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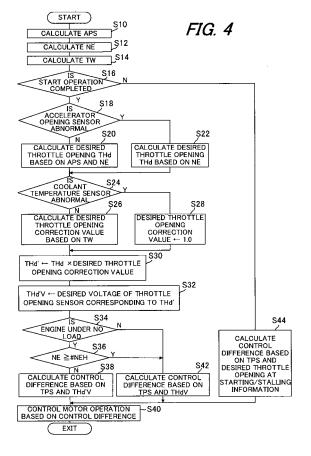
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(54) Control system for internal combustion engine

(57) In a system for controlling an internal combustion engine (12) mounted on a vehicle (10) and having an actuator (44) that drives a throttle valve (24) installed in an intake pipe (23) of the engine and an accelerator (17) installed to be operable by the operator, it is configured to comprise an actuator controller that controls the operation of the actuator such that the detected actual opening of the throttle valve becomes the desired opening calculated based on accelerator opening APS and engine speed NE, when the engine is determined to be under no load. With this, it becomes possible to prevent a stall of the engine without impairing operating feel of the operator even when an accelerator is rapidly opened during no load operation of the engine.





EUROPEAN SEARCH REPORT

Application Number EP 08 25 3550

	DOCUMENTS CONSID	ERED TO BE RELEVANT	1			
Category	Citation of document with i of relevant pass	ndication, where appropriate, ages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)		
X	EP 0 393 929 A1 (LU 24 October 1990 (19 * abstract * * column 1, lines 1 * claims * * figure 1 *	990-10-24)	1-4	INV. F02D11/10 ADD. F02D41/08 F02D41/10		
Х	JP 3 141839 A (NISS 17 June 1991 (1991- * the whole documer	-06-17)	1-4			
A,D	US 4 735 181 A (KAN 5 April 1988 (1988- * abstract * * column 1, lines 2 * claim 1 * * figures 9a, 9b *	-04-05)	1,3			
Α	[JP]; TAKEUCHI NOBU [JP]) 21 October 20 * abstract *	TOYOTA MOTOR CO LTD TAKA [JP]; NAGAI SHINJI 004 (2004-10-21) - [0006], [0043] -	1,3	TECHNICAL FIELDS SEARCHED (IPC) F02D		
A	GB 2 316 189 A (DEN 18 February 1998 (1 * abstract * * figures 5-8 *		1,3			
	The present search report has	been drawn up for all claims]			
	Place of search	Date of completion of the search	<u>'</u>	Examiner		
	The Hague	22 August 2012	Tro	tereau, Damien		
CATEGORY OF CITED DOCUMENTS X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document		E : earlier patent doc after the filing dat her D : document cited in L : document cited in	T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons 8: member of the same patent family, corresponding			

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 08 25 3550

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

22-08-2012

Patent document cited in search report			Publication date	Patent family member(s)		Publication date	
EP	0393929	A1	24-10-1990	DE DE DE DE EP EP EP US US	69017738 69017738 69024521 69024521 69032432 69032432 0393886 0393929 0393930 0555892 0556873 2286840 5062404 5074267	T2 D1 T2 D1 T2 A1 A1 A2 A2 A	20-04-19 17-08-19 15-02-19 30-05-19 23-07-19 03-12-19 24-10-19 24-10-19 24-10-19 18-08-19 25-08-19 27-11-19 05-11-19
JP	3141839	Α	17-06-1991	NON	 E		
US	4735181	A	05-04-1988	DE JP JP JP US	3714151 1944879 6072563 62255549 4735181	C B A	29-10-19 23-06-19 14-09-19 07-11-19 05-04-19
WO	2004090308	A1	21-10-2004	CN DE EP JP JP US WO	1761807 602004005172 1611332 4446676 2004308600 2006130810 2004090308	T2 A1 B2 A A1	19-04-20 15-11-20 04-01-20 07-04-20 04-11-20 22-06-20 21-10-20
GB	2316189	Α	18-02-1998	GB JP US	2316189 10047115 5899830	Α	18-02-19 17-02-19 04-05-19