(11) **EP 1 505 287 A3**

(12)

EUROPEAN PATENT APPLICATION

- (88) Date of publication A3: **30.03.2005 Bulletin 2005/13**
- (43) Date of publication A2: **09.02.2005 Bulletin 2005/06**
- (21) Application number: 04018397.2
- (22) Date of filing: 03.08.2004

(51) Int CI.7: **F02D 41/06**, F02D 41/08, F16F 15/14, F16F 15/131, F16F 15/12

(84) Designated Contracting States:

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IT LI LU MC NL PL PT RO SE SI SK TR
Designated Extension States:
AL HR LT LV MK

- (71) Applicant: ISUZU MOTORS LIMITED Shinagawa-ku, Tokyo (JP)

(30) Priority: 05.08.2003 JP 2003206054

- (72) Inventors:
 - Yamaguchi, Kazumi
 Fujisawa-shi, Kanagawa (JP)
 - Tanaka, Misao
 Fujisawa-shi, Kanagawa (JP)
- (74) Representative:

Schaumburg, Thoenes, Thurn, Landskron Patentanwälte Postfach 86 07 48 81634 München (DE)

- (54) Starting control method and system for internal combustion engine
- (57) A starting control method for an internal combustion engine (E) in which output of the engine (E) is transmitted to an external component through a flywheel (F), characterized in that if an engine rotating speed remains in a resonance rotating speed region of the flywheel (F) for a predetermined period when the engine

starts, a divergence control for controlling a fuel injection to make the engine rotating speed diverge from the resonance rotating speed region is performed. According to this, problems caused by the resonance between the crankshaft and the flywheel (F) at the time of engine starting can be prevented.

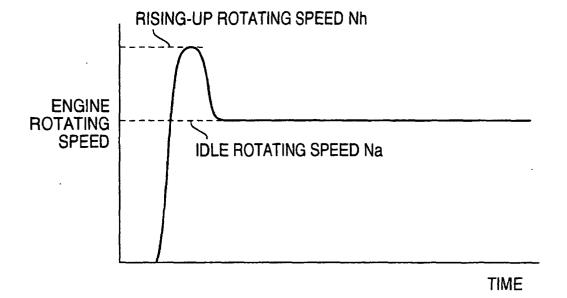


FIG.7a

EP 1 505 287 A3



EUROPEAN SEARCH REPORT

Application Number EP 04 01 8397

Category	Citation of document with indication of relevant passages	n, where appropriate,	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.CI.7)
X	DE 197 27 595 A1 (VOLKS WOLFSBURG, DE) 28 January 1999 (1999-0 * column 1, line 38 - l * column 3, line 1 - li * claim 1 *	1-28) ine 46 *	1,2,6,8,9,13	F02D41/06 F02D41/08 F16F15/14 F16F15/131 F16F15/12
P,A	DE 102 45 640 B3 (SIEME 8 April 2004 (2004-04-0 * the whole document * 	 NS AG) 8) 	1,8	
				TECHNICAL FIELDS SEARCHED (Int.Cl.7)
				F02D H02P F16F
	The present search report has been dr	·		
Place of search Munich		Date of completion of the search 3 February 2005	n _e	Examiner Vita, D
X ; parti Y : parti docu A : tech	ATEGORY OF CITED DOCUMENTS icularly relevant if taken alone icularly relevant if combined with another ument of the same category innological background -written disclosure	T : theory or princ E : earlier patent c after the filling d D : document cite L : document cite	ple underlying the in focument, but publis late d in the application I for other reasons	vention

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

EP 04 01 8397

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.

03-02-2005

F cite	Patent document ed in search report		Publication date		Patent family member(s)	Publication date
DE	19727595	A1	28-01-1999	NONE		
DE	10245640	В3	08-04-2004	NONE		
				. 		
			icial Journal of the Euro			

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82