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(54) Title: LPG DIRECT INJECTION ENGINE

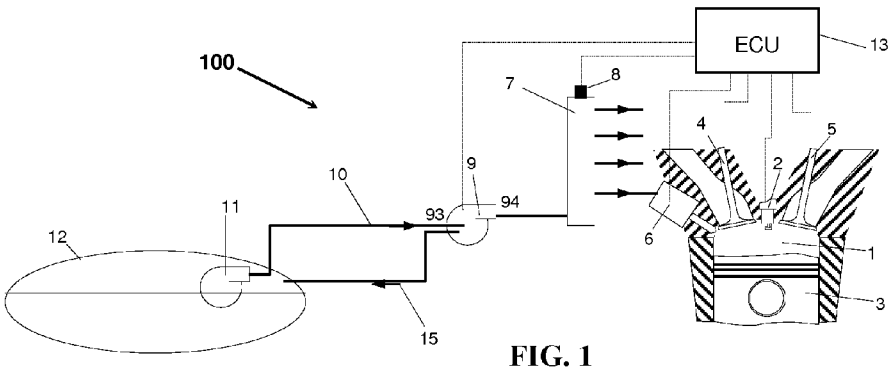


FIG. 1

(57) Abstract: The invention relates to a liquefied petroleum gas direct injection engine (100) comprising at least one cylinder comprising a combustion chamber (1) having a spark plug (2), one or more intake valve or valves (4) and one or more exhaust valve or valves (5). The LPG engine (100) further comprises at least one injector (6) for injecting liquefied petroleum gas in liquid state directly into the combustion chamber, the LPG being injected at a pre-established pressure value; a high pressure pump (9) for feeding pressurized liquefied petroleum gas to at least one injector (6); and an electronic control unit (13) configured to operate the at least one injector (6) for injecting the LPG during a specific injection time period or periods such that a predefined target mass of liquefied petroleum gas is injected, and between 360 ° BTDC and 60 ° BTDC of the engine cycle. The invention also refers to a control method of a liquefied petroleum gas direct injection engine (100).

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2011/000043 A1 (ORBITAL AUSTRALIA PTY LTD [AU]; WOOLFORD RICHARD ALBERT GEORGE [AU]) 6 January 2011 (2011-01-06)	1-5,7-12
A	page 8, line 3 - page 12, line 2; figures 1-2	6

Y	US 8 095 294 B1 (GRIFFITHS JOHN A J [CA] ET AL) 10 January 2012 (2012-01-10) column 8, line 55 - column 10, line 53; figures 1-5	1-5,7-12

Y	EP 1 333 168 A1 (FORD GLOBAL TECH INC [US] FORD GLOBAL TECH LLC [US]) 6 August 2003 (2003-08-06) paragraph [0019] - paragraph [0024]; figures 1-4	1-5,7-12

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[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	DE 103 41 089 A1 (SIEMENS AG [DE]) 28 April 2005 (2005-04-28) paragraph [0022] - paragraph [0040]; figure 1 -----	1-5,7-12

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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