

Title (en)

APPARATUS FOR INITIATING COMBUSTION OF FUEL-AIR MIXTURES IN AN INTERNAL COMBUSTION ENGINE

Publication

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Application

EP 90117487 A 19850226

Priority

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Abstract (en)

[origin: WO8503980A1] A system for initiating combustion of fuel, especially for internal combustion engines, employs a very rapid, intense high power electrical breakdown arc to increase the rate of combustion and thereby reduce the need for advanced engine timing. The use of a distribution circuit (46) which has exceptionally low inductance and resistance results in the rapid electrical breakdown and coupling of at least 50% of stored pulse energy to the breakdown arc channel within the first half period of the discharge current cycle. The resulting arc discharge effects detonation of the fuel mixture through the cooperative effects of photolysis, supersonic hydrodynamic shockwave and high temperature thermal plasma. High voltage pulse generation distribution and switching circuits (Figures 29-36) are provided. Several discharge electrode geometries and closely coupled pulse forming networks for the discharge device are disclosed.

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Citation (search report)

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