Consumption Comparison of Different Modes of Operation of a Hybrid Vehicle at Kuwait

Ahmad M. Alkandari & Mukhtar M. Murad
College of Technological Studies,
Kuwait

***Abstract*—In this paper an analysis is presented which illustrates the comparison for three modes of operation namely all mechanical, all electrical and the hybrid mode for a hybrid vehicle for the conditions of Kuwait. The performance evaluates results in the possibility of avoiding costly field tests and the specific analyses might yield useful rules regarding a control system fitted in the vehicle to obtain the optimum mode according to road conditions. A test rig representing a hybrid system comprising of an engine unit coupled with a hydraulic dynamometer, a D.C. series motor serving as torque, an alternator and a battery pack of 10 lead-acid batteries had been used for the performance analysis. The planetary gear drive was incorporated in the transmission in order to have a continuously variable transmission and the possibility of charging the batteries.**

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