Abstracts

Measurement of TDC in Engine by Microwave Technique (Dec. 1985 [T-MTT])

T. Yamanaka, M. Esaki and M. Kinoshita. "Measurement of TDC in Engine by Microwave Technique (Dec. 1985 [T-MTT])." 1985 Transactions on Microwave Theory and Techniques 33.12 (Dec. 1985 [T-MTT] (1985 Symposium Issue)): 1489-1494.

A microwave technique for determining the top dead center (TDC) of an engine has been developed. Factors affecting systematic errors were investigated experimentally using high-resolution pulses (0.015°) and a uniquely designed probe. Consideration is made for cycle change of the cylinder wall temperature. The main factors are attributable to the thermal expansion of the cylinder and the cylinder pressure change. Under well-defined engine conditions, accuracy of ±0.1° CA (crank angle) is probable for TDC measurement. A static method was also employed for an accuracy cross-check.

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