

Introduction

This training course deals with battery technologies and their correct application

It will provide you with information on standard conventional batteries, industrial, as well as AGM and EFB batteries for vehicles with emission reduction systems.

The course consists of the following modules:

Why do vehicles need a battery?
Conventional battery selection
New technology battery selection
Improved performance application

Each module has its own training video, downloadable resources and some will be followed by a short multiple-choice test.

Once you have completed all modules there will be a final test to check your understanding and knowledge.

Once passed you will earn a certificate for the completion of this course.

Module 1 - Why do Vehicles Need a Battery?

All motor vehicles need a source of electrical energy to function.

This is required firstly to start the engine and to power electrical consumers such as anti-theft systems and control module memories prior to starting.

Once the engine has started the electrical demands of the vehicle are met by the charging system.

After engine starting the discharged battery is supplied with electrical energy from the charging system until recharged.

At this point battery charging stops to prevent internal battery damage and premature failure.

The process of discharging and recharging is known as one cycle.

Module 2 - Conventional Battery Selection

Different vehicles and customer driving styles place varying demands on the battery.

It is important to determine the correct replacement based on vehicle technology, customer driving style and vehicle usage.

Therefore, recommendation should not be based on specification or cost alone.

For conventional vehicles with standard ignition there is usually a tiered range suitable for the application.

This takes the form of standard fit, upgrade and upgrade plus.

When discussing replacement options for conventional vehicle types, carefully question the customer about the frequency and length of weekly journeys and annual mileage.

Short infrequent driving habits mean the charging system does not have enough time to recover and recharge the battery.

Over time this will result in the battery becoming deeply discharged and permanently damaged.

In these cases, to optimise performance and prolong service life install a higher specification battery.

Fitting low specification batteries without information on vehicle usage results in significantly reduced service life and means replacement will be required more frequently.

Module 3 - New Technology Battery Selection

Vehicles with advanced emission reduction technologies such as start-stop require a different battery technology to standard ignition vehicles.

It is essential that batteries on these vehicles are replaced with one of the correct technology and specification.

If a vehicle is fitted with an Original Equipment Absorbed Glass Mat or AGM battery its replacement must also be an AGM type. The same is applicable for Enhanced Flooded Batteries or EFB.

Conventional battery types are therefore not suitable for these applications. If incorrectly fitted as a replacement for AGM or EFB, vehicle faults will occur.

The battery will also fail prematurely due the plate damage caused by excessive cycling, recovery from deep depths of discharge and accelerated loss of plate material.

Therefore, fitting the incorrect battery technology and specification based on cost will result in increased warranty claims and customer complaints.

Module 4 - Improved Performance Application

Due to the design and technology we have already covered, AGM and EFB batteries can also be fitted to vehicles without advanced emission reduction technology.

Offering a significant increase in general durability, they can take more intensive use, are more robust and provide a far greater number of engine starts.

Ideal for equipment laden vehicles. The fact they accept charge more efficiently also means they give increased performance for drivers who make shorter irregular journeys.

As they are optimised for operation in a partial state of charge, they are an excellent upgrade for delivery vehicles, taxis and other drivers who make lots of short urban journeys.