

Title (en)
A FUEL INJECTION SYSTEM FOR AN INTERNAL COMBUSTION ENGINE

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Application
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EP 8900673 W 19890615

Abstract (en)
[origin: WO9015921A1] In a fuel injection system for an internal combustion engine, the system calculates the pulse width of the angle-synchronous fuel injection pulses from a main load sensor, such as an inlet manifold pressure sensor (22) or a hot film or hot wire air mass meter (24). Under rapidly-changing load conditions of the engine, the signal from the main load sensor is not sufficiently accurate to maintain a closely stoichiometric mixture. The present invention provides a throttle valve angle sensor for monitoring the degree of opening of an engine throttle (18), and means for changing the calculation of the basic angle-synchronous fuel injection signal when the measured rate of change of the throttle valve angle reaches a predetermined value. The change of calculation may comprise altering filtering characteristics of a filter function normally applied to the basic angle-synchronous fuel injection signal, altering the sampling of the signal from the engine load sensor, or deriving the basic angle-synchronous fuel injection signal from the throttle valve angle signal instead of from the main load sensor signal. Furthermore, the load change compensation may be changed to a calculation from the throttle valve load signal instead of the main load signal. The system may also be arranged to inject one or more intermediate asynchronous fuel injection pulses in between the normal angle-synchronous injections, to enable the fuel/air mixture to follow a rapid change in engine load more closely.

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• PATENT ABSTRACTS OF JAPAN vol. 10, no. 234 (M-507)(2290) 14 August 1986, & JP-A-61 66825 (JAPAN ELECTRONIC CONTROL SYST CO LTD) 05 April 1986
• PATENT ABSTRACTS OF JAPAN vol. 7, no. 265 (M-258)(1410) 25 November 1983, & JP-A-58 144635 (TOYOTA JIDOSHA KOGYO K.K.) 29 August 1983

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