



Don't get caught by fitting the wrong battery to an Idle Stop Start Vehicle -by Johnny Kennedy



Vehicles fitted with Idle Stop Start (ISS) systems are often referred to as mild or micro-hybrids. They have been developed by vehicle manufacturers to improve fuel efficiency and reduce CO₂ emissions to satisfy global carbon emission targets.

Basic ISS systems work by shutting off the engine when the vehicle is stationary. When the brake pedal is released or the accelerator depressed, the engine quickly re-starts, enabling the vehicle to be driven. In more advanced systems, the vehicle may also incorporate regenerative braking or engine power assistance technology. This technology has the ability to switch off the engine when the vehicle is coasting or braking as well as whilst stationary. By shutting off the engine manufacturers can eliminate the amount of fuel that would otherwise have been used, reducing both vehicle emissions and fuel consumption.

Vehicles fitted with Idle Stop Start systems place unique demands on the battery and conventional batteries should not be used in such vehicles. In a conventional system the battery operates in a close to full state of charge, and starts the vehicle a few times per day. In contrast Idle Stop Start batteries must be able to cycle constantly and start the vehicle multiple times in a journey, even when in a partial state of charge.

On average a conventional system starts the engine approximately 730 times a year. In comparison a vehicle with an ISS system, is expected to start around 17,500 times a year.

This is why it is so important to use a battery that has been designed to handle these requirements. Fitting a conventional battery in an ISS vehicle could potentially damage the electrical system and lead to early battery failure.

The number of vehicles being introduced into the market with Idle Stop Start technology is growing rapidly, driven by the relatively low cost of fitting these systems in comparison to hybrid and electric vehicles. At Century Batteries we have been monitoring ISS development over a number of years and it is the growth in this technology that we have introduced a range of premium ISS Batteries.

Century Batteries SIS Active range

Century SIS Active batteries are specially designed to satisfy the performance, fuel saving and CO₂ reducing benefits of Idle Stop Start systems. The extensive range includes EFB (Enhanced



Flooded Battery) and AGM (Absorbed Glass Mat) DIN and JIS type batteries which are a direct replacement to the OE battery fitted in the latest European and Asian ISS vehicles. Century SiS Active batteries deliver up to 35% more cranking performance and up to 3 x higher cycling endurance than standard flooded batteries.

The range incorporates innovative design features and advanced raw materials to provide the cycling performance to cope with frequent discharge and recharge cycles and high charge power to run on board electrics whilst the engine is switched off.

Century SiS ACTIVE batteries are also suitable for use in vehicles which do not incorporate Stop Start technology as they deliver improved starting power and enhanced cycling capabilities

AGM Idle Stop Start Batteries

The advanced AGM technology, suspends liquid electrolyte in highly porous glass fleece separators. These separators act as a sponge like material, absorbing the liquid electrolyte and exerting superior contact with the active material in the battery plates. This combines to deliver superior starting power, extreme cycle life, deep discharge capabilities and up to 3 times higher cycling endurance.



Century SiS ACTIVE AGM batteries are also ideal for use in standard high performance and luxury vehicles with high electrical loads.

EFB Idle Stop Start Batteries

Century EFB SiS ACTIVE batteries incorporate porous fibre materials and thicker battery plates for superior performance and longer life. The specialised low pressure contact material on the battery plates helps to retain active material and delivers the enhanced cycling capabilities demanded by Stop Start applications. Extremely durable grids help prevent against plate growth whilst denser active materials give 2 x higher cycling endurance than conventional batteries.



To ensure your business is ready to meet the demands of Idle Stop Start technology and to find out more information on Century's extensive range of SIS Active Batteries, contact your Century Batteries specialist on 1300 362 287 or visit www.centurybatteries.com.au

In our next issue we will talk about battery configuration and how more vehicles are requiring resetting of the computer when a new battery is installed.

Johnny Kennedy is the Automotive Training & Development Manager at Century Yuasa. www.centurybatteries.com.au

