PP-71 Modelling of an Electromagnetic Intake & Exhaust Control Hybrid Engine

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Modelling of an Electromagnetic Intake & Exhaust control engine for a more fuel-efficient hybrid electric vehicle will be conducted by developing a new electromagnetic system for controlling the ideal A/F mixture into engine and exhaust the emission from the engine. One of the ways the new engine cuts energy use is by reducing friction in the engine with eliminating the rotating and other parts making the engine lighter. The disk motor-generator will be used to couple with the output shaft of the engine which will eliminate the flywheel and the alternator and starter. So the engine will be able to cut carbon emission 90% and improve the efficiency of the engine compared to cars engine on the road today. The proposed engine will replace the cam follower, flywheel, alternator and starter motor with a high efficient motor-generator (designated and a super capacitor will be used as a sole power source for the car driving motor. The motor-generator (acts as a starter) will use power from the battery just to startup the engine. The power of the motor generator and regenerative braking system is used to charge the super capacitor. Since a super capacitor from the electrical motors is available for periods of rapid acceleration, the ICE can be down sized to match only the average load on the car, rather than sized by peak power "needs" for acceptable acceleration. The smaller internal combustion cam-follower-less engine will be designed to run more efficiently and make the power loss from the engine due to heat as low as possible since some of the load on the crankshaft will be replaced by designing the electromagnetic system. Furthermore, during normal operation the engine can be operated at or near its ideal speed and torque level for power, economy, or emissions, with the super capacitor absorbing or supplying power as appropriate to balance the demand placed by the driver. During traffic stops the internal combustion engine can even be turned off for even more economy. It is expected that the wave disk generator equipped with the propossed engine has the potential to make hybrid electric vehicles 4-5 times more efficient than combustion engines currently used in hybrid cars.

PP-79 A real-time PCR technique in the identification of over-stunned slaughtered chicken

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Chickens were water stunned before slaughtered was acceptable in Malaysia under certain condition prepared by MAJLIS FATWA and JAKIM. However, in some country like Brunei this method was not accepted at all. Even in Malaysia, it is unlawful when these chickens were stunned over the current limit that set by JAKIM. The previous study conducted identified a candidate biomarker that suitable to be used in developing a detection method for over stunned chicken. A real-time PCR technique was applied as a detection method in this study using our identified biomarker in developing a set of specific primers. This study was conducted to observe the effectiveness of a detection method developed for identifying chicken that were stunning over the current limit allowable by JAKIM. Results of this study showed that by applying this detection method we were able to differentiate a chicken that was slaughtered according to original Syara'i method compared to the one that over stunned prior to slaughtering and also able to develop a result within 3 hours.