



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
04.01.2012 Bulletin 2012/01

(51) Int Cl.:
F02D 41/02 (2006.01) **F02D 11/10** (2006.01)
B60W 30/18 (2012.01)

(43) Date of publication A2:
13.04.2011 Bulletin 2011/15

(21) Application number: **10186738.0**

(22) Date of filing: **06.10.2010**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME

(72) Inventors:
• **Takeuchi, Shinichi**
Aichi-ken 471-8571 (JP)
• **Saigo, Yusuke**
Aichi-ken 471-8571 (JP)

(30) Priority: **09.10.2009 JP 2009235282**

(74) Representative: **Albutt, Anthony John**
D Young & Co LLP
120 Holborn
London EC1N 2DY (GB)

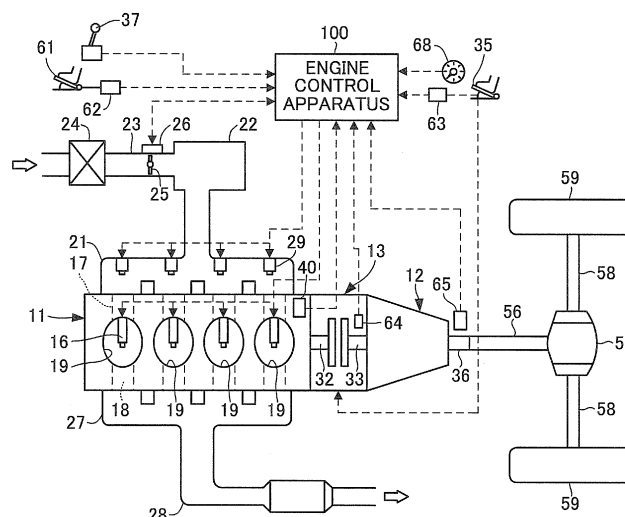
(71) Applicant: **Toyota Jidosha Kabushiki Kaisha**
Toyota-shi, Aichi-ken, 471-8571 (JP)

(54) **Vehicular control apparatus**

(57) A vehicular control apparatus for a vehicle having an accelerator pedal for increasing and decreasing an engine output, and a clutch pedal for changing between a transmission state transmitting a driving force outputted from the engine and a non-transmission state not transmitting the driving force, in which a vehicle speed, an accelerator pedal operation, and whether the clutch pedal starts changing from the non-transmission state to the transmission state are detected and, when

the vehicle speed being below a predetermined value, the operation of the accelerator pedal, and the start of changing the non-transmission state into the transmission state are detected, the engine is controlled based on a control amount including a first control amount corresponding to the accelerator pedal operation amount and a second control amount having a larger value when the accelerator pedal operation amount is large than when the accelerator pedal operation amount is small.

FIG.1





EUROPEAN SEARCH REPORT

Application Number
EP 10 18 6738

| DOCUMENTS CONSIDERED TO BE RELEVANT | | | |
|--|---|---|---|
| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (IPC) |
| X | DE 101 51 305 A1 (TOYOTA MOTOR CO LTD [JP]) 11 July 2002 (2002-07-11) * abstract; claims 1-6; figures 1-4 * * paragraph [0041] - paragraph [0064] * ----- | 1-7 | INV. F02D41/02 F02D11/10 B60W30/18 |
| X | DE 199 44 044 A1 (NISSAN MOTOR [JP]) 27 April 2000 (2000-04-27) * abstract; claims 1,2,8,9; figures 1,2 * * paragraph [0007] - paragraph [0016] * * paragraph [0023] - paragraph [0028] * ----- | 1-4,7 | |
| X | EP 1 455 071 A2 (HITACHI LTD [JP]) 8 September 2004 (2004-09-08) * abstract; claim 1; figures 4-6 * * paragraph [0023] - paragraph [0061] * ----- | 1-7 | |
| X | DE 100 61 431 A1 (DAIMLER CHRYSLER AG [DE]) 13 June 2002 (2002-06-13) * abstract; claims 1,3,4; figure 1 * * paragraph [0005] - paragraph [0017] * ----- | 1,4,5,7 | |
| X | US 5 184 301 A (STASELL MARK W [US]) 2 February 1993 (1993-02-02) * abstract; claim 1; figure 2 * * column 2, line 3 - column 2, line 48 * * column 3, line 52 - column 4, line 64 * ----- | 1,4,7 | TECHNICAL FIELDS SEARCHED (IPC) F02D |
| X | JP 3 032138 U (NEC CORP) 17 December 1996 (1996-12-17) * figure 5 * ----- | 1 | |
| The present search report has been drawn up for all claims | | | |
| Place of search The Hague | | Date of completion of the search 24 November 2011 | Examiner Van der Staay, Frank |
| 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 | | 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 & : member of the same patent family, corresponding document | |

1
EPO FORM 1503 03.82 (P04C01)

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

EP 10 18 6738

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.

24-11-2011

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|---|---------------------|----------------------------|---------------------|
| DE 10151305 A1 | 11-07-2002 | DE 10151305 A1 | 11-07-2002 |
| | | JP 2002130017 A | 09-05-2002 |
| DE 19944044 A1 | 27-04-2000 | DE 19944044 A1 | 27-04-2000 |
| | | JP 3593896 B2 | 24-11-2004 |
| | | JP 2000097073 A | 04-04-2000 |
| | | US 6276333 B1 | 21-08-2001 |
| EP 1455071 A2 | 08-09-2004 | CN 1526581 A | 08-09-2004 |
| | | EP 1455071 A2 | 08-09-2004 |
| | | JP 2004263647 A | 24-09-2004 |
| DE 10061431 A1 | 13-06-2002 | DE 10061431 A1 | 13-06-2002 |
| | | FR 2817808 A1 | 14-06-2002 |
| | | US 2002108834 A1 | 15-08-2002 |
| US 5184301 A | 02-02-1993 | NONE | |
| JP 3032138 U | 17-12-1996 | NONE | |