of Air Conditioning Systems – End Test		253302
HVAC	Air Conditioning	Servicing Air Conditioning Systems	Servicing Air Conditioning Systems – Part 1 Introduction		504588
HVAC	Air Conditioning	Servicing Air Conditioning Systems	Servicing Air Conditioning Systems – Part 2 Connecting the Machine		507212

HVAC	Air Conditioning	Servicing Air Conditioning Systems	Servicing Air Conditioning Systems – Part 3 Recovery		509921
HVAC	Air Conditioning	Servicing Air Conditioning Systems	Servicing Air Conditioning Systems – Part 4 Vacuuming Down the System		514257
HVAC	Air Conditioning	Servicing Air Conditioning Systems	Servicing Air Conditioning Systems – Part 5 Charging the System		515861
HVAC	Air Conditioning	Servicing Air Conditioning Systems	Servicing Air Conditioning Systems – End Test		541657
HVAC	Air Conditioning	Safety	Working Safely with Refrigerants		250043
HVAC	Air Conditioning	Legislation and Environmental Impact	Legislation and Environmental Impact - Part 1		583477
HVAC	Air Conditioning	Legislation and Environmental Impact	Legislation and Environmental Impact - Part 2		583478
HVAC	Air Conditioning	Legislation and Environmental Impact	Legislation and Environmental Impact – End Test		583479