

#### Search history

Search 1: TAC=((ECU or Engine Control Unit) and fuel and (inclination or gyroscope or tilt)) (Results 110)  
Search 2: 1 and pedal\* (Results 35)

#### 1) Family number: 12534935 (US6346064B)

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#### Title: DRIVING FORCE CONTROL UNIT FOR VEHICLES

**Abstract:** A driving force control unit for a vehicle, which allows transmission of driving force from a driving motor to driving wheels irrespective of releasing an accelerator pedal at a certain or lower vehicle speed when a transmission is set in a driving range, and which switches the magnitude of the driving force while the accelerator pedal is released at vehicle speed no more than the certain vehicle speed between a greater condition and a smaller condition in accordance with depression of the brake pedal so that the driving force is made lower at a depression of the brake pedal than at a release of the brake pedal. In the driving force control unit, the driving force value in said greater condition upon switching from said smaller condition to said greater condition, at a release of the brake pedal during the time the vehicle stops, is increased or decreased according to an inclination angle of the vehicle at the time of stopping. Meanwhile, the increasing rate of said driving force upon switching from said smaller condition to said greater condition, at a release of the brake pedal during the time the vehicle stops, is increased or decreased based on a vehicle inclination angle when the vehicle stops.

#### Classifications:

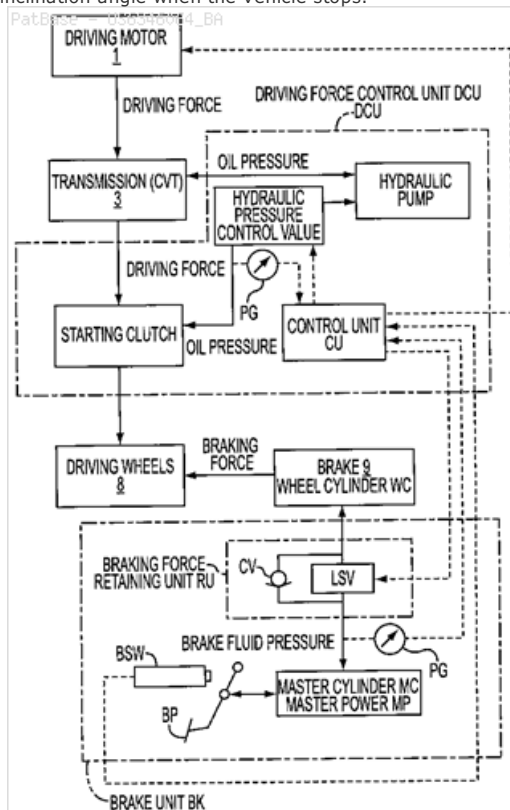
**International (IPC 8-9):** B60K23/00 B60K26/00 B60K6/04 B60K6/28 B60K6/48 B60K6/543 B60T7/04 B60T7/12 B60T7/22 B60W10/00 B60W10/02 B60W10/04 B60W10/06 B60W10/10 B60W10/18 B60W10/184 B60W20/00 B60W30/18 F02D17/00 F02D17/04 F02D29/00 F02D29/02 F02D41/04 F02D41/12 F02D45/00 F16D48/08 F16H59/44 (Advanced/Invention); B60W50/02 F16H61/66 (Advanced/Non-invention); B60K26/00 B60K6/00 B60T7/04 B60T7/12 B60T7/22 B60W10/06 B60W10/10 B60W10/18 B60W20/00 B60W30/18 F02D17/00 F02D29/02 F02D41/12 F02D45/00 (Core/Invention); B60W50/02 F16H61/66 (Core/Non-invention)

**International (IPC 1-7):** B60K23/00 B60K26/00 B60K41/00 B60K41/04 B60K41/20 B60K41/24 B60K41/26 B60K41/28 B60K6/04 B60T7/12 B60T7/22 F02D17/00 F02D17/04 F02D29/00 F02D29/02 F02D41/04 F02D41/12 F02D45/00 F16H59/44 H02P3/18

**CPC:** Y10S903/918 Y10S903/945 Y10S903/947 Y10S477/901 B60K6/48 B60K6/543 B60W10/101 B60W10/18 B60W30/18063 F02D11/105 B60W2710/0616 F02D41/107 F02D2200/602 Y02T10/48 Y02T10/6221 B60T2201/06 B60W2550/142 B60L2260/26 B60L2270/145 B60L2240/486 B60T7/042 B60T7/12 B60W30/18118 B60W2050/021 B60W2520/10 B60W2540/12 B60W2710/105 F16H61/66 B60W30/188 B60W2540/10 B60L2250/26 Y10T477/62423 Y10T477/6392 Y10T477/646 Y10T477/743 Y10T477/747 Y10T477/87 B60W10/04 B60W30/1819 B60W20/15 B60W10/06 B60W30/181 B60W20/00

**European:** B60K41/00D2 B60K41/20E B60K6/04 B60K6/04D10 B60K6/04D14 B60K6/04D2 B60K6/04F B60K6/04H4 B60K6/04T4C B60K6/48 B60K6/543 B60T7/04B B60T7/12 B60W10/04 B60W10/06 B60W10/10 B60W10/101 B60W10/18 B60W30/188 B60W30/18R5 B60W30/18R7 B60W30/18R9B F02D11/10B L60K6/04 L60K741/20E L60L240/486 L60T201/06 L60W20/00 L60W30/18R9B L60W50/02A2 L60W520/10 L60W540/10 L60W540/12 L60W550/14B L60W600/40B L60W710/06B L60W710/10F L60W900/60A R02D200/602 R02D41/10F R16H61/66 Y02T10/62F4

**US:** 180/65.2 180/65.25 180/65.27 180/65.28 318/139 318/376 477/171 477/173 477/203 477/47 477/74 477/901 477/93 903/918 903/926 903/940 903/941 903/945 903/947



#### Family:

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| CA2313284 AA       | 20010102         | CA20002313284      | 20000630         |
| CA2313284 C        | 20060328         | CA20002313284      | 20000630         |
| CA2313724 AA       | 20010108         | CA20002313724      | 20000707         |
| CA2313724 C        | 20060404         | CA20002313724      | 20000707         |
| DE10031816 A1      | 20010412         | DE20001031816      | 20000630         |
| DE10031816 B4      | 20090702         | DE20001031816      | 20000630         |
| DE60025414 D1      | 20060406         | DE20006025414T     | 20000630         |
| DE60025414 D1      | 20060406         | DE20006025414      | 20000630         |
| DE60025414 T2      | 20060727         | DE20006025414T     | 20000630         |
| EP1065091 A2       | 20010103         | EP20000113918      | 20000630         |
| EP1065091 A3       | 20040102         | EP20000113918      | 20000630         |
| EP1065115 A2       | 20010103         | EP20000113929      | 20000630         |
| EP1065115 A3       | 20040102         | EP20000113929      | 20000630         |
| EP1065115 B1       | 20060111         | EP20000113929      | 20000630         |
| JP2001018689 A2    | 20010123         | JP19990194073      | 19990708         |
| JP2001020776 A2    | 20010123         | JP19990189567      | 19990702         |

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| JP2001047893 A2 | 20010220 | JP19990224658 | 19990806 |
| JP3240560 B2    | 20011217 | JP19990189567 | 19990702 |
| JP3350815 B2    | 20021125 | JP19990194073 | 19990708 |
| JP3546401 B2    | 20040728 | JP19990224658 | 19990806 |
| US6346064 BA    | 20020212 | US20000634460 | 20000807 |
| US6358182 BA    | 20020319 | US20000613584 | 20000710 |
| US6388407 BA    | 20020514 | US20000610011 | 20000703 |

**Priority:**

JP19990189567 19990702 JP19990194073 19990708 JP19990224658 19990806  
CA20002313284 20000630 CA20002313724 20000707 CA20002313724 20000707

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**Agent(s):** MARKS AND CLERK; ISONO MICHIZO

**Designated states:** AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

**2) Family number: 41824278 (US2008228374A)**

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**Title:** FUEL INJECTION DEVICE AND ADJUSTMENT METHOD THEREOF

**Abstract:** A fuel injection device (fuel supply system) of a common rail type fuel injection system for an engine includes a pressure sensor disposed in a fuel inlet of an injector for measuring a fuel pressure at a position where the sensor is disposed and an ECU for sensing various kinds of pressure fluctuations associated with the injection including a pressure leak due to an injection operation of the injector and waving characteristics due to actual injection thereof based on sensor outputs from the pressure sensor. The ECU serially obtains the sensor outputs from the pressure sensor at intervals of 20 msec.

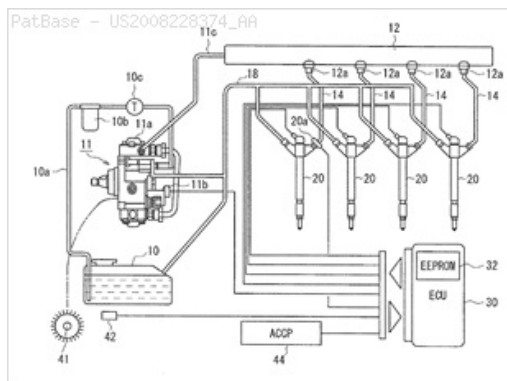
**Classifications:**

**International (IPC 8-9):** F02D3/00 F02D41/04 F02D41/36 F02D41/38 F02D41/40 F02D45/00 F02M47/02 F02M55/02 F02M57/00 F02M65/00 F02M69/54 G01M15/09 G06F17/00 G06F7/00 (Advanced/Invention); F02D3/00 F02D41/04 F02D41/32 F02D41/40 F02D45/00 F02M47/02 F02M55/02 F02M65/00 F02M69/46 G01M15/04 G06F17/00 (Core/Invention)

**CPC:** G01M15/09 F02D41/3809 F02D41/3836 F02D41/402 F02D2200/0602 F02D2200/0616 F02D2250/04 F02D2250/14 F02M47/027 F02M57/005 F02M2200/24 Y02T10/44

**European:** F02D41/38C F02D41/38C6 F02D41/40D F02M47/02D F02M57/00B G01M15/09 R02D200/0602 R02D200/0616 R02D250/04 R02D250/14 R02M200/24

**US:** 123/456 123/456S 701/103 701/103P 701/104 701/104S 701/105 701/105S 73/114.43 73/114.430S



**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| CN101182816 A      | 20080521         | CN200710169865     | 20071114         |
| CN101182816 B      | 20120523         | CN200710169865     | 20071114         |
| DE602007052140 D1  | 20171012         | DE200760052140T    | 20071113         |
| EP1925803 A1       | 20080528         | EP20070120573      | 20071113         |
| EP1925803 B1       | 20170621         | EP20070120573      | 20071113         |
| EP2378101 A1       | 20111019         | EP20110172994      | 20071113         |
| EP2378101 B1       | 20170823         | EP20110172994      | 20071113         |
| JP2008144749 A2    | 20080626         | JP20070210259      | 20070810         |
| JP4840288 B2       | 20111221         | JP20070210259      | 20070810         |
| US2008228374 AA    | 20080918         | US20070930668      | 20071031         |
| US9588016 BB       | 20170307         | US20070930668      | 20071031         |

**Priority:**

JP20060307399 20061114 JP20070210259 20070810 EP20070120573 20071113  
EP20110172994 20071113

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**Inventor(s):** TAKEUCHI KATSUHIKO KARIYA CITY ; ISHIZUKA KOUJI KARIYA CITY ; NAKATA KENICHIROU KARIYA CITY

**Agent(s):** TBK; NIXON AND VANDERHYE PC

**Designated states:** AL BA DE FR GB HR IT MK RS

**3) Family number: 52734343 (US2013041576A)**

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**Title:** SYSTEMS AND METHODS FOR SEMI-AUTONOMOUS CONVOYING OF VEHICLES

**Abstract:** The present invention relates to systems and methods for facilitating participants of vehicular convoys to closely follow one another through partial automation. Following closely behind another vehicle has significant fuel savings benefits, but is unsafe when done manually by the driver. On the opposite end of the spectrum, fully autonomous solutions require inordinate amounts of technology, and a level of robustness that is currently not cost effective.

**Classifications:**

**International (IPC 8-9):** B60K31/00 B60R16/023 B60W10/04 B60W10/06 B60W10/10 B60W10/184 B60W10/20 B60W10/22 B60W30/14 B60W30/165 B60W30/18 B60W40/12 B60W40/13 B60W50/06 B62D35/00 B62D37/02 G01C21/32 G01C22/00 G01C23/00 G01G19/02 G01G19/08 G01S13/92 G01S13/93 G01S19/07 G01S19/13 G01S19/14 G01S5/02 G05D1/00 G05D1/02 G06F15/16 G06F17/00 G06F21/30 G06K9/00 G06K9/62 G06Q50/30 G06T7/20 G07C5/00 G08G1/00 G08G1/09 G08G1/0968 G08G1/123 G08G1/16 H01Q1/32 H04L29/08 H04W12/02 H04W12/04 H04W4/029 H04W4/40 H04W4/46 H04W84/00 (Advanced/Invention); G01C23/00 G01S13/86 G01S13/92 G01S13/93 G01S17/93 G01S19/13 H04L29/08 H04W4/46 H04W84/00 (Advanced/Non-invention)



**CPC:** B60W10/06 B60W10/184 B60W30/165 B60W40/1005 B60W50/16 B60W2050/146 B60W2550/14 B60W2550/148 B60W2550/22 B60W2550/302 B60W2550/308 B60W2550/402 B60W2550/408 B60Y2200/147 G08G1/161 G01S13/931 G05D2201/0213 G08G1/166 G08G1/167 G08G1/202 G01S5/0294 G01S19/07 G01S2205/001 G01S2013/9321 G05D1/0257 G01S19/14 H01Q1/3233 G01C21/26 G05D1/0217 G01S13/93 B60W30/16 G01C22/00 G01C23/00 G05D1/0297 B60W40/12 B60W50/06 G01S13/66 G01G19/022 B60W2530/20 B60W2530/10 B60W2510/0657 B60W2520/28 B60W2300/12 B60W2550/306 B60W10/22 B60W10/20 B60W10/10 B60W30/14 B60W30/18 B60W2540/10 B60W2550/406 B60W2510/1005 B60W2710/0605 B60W2710/0627 B60W2710/0666 B60W2710/0661 B60W2710/20 B60W2710/22 B60W2710/1005 G05D1/0278 B60R16/0231 G01S19/13 G05D1/0088 G07C5/008 H04W4/46 H04W84/005 G05D1/0295 G06F21/30 G05D1/0027 H04W12/04 G01S13/865 G01S13/867 G01S17/936 G01S2013/9325 G01S2013/9342 G01S2013/9346 G01S2013/935 G01S2013/9353 G01S2013/936 G01S2013/9375 G06K9/00791 G06F21/44 G05D1/0285 G08G1/22 G05D1/0293 B60W40/13 H04W4/029 G01S13/86 B60W30/00 G01G19/086 G05D1/02 B60W10/04 G05D1/00 G08G1/00 G01S13/92 H04W4/44 H04W12/0017 H04W12/02 H04W12/04031 H04L67/12 H04W4/023 H04W4/38 H04W12/08 H04W4/40 H04L67/00 H04W84/00 G01S19/28 G01S19/51 G08G1/163 G08G1/164 G01S2013/9367

**US:** 280/292 296/180.1 298/8R 701/123 701/23 701/28 701/70 701/96 709/217

**Family:**

| Publication number | Publication date | Application number | Application date |
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| CA2841067 AA       | 20140106         | CA20122841067      | 20120706         |
| CA3004051 AA       | 20180502         | CA20163004051      | 20161102         |
| EP3341924 A1       | 20180704         | EP20160840242      | 20160826         |
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| JP2018531474 T2    | 20181025         | JP20180530644T     | 20160826         |
| US2013041576 AA    | 20130214         | US20120542627      | 20120705         |
| US2013066511 AA    | 20130314         | US20120542622      | 20120705         |
| US2014303870 AA    | 20141009         | US20140292583      | 20140530         |
| US2017242095 AA    | 20170824         | US20170590803      | 20170509         |
| US2017242443 AA    | 20170824         | US20170590715      | 20170509         |
| US2017261997 AA    | 20170914         | US20170607316      | 20170526         |
| US2018074514 AA    | 20180315         | US20170817038      | 20171117         |
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| US2018211546 AA    | 20180726         | US20180904419      | 20180225         |
| US2018217610 AA    | 20180802         | US20180936271      | 20180326         |
| US2018267559 AA    | 20180920         | US20180988905      | 20180524         |
| US2018314267 AA    | 20181101         | US20180028307      | 20180705         |
| US2019025857 AA    | 20190124         | US20180127114      | 20180910         |
| US2019035284 AA    | 20190131         | US20180144937      | 20180927         |
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| US9582006 BB       | 20170228         | US20120542627      | 20120705         |
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| US10152064 BB      | 20181211         | US20180908677      | 20180228         |
| US10162366 BB      | 20181225         | US20180028307      | 20180705         |
| US10216195 BB      | 20190226         | US20180988905      | 20180524         |
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| WO13006826 A3      | 20130321         | WO2012US45830      | 20120706         |
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**Priority:**

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| US20110505076P | 20110706 | US20120542622  | 20120705 | US20120542627  | 20120705 |
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| US20140292583  | 20140530 | US20150210374P | 20150826 | US20150855044  | 20150915 |
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| US20180988905  | 20180524 | US20180028307  | 20180705 | WO2018US41684  | 20180711 |
| US20180127114  | 20180910 | US20180144937  | 20180927 | US20180156459  | 20181010 |

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**Inventor(s):** WINTERS WILLIAM R ; CARROLL MATTHEW J ; SWITKES JOSHUA PHILLIP

**Agent(s):** GOWLING LAFLEUR HENDERSON LLP; GOWLING WLG CANADA LLP; GILL JENNINGS AND EVERY LLP; KANG S; JAMES E; SINGULARITY LLP; BEYER LAW GROUP LLP; ROSARIO CARLOS J; LIM KANG S; BEYER STEVE D; ROSE JAMES; BERNSTEIN FRANK L; BEYER STEVE D ET AL

**Designated states:** AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

4) Family number: 30244687 (US5204816A)

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**Title:** THROTTLE ERROR DETECTION LOGIC

**Abstract:** A fuel control system (100) for controlling the fueling of an internal combustion engine (E), and a fault detection system therefor, is provided. Signals (12, 17, 15, 16) indicative of the positioning of an operator controlled master unit (2) and of the slaved actuator (6,1) are compared to sense the existence of faults.

**Classifications:**

**International (IPC 8-9):** B60W30/18 F02D11/10 F02D41/22 F02D45/00 F02M51/00 F02M69/30 F16H59/24 G03F7/027 G03F7/038 G05B13/02 G06F11/00 G06F15/18 G06F15/82 G06F9/44 G06G7/60 G06N3/00 G06N3/02 G06N3/04 G06N7/02 G06N7/04 G06N99/00 G11C11/54 (Advanced/Invention); B60W50/02 F16H59/18 F16H61/04 F16H61/12 (Advanced/Non-invention); F02D41/22 G03F7/027 G03F7/038 G05B13/02 G06F15/18 G06F15/76 G06F9/44 G06G7/00 G06N3/00 G06N7/00 G06N99/00 G11C11/54 (Core/Invention)

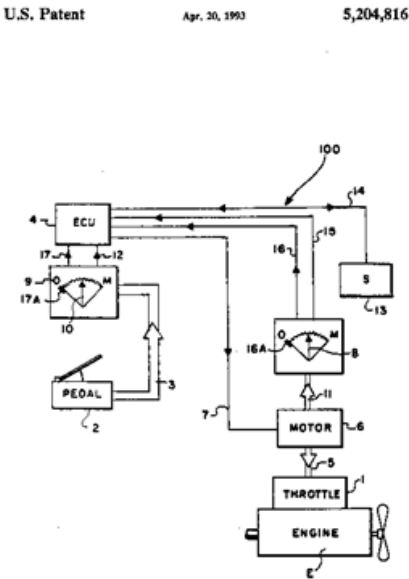
**International (IPC 1-7):** B60K41/06 F02D41/08 F02D41/14 F02D41/22 F02D45/00 F02M51/00 F02M69/30 G03F7/027 G03F7/038 G05B13/02 G06F11/00 G06F15/18 G06F15/20 G06F15/80 G06F15/82 G06F17/00 G06F9/44 G06G7/60 G11C11/54

**CPC:** G06N3/0436 G06N7/046 Y02T10/40 B60W10/04 B60W10/11 B60W30/1819 B60W30/18 B60W2050/021 B60W2710/065 F02D11/106 F02D41/22 F16H59/18 F16H59/24 F16H63/502 F16H2061/1208

**European:** B60K41/06E B60W30/18 F02D11/10D F02D41/22 F16H59/24 G06N3/04F G06N7/04N L60K741/06E L60W50/02A2 L60W600/40B L60W710/06D1 R16H59/18 R16H61/12D R16H63/50B

**US:** 123/479 364/424.03 364/431.05 364/431.11 395/10 395/11 395/22 395/3 701/104 701/107 701/114 706/2 706/4 706/46 706/47 706/6

PatBase - US5204816\_A



**Family:**

| Publication number | Publication date | Application number | Application date |
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| JP2761569 B2       | 19980604         | JP19900066852      | 19900319         |
| JP2763366 B2       | 19980611         | JP19900060256      | 19900312         |
| JP2763367 B2       | 19980611         | JP19900060259      | 19900312         |
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#### Priority:

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|------------------------|------------------------|------------------------|
| JP19900060256 19900312 | JP19900060258 19900312 | JP19900060260 19900312 |
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| JP19900060262 19900312 | JP19900060268 19900312 | JP19900060263 19900312 |
| JP19900066852 19900319 | JP19900066851 19900319 | GB19900007012 19900329 |
| JP19900197919 19900727 | WO1991JP00334 19910312 | CA19912039452 19910328 |

**Probable Assignee:** GENERAL ELECTRIC CO

**Assignee(s):** (std): FUJIFACOM CORP ; KONISHIROKU PHOTO IND ; FUJITSU LTD ; FUJI FACOM CORP ; FUJIFACOM SEIKYO K K ; EATON CORP ; FFC LTD ; FUJITSU K K ; KONICA MINOLTA TECHNOLOGY CENTER INC ; MITSUBISHI CHEMICAL CORP ; MITSUBISHI CHEM IND

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**Inventor(s):** KAWAMURA AKIRA ROOM 501 SANKYO BLDG ; ASAKAWA KAZUO 3 403 ABERIA ; OWADA YURI 4 D TOYOKANETSU KABUSHIKIGAISHA ; OKADA HIROYUKI 202 CHERRY HOUSE ; MATSUOKA SHIGENORI 6 29 18 SUGITA CHO ; MASUOKA RYUSUKE 9 7 KITASUNA 2 CHOME ; WATANABE NOBUO 2 508 TODATE ZAMA HAITSU

**Agent(s):** SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; BORDEN LADNER GERVAIS LLP; FETHERSTONHAUGH AND CO

**Designated states:** AT AU BE CA CH DE DK ES FR GB GR IT KR LU NL SE US

#### 5) Family number: 57413893 (US2016054735A)

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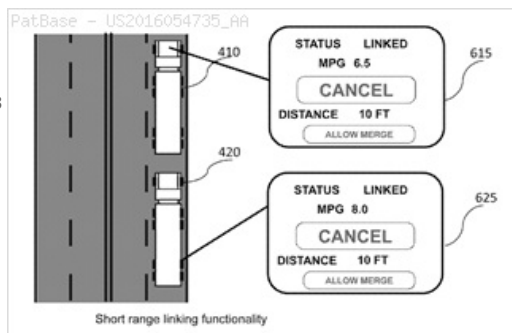
**Title:** VEHICLE PLATOONING SYSTEMS AND METHODS

**Abstract:** Systems and methods for coordinating and controlling vehicles, for example heavy trucks, to follow closely behind each other, or linking, in a convenient, safe manner and thus to save significant amounts of fuel while increasing safety. In an embodiment, on-board controllers in each vehicle interact with vehicular sensors to monitor and control, for example, relative distance, relative acceleration/deceleration, and speed. Additional safety features in at least some embodiments include providing each driver with one or more visual displays of forward and rearward looking cameras. Long-range communications are provided for coordinating vehicles for linking, and for communicating analytics to fleet managers or others.

#### Classifications:

**International (IPC 8-9):** B60K31/00 B60R16/023 B60T7/12 B60W10/04 B60W10/18 B60W10/20 B60W30/16 B60W30/165 G01C22/00 G01G19/00 G01G19/08 G01S13/88 G05D1/00 G05D1/02 G06F15/16 G06F17/00 G07C5/00 G08G1/00 G08G1/0968 G08G1/123 G08G1/16 G1C22/00 H04B7/26 H04L29/08 (Advanced/Invention); H04W84/00 (Advanced/Non-invention)

**CPC:** G05D1/0088 B60W30/165 B60W10/20 B60W10/04 H04W84/005 B60W2550/308 B60W2710/18 B60W2710/20 B60W2720/10 G05D1/0295 G08G1/22 G05D1/0217 G05D2201/0213 H04W4/44 G01S2013/9325 G05D1/0272 H04W84/18 G08G1/161 G01S2013/9367 G01S2013/936 G01S2013/9353 G05D1/0285 G05D1/0278 G01G19/022 B60W2710/22 B60W2710/1005 B60W2710/0666 B60W2710/0661 B60W2710/0627 B60W2710/0605 B60W2550/406 B60W2550/306 B60W2550/302 B60W2540/10 B60W2530/20 B60W2530/10 B60W2520/28 B60W2510/1005 B60W2510/0657 B60W2300/12 B60W30/18 B60W30/14 B60W10/22 B60W10/184 B60W10/10 B60W10/06 H04W4/46 G07C5/008 G01S19/13 B60W2550/408 B60R16/0231 B60W2750/308 B60W2710/09 B60W10/18 G01S19/14 B60W2750/40



B60W2540/18 B60W2540/12 B60W2420/52 H04L67/125 G05D1/0293 B60W40/13 G01S13/931 G01S2013/9346  
G01S2013/935 G01G19/086 G05D1/02 B62D15/026 G05D1/0223 H04W4/40 H04W12/0017 H04W12/02 H04W12/04031  
H04L67/12 G01S19/28 G01S19/51 G08G1/163 G08G1/164  
US: 701/23

Family:

| Publication number | Publication date | Application number | Application date |
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| US2018143651 AA    | 20180524         | US20180860024      | 20180102         |
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| WO17070714 A9      | 20170629         | WO2016US60167      | 20161102         |
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| WO18039114 A1      | 20180301         | WO2017US47771      | 20170821         |
| WO18039134 A1      | 20180301         | WO2017US47825      | 20170821         |

Priority:

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| US20110505076P | 20110706 | US20110542622  | 20110706 | US20120542622  | 20120705 |
| US20120542627  | 20120705 | US20130792304P | 20130315 | US20140855044  | 20140317 |
| WO2014US30770  | 20140317 | US20140292583  | 20140530 | US20150210374P | 20150826 |
| US20150855044  | 20150915 | US20150249898P | 20151102 | US20160343819P | 20160531 |
| US20160363192P | 20160715 | US20160377970P | 20160822 | WO2016US49143  | 20160826 |
| US20170489662P | 20170425 | US20170589124  | 20170508 | US20170605456  | 20170525 |
| US20170607316  | 20170526 | US20170607902  | 20170530 | WO2017US47825  | 20170821 |
| US20180860024  | 20180102 | US20180860333  | 20180102 | US20180860450  | 20180102 |
| US20180638794P | 20180305 | US20180926805  | 20180320 | US20180926809  | 20180320 |
| US20180926813  | 20180320 |                |          |                |          |

Probable Assignee: PELOTON TECHNOLOGY INC

Assignee(s): (std): BERDICHEVSKY EUGENE ; BOYD STEPHEN NORRIS ; GERDES JOSEPH CHRISTIAN ; LYONS DAVID FREDERICK ; SWITKES JOSHUA P ; PELOTON TECHNOLOGY INC ; PELOTON TECH INC ; PRICE CHARLES A ; STANEK GANYMED

Assignee(s): SCHUH AUSTIN ; SMARTT BRIAN ; O CONNOR MICHAEL

Inventor(s): (std): BAYLEY OLIVER T ; BERDICHEVSKY EUGENE ; BOYD STEPHEN NORRIS ; ERLIEN STEPHEN ; ERLIEN STEPHEN M ; ERLIEN STEPHEN MICHAEL ; GERDES JOSEPH C ; GERDES JOSEPH CHRISTIAN ; KEGELMAN JOHN CONNELLY ; KLAUS TODD CHRISTOPHER ; KUSZMAUL JAMES B ; LAUBINGER LORENZ ; LYONS DAVID F ; LYONS DAVID FREDERICK ; O CONNOR MICHAEL ; OCONNOR MICHAEL ; PRICE CHARLES A ; SCHUH AUSTIN ; SCHUH AUSTIN B ; SCHUH AUSTIN BENNETT ; SILVERMAN BRIAN JEREMY ; SMARTT BRIAN ; STANEK GANYMED ; SWITKES JOSHUA P ; SWITKES JOSHUA PHILIP ; TWITTY COLLEEN KELLY

Agent(s): GOWLING LAFLEUR HENDERSON LLP; GOWLING WLG CANADA LLP; SINGULARITY LLP; EAKIN JAMES E; BERNSTEIN FRANK L; BEYER STEVE D

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

6) Family number: 54183630 (US2015006045A)

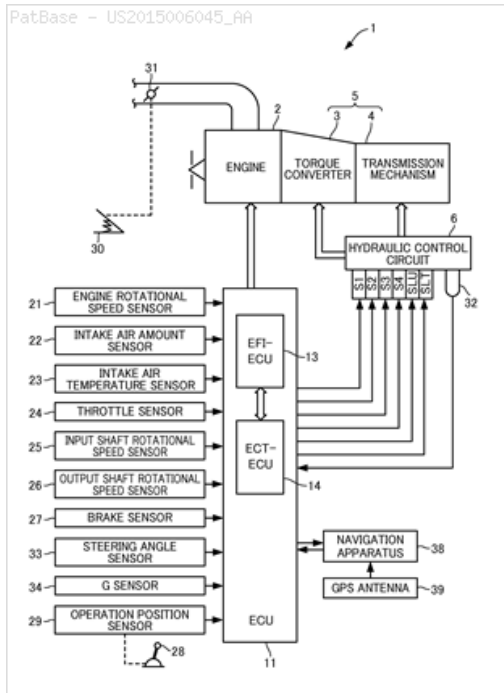
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Title: VEHICLE CONTROL APPARATUS

Abstract: Provided is a vehicle control apparatus that can improve a gasoline mileage without imparting the sense of discomfort to a driver. When an ECU determines that the brake is turned ON during an N inertia travel control ("YES" in step S11), the ECU stores a current position and a current vehicle speed in a learning DB (Step 12). Next, the ECU matches a data of the current position and the vehicle speed similar to the data of the current position and the vehicle speed stored this time, with reference to the information associated with a section inclusive of the current position (Step S13). Thereafter, when the ECU determines that there are equal to or more than a predetermined number of similar cases ("YES" in step S14), the ECU sets the section referenced in the step S13 as an N inertia travel prohibition section.

Classifications:

International (IPC 8-9): B60K6/445 B60W10/04 B60W10/08  
B60W10/11 B60W10/18 B60W10/184 B60W20/00 B60W30/18  
B60W30/182 B60W50/00 B60W50/10 F16H59/22 F16H61/02  
G01C21/26 G08G1/00 (Advanced/Invention);  
B60W50/00 (Advanced/Non-invention)  
CPC: B60W30/18 B60K6/445 B60W10/184 B60W20/00  
B60W2030/1809 B60W2050/0089 B60W2530/14 B60W2540/12  
B60W2550/142 B60W2550/143 B60W2550/402 Y02T10/6239  
B60W30/18072 B60W2540/18 B60W2550/146 B60W2540/10  
Y02T10/76  
US: 1/1 701/51

**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
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| EP2796332 A4       | 20170322         | EP20110878114      | 20111220         |
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| JP2013093962 A1    | 20150427         | JP20130549945T     | 20111220         |
| JP5846218 B1       | 20160120         | JP20130549945T     | 20111220         |
| US2015006045 AA    | 20150101         | US20110365426      | 20111220         |
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| WO13093962 A1      | 20130627         | WO2011JP07117      | 20111220         |

**Priority:**

WO2011JP07117 20111220

**Probable Assignee:** TOYOTA JIDOSHA KK**Assignee(s):** (std): KIM JONGGAP ; MOTOZONO YOSHIKAZU ; SHONO SHOICHI ; UEDA AKIHIRO ; TOYOTA MOTOR CO LTD ; TOYOTA MOTOR CORP**Assignee(s):** TOYOTA JIDOSHA KK**Inventor(s):** (std): UEDA AKIHIRO ; SHONO SHOICHI ; MOTOZONO YOSHIKAZU ; KIM JONGGAP**Agent(s):** ALBUTT ANTHONY JOHN; D YOUNG AND CO LLP; SUGHRUE MION PLLC; ARIGA GUNICHIRO ET AL

**Designated states:** AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

**7) Family number: 10482985 (US5553579A)**

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**Title:** FUEL INJECTION SYSTEM FOR TWO-CYCLE ENGINE

**Abstract:** A two-cycle crankcase compression direct injected internal combustion engine having a combustion chamber formed by a recess in the cylinder head in which a gap of the spark plug extends. The direct fuel injector sprays into this recess and has a first nozzle port that is directed toward the spark plug gap and at least two other nozzle ports that are directed into the recess but above the head of the piston. This achieves good stratification. The timing of the injection is such at least under low load and low speed conditions that the fuel patch will reach the spark plug at about the time it fires. A staged automatically operated throttle valve system is provided for insuring excess air to aid in the stratification and permit lean burn running.

**Classifications:**

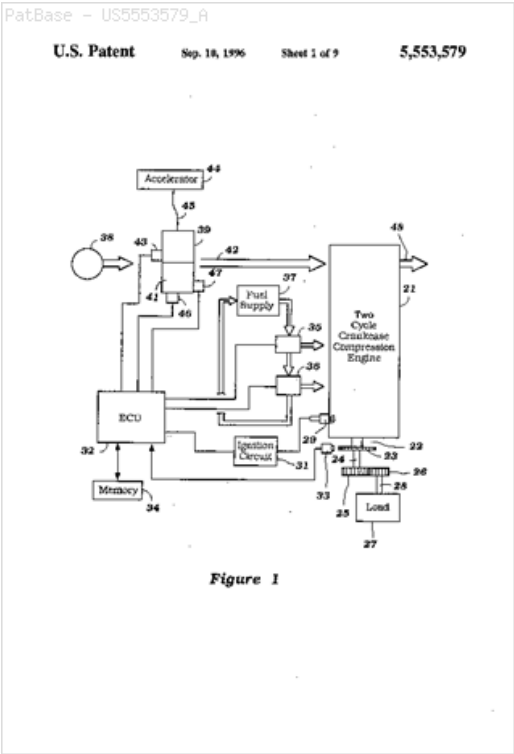
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**International (ipc 1-7):** F02B17/00 F02B23/10 F02D13/02 F02D35/00 F02D41/14 F02D9/02 F02D9/08 F02M61/14 F02M61/18 F02M69/04 F02M69/10

**CPC:** Y02T10/123 F02D13/0284 F02B1/04 F02B17/005 F02B33/04 F02B2075/025 F02B2075/125 F02D9/02 F02D9/1055 F02D35/003 F02D41/1475 F02D41/3023 F02D2009/0257 F02D2009/0279 F02D2400/04 F02M69/04 F02M69/045 Y02T10/12 Y02T10/14 Y02T10/18

**European:** F02B17/00D F02D13/02B F02D13/02R2 F02D35/00D2B

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F02M69/04C3 R02B1/04 R02B33/04 R02B75/02S2 R02B75/12D  
R02D400/04 R02D9/02T212 R02D9/02T330  
US: 123/295 123/299 123/336 123/73.00C 123/73C



Family:

| Publication number | Publication date | Application number | Application date |
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| EP0661431 A2       | 19950705         | EP19940120848      | 19941228         |
| EP0661431 A3       | 19950920         | EP19940120848      | 19941228         |
| EP0661431 B1       | 19980429         | EP19940120848      | 19941228         |
| JP7189875 A2       | 19950728         | JP19930336428      | 19931228         |
| US5553579 A        | 19960910         | US19940362799      | 19941222         |

Priority:

JP19930336428 19931228

Probable Assignee: YAMAHA MOTOR CO LTD

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Assignee(s): YAMAHA HATSUDOKI K K ; YAMAHA HATSUDOKI K K IWATA SHIZUOKA JP ; YAMAHA HATSUDOKI KABUSHIKI KAISHA ; YAMAHA HATSUDOKI KK

Inventor(s): (std): HIRAI RYOICHI ; RYOICHI HIRAI ; SUZUKI TAKAHIRO ; TAKHIRO SUZUKI ; YOSHIDA TAKAO ; YOSHIDA TAKEO ; TAKAHIRO TAKEO YOSHIDA ; SUZUKI RYOICHI HIRAI

Inventor(s): SUZUKI RYOICHI HIRAI IWATA SHI SHIZUOKA KEN 438 JP ; TAKAHIRO TAKEO YOSHIDA IWATA SHI SHIZUOKA KEN 438 ; TAKAHIRO TAKEO YOSHIDA IWATA SHI SHIZUOKA KEN ; TAKAHIRO TAKEO YOSHIDA IWATA SHI SHIZUOKA KEN 438 JP

Designated states: DE GB

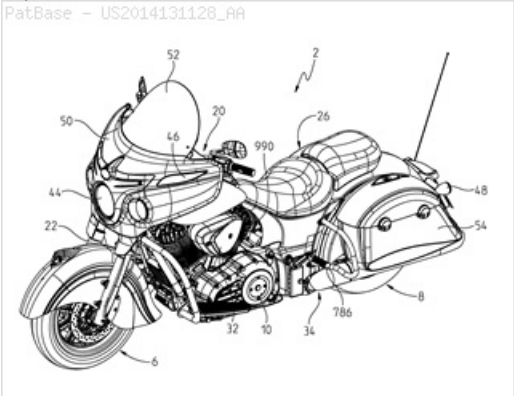
8) Family number: 56436717 (US2014131128A) © PatBase

Title: TWO-WHEELED VEHICLE

Abstract: A two-wheeled vehicle includes a frame, a plurality of ground-engaging members for supporting the frame, and an engine supported by the frame and operably coupled to the ground-engaging members. Additionally, the two-wheeled vehicle includes a windshield assembly operably coupled to the frame and an adjustment member operably coupled to the windshield assembly. A vehicle control unit is operably coupled to the adjustment member and is configured to automatically actuate the adjustment member for adjusting the position of the windshield assembly.

Classifications:

International (IPC 8-9): B60K13/02 B60K13/04 B62J15/00 B62J17/02 B62J17/04 B62J9/00 B62K11/02 B62K11/04 B62K21/04 B62K23/00 B62M7/02 F01L13/08 F01N13/10 F02D41/06 F02D41/24 F02M35/02 F02M35/10 F02M35/16 F02N11/08 F16B13/08 (Advanced/Invention); B62K21/02 (Advanced/Non-invention)  
CPC: F02M35/162 F01N13/10 F02D41/24 B62J17/04 B60K13/04 B62J17/02 B62K21/04 F01L13/085 F01L2105/00 B62K11/04 B62K23/00 F02M35/02 F02M35/10013 F02D41/062 B62K21/02 B60K13/02 B62J9/001 B62K11/02 B62J15/00 B62M7/02 F02N11/0803 F02N11/0807 F16B13/0841  
US: 1/1 180/219 224/413 280/279 280/281.1 60/321 60/323 701/102 701/99



Family:

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| CA2890734 AA       | 20150507         | CA20132890734      | 20131112         |
| EP2917094 A2       | 20150916         | EP20130798820      | 20131112         |
| US2014131128 AA    | 20140515         | US20130078487      | 20131112         |
| US2014131129 AA    | 20140515         | US20130078491      | 20131112         |
| US2014136076 AA    | 20140515         | US20130078510      | 20131112         |
| US2016280324 AA    | 20160929         | US20160173229      | 20160603         |
| US2016318569 AA    | 20161103         | US20160210584      | 20160714         |
| US2018162474 AA    | 20180614         | US20180883231      | 20180130         |
| US9381803 BB       | 20160705         | US20130078491      | 20131112         |
| US9421860 BB       | 20160823         | US20130078487      | 20131112         |
| US9908577 BB       | 20180306         | US20130078510      | 20131112         |
| US10189524 BB      | 20190129         | US20160173229      | 20160603         |
| WO14075091 A2      | 20140515         | WO2013US69726      | 20131112         |
| WO14075091 A3      | 20140912         | WO2013US69726      | 20131112         |

#### Priority:

|                         |                         |                         |
|-------------------------|-------------------------|-------------------------|
| US20120437022F 20121112 | US20120725440P 20121112 | US20120437022F 20121122 |
| US20130773708P 20130306 | US20130078491 20131112  | US20130078487 20131112  |
| US20130078510 20131112  | WO2013US69726 20131112  | US20160173229 20160603  |
| US20160210584 20160714  | US20180883231 20180130  |                         |

**Probable Assignee:** INDIAN MOTORCYCLE INT LLC

**Assignee(s):** (std): INDIAN MOTORCYCLE INT LLC

**Assignee(s):** LENTON RYAN P ; HITT BRIAN J ; GALSWORTHY DAVID A ; KAESER BLAINE D ; LANGLOIS BRIAN K ; LENGUEL JOHN S ; KAHL DONALD W ; POLARIS IND INC ; NOVAK ANDREW J ; OAKDEN GRAUS JONATHON P ; WENGER URS ; ZELLMER CLARK ; WOLF JEFFREY P ; SCHAFER NICHOLAS J ; SCHUHMACHER KORY J ; MCKOSKEY G JAY ; OLTMANS JEFFREY D ; ARAMAYO GUSTAVO A ; BEACH CRAIG M ; BREW GREGORY C ; DAVIS CLARK D

**Inventor(s):** (std): ZELLMER CLARK E ; ZELLMER CLARK ; WOLF JEFFREY P ; WENGER URS ; SCHUHMACHER KORY J ; SCHAFER NICHOLAS J ; OLTMANS JEFFREY D ; OAKDEN GRAUS JONATHON P ; NOVAK ANDREW J ; MCKOSKEY G JAY ; LENTON RYAN P ; LENGUEL JOHN S ; LANGLOIS BRIAN K ; KAHL DONALD W ; KAESER BLAINE D ; HITT BRIAN J ; GALSWORTHY DAVID A ; DAVIS CLARK D ; BREW GREGORY C ; BEACH II CRAIG M ; BEACH CRAIG M ; ARAMAYO II GUSTAVO A ; ARAMAYO GUSTAVO A ; LENTON II RYAN P

**Inventor(s):** MCKOSKEY G

**Agent(s):** SIM AND MCBURNEY; MARKS AND CLERK; REUTELER AND CIE SA; FAEGRE BAKER DANIELS LLP; VAN DALEN JESSICA L

**Designated states:** AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT HW HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

#### 9) Family number: 15218760 (US4912926A)

© PatBase

**Title:** Air/fuel ratio control system for internal combustion engine

**Abstract:** An air/fuel ratio control system is provided for an internal combustion engine. The system includes first and second oxygen density sensors, an air/fuel ratio control device and a standard-value changing device. The first oxygen density sensor is arranged on an upstream side of a catalytic converter, while the second oxygen density sensor is provided either inside or on a downstream side of the catalytic converter. The air/fuel control device controls the air/fuel ratio of the internal combustion engine on the basis of results of comparison between a detection value from one of the first and second oxygen density sensors and a predetermined standard value. The standard-value changing device changes the standard value on the basis of outputs from the first and second oxygen density sensors.

#### Classifications:

**International (IPC 8-9):** F02D41/00 F02D41/14 (Advanced/Invention);

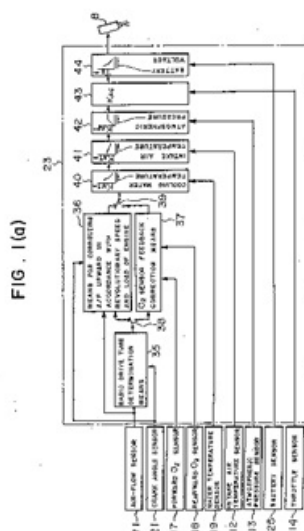
F02D41/00 F02D41/14 (Core/Invention)

**International (IPC 1-7):** F02D41/14 G01N21/00 G01N27/416

**CPC:** F02D41/1441 F02D41/1479

**European:** F02D41/14D1D F02D41/14D7B

**US:** 123/489 123/691 60/276 60/285

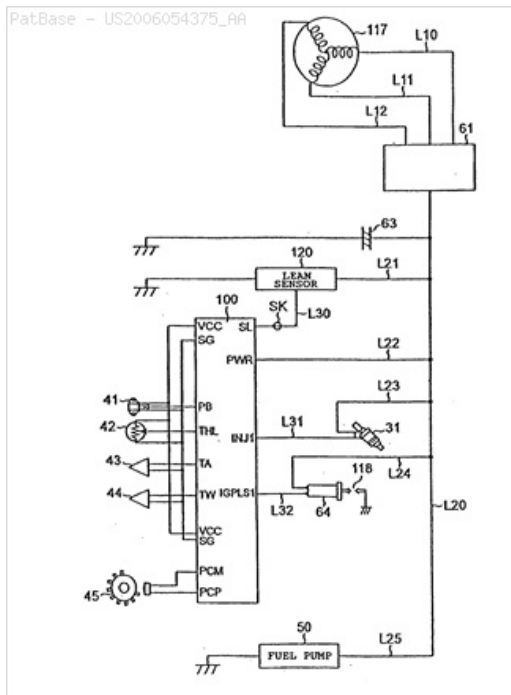


| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| DE3865886 D1       | 19911205         | DE19883865886      | 19880509         |
| EP0292175 A2       | 19881123         | EP19880304197      | 19880509         |
| EP0292175 A3       | 19890118         | EP19880304197      | 19880509         |
| EP0292175 B1       | 19911030         | EP19880304197      | 19880509         |
| JP1053043 A2       | 19890301         | JP19880096305      | 19880419         |
| JP2748267 B2       | 19980506         | JP19880096305      | 19880419         |
| JP64053043 A2      | 19890301         | JP19880096305      | 19880419         |
| KR19880014241 A    | 19881223         | KR19880005586      | 19880511         |
| KR930007608 B1     | 19930813         | KR19880005586      | 19880511         |
| KR930007609 B1     | 19930813         | KR19930005277      | 19930331         |
| US4912926 A        | 19900403         | US19880190259      | 19880504         |

JP19870113982 19870511 JP19870115229 19870512 KR19880005586 19880511  
KR19930005277 19930331

**Designated states:** DE FR GB

**US:** 180/282 180/283

**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| ES2284343 AA       | 20071101         | ES20050002110      | 20050826         |
| ES2284343 BA       | 20080801         | ES20050002110      | 20050826         |
| ITTO20050552 A1    | 20060314         | IT2005T000552      | 20050804         |
| JP2006077724 A2    | 20060323         | JP20040265229      | 20040913         |
| JP4208804 B2       | 20090114         | JP20040265229      | 20040913         |
| US2006054375 AA    | 20060316         | US20050220858      | 20050907         |
| US7487855 BB       | 20090210         | US20050220858      | 20050907         |

**Priority:**

JP20040265229 20040913

**Probable Assignee:** HONDA MOTOR CO LTD**Assignee(s):** (std): HONDA MOTOR CO LTD**Assignee(s):** HONDA MOTOR CO**Inventor(s):** (std): KAKINUMA HIROYUKI**Inventor(s):** HIROYUKI KAKINUMA**Agent(s):** CARRIER BLACKMAN AND ASSOCIATES; CARRIER BLACKMAN AND ASSOCIATES PC; BLACKMAN WILLIAM D; CARRIER JOSEPH P; JOSEPH P; WILLIAM D**11) Family number: 27923951 (US2003022755A)**

© PatBase

**Title:** APPARATUS AND METHOD FOR CONTROLLING AUTOMATIC STOP OF INTERNAL COMBUSTION ENGINE

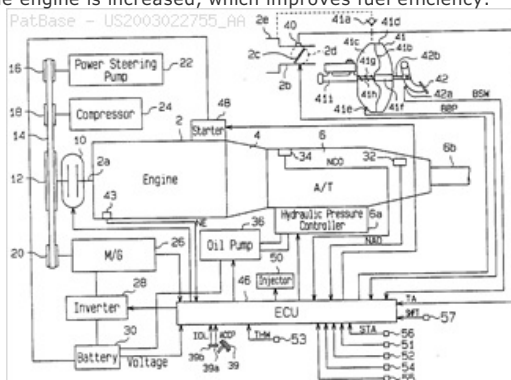
**Abstract:** An electric control apparatus (ECU) permits an automatic stop of an engine if there is vehicle speed historical data after the start of the engine when a predetermined automatic stop condition is satisfied. Even if there is no vehicle speed historical data, the ECU permits the automatic stop of the engine when the shift position of an automatic transmission is the parking position. Therefore, the frequency of the automatic stop of the engine is increased, which improves fuel efficiency.

**Classifications:**

**International (ipc 8-9):** B60W10/04 F02D17/00 F02D17/04 F02D29/00 F02D29/02 F02D29/04 F02D41/02 F02D41/04 F02N11/08 (Advanced/Invention); B60W10/04 F02D17/00 F02D29/00 F02D29/02 F02D29/04 F02D41/02 F02D41/04 F02N11/08 (Core/Invention)

**International (ipc 1-7):** B60K41/04 F02D17/00 F02D29/00 F02D29/02 F02D29/04 F02D41/00  
**CPC:** Y10T477/675 Y10T477/68 F02N11/0833 F02D41/0225 F02D41/042 F02N2200/0801 F02N2200/0802 F02N2200/124 Y02T10/48

**European:** F02D41/02C2G F02D41/04B F02N11/08B2V R02N200/0801 R02N200/0802 R02N200/124

**US:** 477/107 477/107P 477/111**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| DE10233887 A1      | 20030213         | DE20021033887      | 20020725         |
| DE10233887 B4      | 20071129         | DE20021033887      | 20020725         |
| FR2827912 A1       | 20030131         | FR20020009555      | 20020726         |
| FR2827912 B1       | 20091204         | FR20020009555      | 20020726         |

|                 |          |               |          |
|-----------------|----------|---------------|----------|
| JP2003041967 A2 | 20030213 | JP20010225875 | 20010726 |
| US2003022755 AA | 20030130 | US20020196230 | 20020717 |
| US6676565 BB    | 20040113 | US20020196230 | 20020717 |

**Priority:**

JP20010225875 20010726

**Probable Assignee:** TOYOTA JIDOSHA KK

**Assignee(s):** (std): TOYOTA MOTOR CO LTD ; TOYOTA MOTOR CORP

**Assignee(s):** TOYOTA JIDOSHA TOYOTA KK ; TOYOTA JIDOSHA K K ; TOYOTA JIDOSHA K K TOYOTA ; TOYOTA JIDOSHA K USHIKI KAISHA AB ; TOYOTA JIDOSHA KABUSHIKI KAISHA ; TOYOTA JIDOSHA KABUSHIKI KAISHA TOYOTA ; TOYOTA JIDOSHA KK

**Inventor(s):** (std): MIZUTANI KOICHI

**Inventor(s):** KOICHI MIZUTANI

**Agent(s):** NOVAGRAAF TECHNOLOGIES

**12) Family number: 49555576 (US201231222A)**

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**Title:** GEAR SHIFT INDICATOR

**Abstract:** Disclosed is a gear shift indicator which can reduce bothersome feelings of the driver. The EFI-ECU acquires information about the travelling state of a vehicle, and calculates a target gear shift stage for improving fuel consumption. The EFI-ECU acquires information about a current gear shift stage. The EFI-ECU determines that a gear shift request is generated when the current gear shift stage is different from the target gear shift stage. When the EFI-ECU determines that an AI control is under execution and that the target gear shift stage calculated in the Step is a restricted gear shift stage prohibited in the AI control, the EFI-ECU does not present a gear shift indication.

**Classifications:**

**International (IPC 8-9):** B60Q1/00 F16H61/02 F16H61/16

F16H63/42 (Advanced/Invention);

F16H61/686 (Advanced/Non-invention)

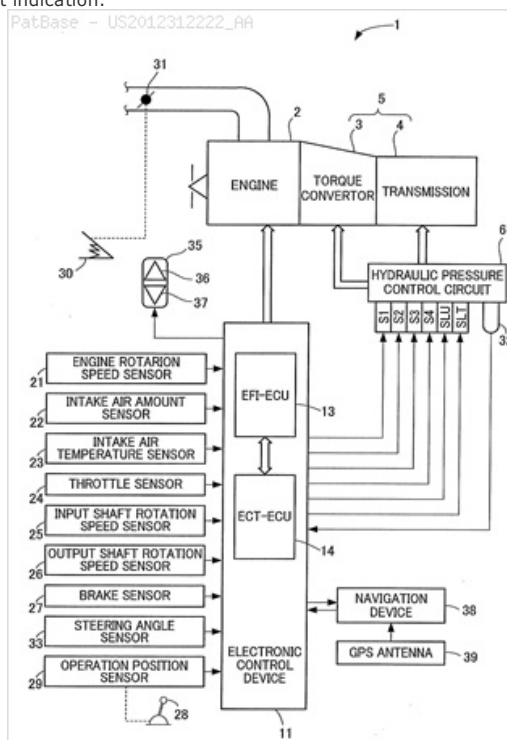
**CPC:** F16H59/72 F16H2059/666 F16H2061/022 F16H63/42

F16H61/0213 F16H2061/0015 F16H2063/426 Y10T477/653

Y10T477/679

**European:** F16H61/02E1M F16H63/42 R16H61/00F Y02T10/76

**US:** 116/28.1 340/439 340/456 477/110 477/98 701/62



**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| CN102792071 A      | 20121121         | CN201180011798     | 20110223         |
| CN102792071 B      | 20150902         | CN201180011798     | 20110223         |
| EP2543911 A1       | 20130109         | EP20110750338      | 20110223         |
| EP2543911 A4       | 20130515         | EP20110750338      | 20110223         |
| JP2011179590 A2    | 20110915         | JP20100044479      | 20100301         |
| JP5573228 B2       | 20140820         | JP20100044479      | 20100301         |
| US2012312222 AA    | 20121213         | US20110577304      | 20110223         |
| US8749370 BB       | 20140610         | US20110577304      | 20110223         |
| WO11108224 A1      | 20110909         | WO2011JP01003      | 20110223         |

**Priority:**

JP20100044479 20100301 WO2011JP01003 20110223

**Probable Assignee:** TOYOTA JIDOSHA KK

**Assignee(s):** (std): KATO SHINJI ; SHINOHARA SHUNTARO ; SUGANO KAZUMITSU ; TOYOTA MOTOR CO LTD ; TOYOTA MOTOR CORP

**Assignee(s):** TOYOTA MOTOR CO ; TOYOTA JIDOSHA KABUSHIKI KAISHA ; TOYOTA JIDOSHA KK

**Inventor(s):** (std): KATO SHINJI ; SHINOHARA SHUNTARO ; SHINOHARA TOSHITARO ; SUGANO KAZUMITSU ; SHUNTARO SHINOHARA ; SHINJI KATO ; KAZUMITSU SUGANO

**Agent(s):** TBK; OLIFF PLC; ARIGA GUNICHIRO ET AL

**Designated states:** AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV

**13) Family number: 70981712** (IN201741006584A)

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**Title:** A METHOD FOR MEASURING FUEL ECONOMY IN VEHICLES EQUIPPED WITH FEED PUMP CONTROL

**Abstract:** A method for measuring the fuel-economy of vehicles; the method comprises: disconnecting existing fuel tank and replacing it by a smaller auxiliary fuel tank on vehicle's cargo/cabin area; replacing the pressure control valve of existing fuel injection system by a fuel distributor block and metering the fuel quantity at feed pump itself; extending the fuel lines and wiring harness of said disconnected fuel tank to said auxiliary tank; pumping fuel from said auxiliary tank based on fuel demand from the engine; completely filling said auxiliary tank to its brim before and after measurement and slightly tilting it to remove air bubbles trapped during fuel filling; accurately controlling the fuel quantity pumped by fuel pump using EMS of ECU; arranging the auxiliary tank with minimal increase in fuel line length having no kink or curls therein; and routing the wiring harness and the fuel line without any protrusion outside the vehicle.

**Classifications:****International (IPC 8-9):** F02D41/30 (Advanced/Invention)**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| IN201741006584 A   | 20180831         | IN201741006584     | 20170224         |

**Priority:**

IN201741006584 20170224

**Probable Assignee:** MAHINDRA AND MAHINDRA LTD**Assignee(s):** MAHINDRA AND MAHINDRA LTD**Inventor(s):** AYUSH PANT ; MERVIN ANTO ; R T SANGEETHA**14) Family number: 49371163** (GB2490943A)

© PatBase

**Title:** METHOD FOR OPERATING AN INTERNAL COMBUSTION ENGINE WITH ELECTRICALLY POWERED TURBO COMPRESSOR

**Abstract:** Disclosed is a method for operating an internal combustion engine 110 comprising the step of activating an electrically driven compressor 30 located in an intake pipe 205 of the internal combustion engine 110 during an engine starting phase before the internal combustion engine 110 is supplied with fuel. The method provides instant turbo charging of the engine from start up and is particularly useful for idle start-stop type engines where change of mind conditions are likely and in providing instant supercharging during hill starts and other conditions where high engine torque is required at short notice on engine start-up.

**Classifications:****International (IPC 8-9):** F02D41/00 F02D41/04 F02N11/08 (Advanced/Invention)**CPC:** F02D41/04 F02N11/08 F02B39/10 F02D41/062 F02D41/0007

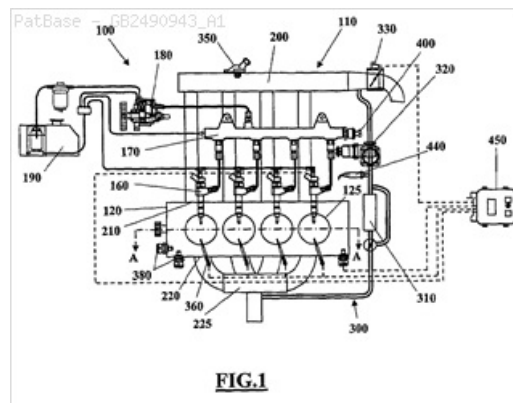
F02D41/022 F02D2200/602 F02N11/0814 F02N11/0844

F02N2200/101 F02N2200/103 F02N2200/124 Y02T10/144

**European:** F02D41/00D4 F02D41/06D R02D200/602

R02D41/02C2C R02N11/08B R02N11/08B4 R02N200/101

R02N200/103 R02N200/124

**FIG.1****Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| GB201108409 A0     | 20110706         | GB20110008409      | 20110519         |
| GB2490943 A1       | 20121121         | GB20110008409      | 20110519         |
| GB2490943 B2       | 20160907         | GB20110008409      | 20110519         |

**Priority:**

GB20110008409 20110519

**Probable Assignee:** GM GLOBAL TECH OPERATIONS INC**Assignee(s):** (std): GM GLOBAL TECH OPERATIONS INC ; GM GLOBAL TECH OPERATIONS LLC**Assignee(s):** GM GLOBAL TECHNOLOGY OPERATIONS LLC**Inventor(s):** (std): CLAUDIO CIARAVINO ; CESARE MARIA MEANO ; MEANO CESARE MARIA ; CIARAVINO CLAUDIO**15) Family number: 12071142** (US6026781A)

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**Title:** FUEL INJECTION CONTROL DEVICE OF CYLINDER DIRECT INJECTION ENGINE

**Abstract:** A fuel injection control device in a cylinder direct injection engine which switches between premixed combustion by intake stroke injection and stratified combustion by compression stroke injection in accordance with a change of an engine speed or a required load, where an unpleasant torque shock occurring when the injection mode is changed and the combustion state is changed despite the vehicle operating in the driving pattern such as driving on an upward slope or downward slope is prevented by maintaining the same injection mode while the vehicle continues to operate in the same driving state and where stratified combustion by the compression stroke injection is carried out when the vehicle is in driving on a downward slope, but is augmented by intake stroke injection when the vehicle sharply accelerates and the torque

becomes insufficient.

**Classifications:**

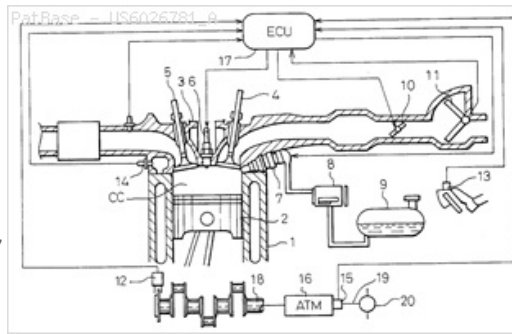
**International (IPC 8-9):** F02D29/00 F02D41/02 F02D41/04  
F02D41/10 F02D41/30 F02D41/34 F02D41/40 (Advanced/Invention);  
F02D41/02 F16H63/50 (Advanced/Non-invention);  
F02D29/00 F02D41/02 F02D41/04 F02D41/10 F02D41/30 F02D41/34  
F02D41/40 (Core/Invention);  
F02D41/02 F16H63/00 (Core/Non-invention)

**International (IPC 1-7):** F02B17/00 F02D29/00 F02D41/02  
F02D41/04 F02D41/30 F02D41/34 F02D41/40

**CPC:** B60W10/06 B60W10/10 B60W30/188 B60W2510/0638  
B60W2520/10 B60W2540/10 B60W2710/0616 B60W2710/1005  
F02D41/402 B60W2550/142 B60W2550/402 F02D41/023 F02D41/107  
F02D41/3029 F02D41/3076 F02D2041/389 F02D2200/702  
F02D2250/18 F16H63/50 Y02T10/44

**European:** F02D41/10F F02D41/30C F02D41/30C6 F02D41/40D  
L60K41/04E L60W550/14B L60W550/40A R02D200/702 R02D250/18  
R02D41/02C2S R02D41/30C2B2 R02D41/38D R16H63/50

**US:** 123/295 123/299 123/478 123/480



**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| DE19848605 A1      | 19990708         | DE19981048605      | 19981021         |
| DE19848605 B4      | 20041223         | DE19981048605      | 19981021         |
| JP11190238 A2      | 19990713         | JP19970357411      | 19971225         |
| JP3570875 B2       | 20040929         | JP19970357411      | 19971225         |
| US6026781 A        | 20000222         | US19980166588      | 19981006         |

**Priority:**

JP19970357411 19971225

**Probable Assignee:** TOYOTA MOTOR CORP

**Assignee(s):** (std): NIPPON SOKEN INC ; NIPPON SOKEN ; TOYOTA MOTOR CO LTD ; TOYOTA MOTOR CORP

**Assignee(s):** TOYOTA JIDOSHA KABUSHIKI KAISHA ; TOYOTA JIDOSHA K K ; TOYOTA JIDOSHA K K TOYOTA AICHI JP ; TOYOTA JIDOSHA K K TOYOTA ; TOYOTA JIDOSHA KK ; NIPPON SOKEN INC 14 IWAYA SHIMOHASUMI CHO NISHIO S ; NIPPON SOKEN INC NISHIO AICHI JP ; TOYODA JIDOSHA KABUSHIKA KAISHA

**Inventor(s):** (std): IMATAKE NOBUO ; KOBAYASHI TATSUO ; KOHAMA TOKIO ; MORISHIMA SHINGO ; MORISHIMA SINGO ; SAITO KIMITAKA

**Inventor(s):** SAITO KIMITAKA NISHIO AICHI JP ; MORISHIMA SINGO NISHIO AICHI JP ; KOHAMA TOKIO NISHIO AICHI JP ; KOBAYASHI TATSUO TOYOTA AICHI JP ; IMATAKE NOBUO NISHIO AICHI JP

**Agent(s):** NISHIYAMA MASAYA ; ISHIDA TAKASHI

**16) Family number: 37235165 (SE200600370A)**

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**Title:** METOD OCH ANORDNING FOER ESTIMERING

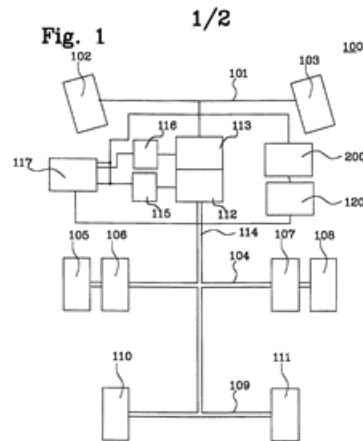
**Abstract:** The method and equipment are for the estimation of the inclination of a vehicle on the road, where the vehicle (100) has a front axle (101) with steering wheels (102,103), a rear drive axle (104) with driving wheels (104-108), and a rear unloading axle (109) with wheels (110,111). The vehicle also has a gearbox (112) coupled to its engine (113), which drives the drive axle (104) via a shaft (114) emerging from the gearbox. The gearbox and engine are controlled by respective units (115,116), which in turn are controlled by a superimposed control unit (117). The engine management system control unit (116) controls the vehicle engine functions, which can e.g. comprise fuel injection and brake. Control is based on a number of input signals, which can be from fuel control, speedometer and brake control system. The gearbox management system (115) controls the gear change functions, where with an automatic gearbox control can be based on an input signal from the speedometer. With a manual gearbox an input signal is provided from the gear lever. The brake management system (120) covers automatic braking adjustment and brake distribution between e.g. retarder, exhaust gas brake and wheel brake, and automatic estimation of loads, so that a given pedal position can always give the same brake effect, irrespective of load. The brake control unit sends control signals to control modules set out on the chassis, where electrical control signals are e.g. used for regulating brake pressure. In the estimation of the tilt of the vehicle, which is very important when turning, an appropriate arrangement (200) is connected to the engine control unit, the gearbox control unit and the superimposed control unit, so that an inclination estimation is made available to them for use with one or more functions, such as automatic road holding, automatic gear change and/or prediction of vehicle movement and behaviour.

**Classifications:**

**International (IPC 8-9):** F16H59/66 G01C9/00 (Advanced/Invention);  
F16H59/60 G01C9/00 (Core/Invention)

**CPC:** F16H59/66 G01C9/00

**European:** F16H59/66 G01C9/00

**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| SE200600370 A      | 20070821         | SE20060000370      | 20060220         |
| SE200600370 L      | 20070821         | SE20060000370      | 20060220         |
| SE530728 C2        | 20080826         | SE20060000370      | 20060220         |
| SE530728 C9        | 20080826         | SE20060000370      | 20060220         |

**Priority:**

SE20060000370 20060220

**Probable Assignee:** SCANIA CV AB**Assignee(s):** (std): SCANIA CV AB**Inventor(s):** (std): JANSSEN HENRIK ; KOZICA ERMIN ; SAHLHOLM PER**Inventor(s):** PER SAHLHOLM ; ERMIN KOZICA ; HENRIK JANSSEN**17) Family number: 44016535 (EP2123533A2)**

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**Title:** CONTROL APPARATUS OF HYDRAULIC DRIVEN VEHICLE

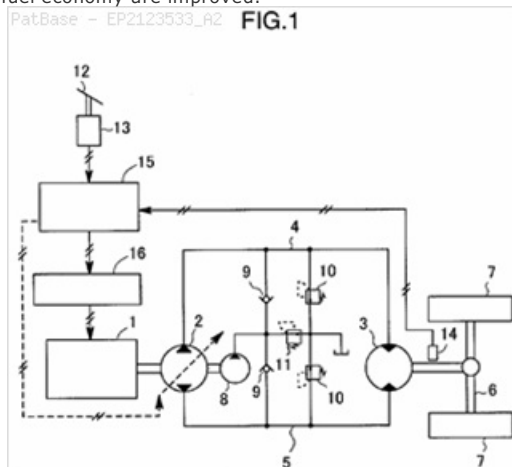
**Abstract:** In the present invention, a controller 15 calculates a driving acceleration from a detected vehicle driving speed. According to this driving acceleration, the controller 15 recognizes whether a vehicle is in driving on a flat ground that needs relatively less driving energy or in driving on an uphill road that needs relatively more driving energy. In driving on the flat ground, a signal to limit the amount of fuel injection is sent to an engine control unit 16 as a normal control. In driving on the uphill road, the driving energy is secured by switching to a power control that increases an engine rotating speed. Therefore, in the vehicle having a hydraulic transmission, energy efficiency and fuel economy are improved.

**Classifications:**

**International (IPC 8-9):** B60W10/06 B60W10/10 B60W30/18 B60W50/08 F16H61/02 F16H61/40 F16H61/431 F16H61/465 F16H63/50 (Advanced/Invention); F16H59/18 F16H59/42 F16H59/44 F16H59/48 F16H61/66 (Advanced/Non-invention)

**CPC:** F16H2059/663 B60W10/06 B60W10/10 B60W10/103 B60W30/182 B60W2520/10 B60W2520/105 B60W2550/142 B60W2710/0616 B60W2710/0644 F02D41/021 F02D41/40 F02D2200/1012 F02D2200/501 F02D2200/702 F02N2200/124 F16H61/431 F16H61/465 Y02T10/44 Y02T10/56 Y02T10/84

**European:** B60W10/06 B60W10/103 B60W30/182 F02D41/02C F02D41/40 F16H61/431 F16H61/465 L60W10/10 L60W520/10 L60W520/10B L60W550/14B L60W710/06B L60W710/06D R02D200/1012 R02D200/501 R02D200/702 R02N200/124 Y02T10/56 Y02T10/76

**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| AT522415 E         | 20110915         | AT20090160016T     | 20090512         |
| DE602009002348 D1  | 20111110         | DE200960002348T    | 20090512         |
| EP2123533 A2       | 20091125         | EP20090160016      | 20090512         |
| EP2123533 A3       | 20100616         | EP20090160016      | 20090512         |

|                 |          |               |          |
|-----------------|----------|---------------|----------|
| EP2123533 B1    | 20110831 | EP20090160016 | 20090512 |
| JP2009275783 A2 | 20091126 | JP20080126366 | 20080513 |
| JP4691134 B2    | 20110601 | JP20080126366 | 20080513 |

**Priority:**

JP20080126366 20080513 EP20090160016 20090512

**Probable Assignee:** KOBELCO CRANES CO LTD

**Assignee(s):** (std): KOBELCO CRANES CO LTD ; KOBE STEEL LTD

**Assignee(s):** KOBE SEIKO SHO KOBE STEEL LTD KOBE SHI KK ; KABUSHIKI KAISHA KOBE SEIKO SHO ; KABUSHIKI KAISHA KOBE SEIKO SHO KOBE STEEL LTD ; KOBE SEIKO SHO KK ; KOBE SEIKO SHO KOBE STEEL LTD KK ; KOBELCO CRANES CO

**Inventor(s):** (std): SUGANO NAOKI ; KOBAYASHI TAKAHIRO ; HORI NAOTO ; SHIMOMURA KOICHI ; TERASAKA JOJI ; TSUNOO TAISUKE ; SUMIO TAISUKE

**Inventor(s):** TERASAKA JOJI C O OKUBO PLANT IN KOBELCO... ; TSUNOO TAISUKE C O OKUBO PLANT IN KOBELCO... ; SHIMOMURA KOICHI C O OKUBO PLANT IN KOBELCO... ; KOBAYASHI TAKAHIRO C O OKUBO PLANT IN KOBELCO... ; TERASAKA JOIC O OKUBO PLANT IN KOBELCO CRANES CO LTD ; SHIMOMURA KOICHI C O OKUBO PLANT IN KOBELCO CRANES CO LTD ; KOBAYASHI TAKAHIRO C O OKUBO PLANT IN KOBELCO CRANES CO LTD ; TSUNOO TAISUKE C O OKUBO PLANT IN KOBELCO CRANES CO LTD

**Agent(s):** TBK; TBK PATENT

**Designated states:** AL AT BA 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 TR

**18) Family number: 29372456 (US5608626A)**

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**Title:** DRIVE SHAFT TORQUE CONTROLLING APPARATUS FOR USE IN A VEHICLE HAVING A POWER TRANSMISSION MECHANISM AND METHOD THEREFOR

**Abstract:** At a torque converter characteristic assuming unit, during non gear shift, gear ratio and an input shaft torque are assumed and also during gear shift, accessory torque is assumed. So as to correct the accessory torque a deviation between pump torque and engine torque is learned and this value is given to the accessory torque, thereby the input shaft torque can be executed and assumed. A drive shaft torque is obtained from a drive shaft torque calculating unit, a control period of the drive shaft torque is determined, a reference drive shaft torque is determined during torque control period from a reference drive shaft torque setting unit. A deviation between the reference drive shaft torque and the drive shaft torque is obtained from a torque deviation executing unit. An engine controlling unit varies the engine torque by controlling an ignition period so as to decrease substantially zero the deviation.

**Classifications:**

**International (IPC 8-9):** B60W10/04 B60W10/06 B60W10/10 B60W10/11 B60W30/18 F02D29/00 F02D41/04 F02D45/00 F02P5/15 F16H59/16 (Advanced/Invention); B60W10/30 B60W50/00 F16H59/38 F16H59/40 F16H59/42 F16H59/46 F16H61/00 F16H61/04 F16H61/06 (Advanced/Non-invention); B60W10/06 B60W30/18 (Core/Invention); B60W10/30 B60W50/00 (Core/Non-invention)

**International (IPC 1-7):** B60K41/00 B60K41/04 B60K41/06 B60K41/10 F02D29/00 F02D41/04 F02D45/00 F02P5/15 F16H59/16 G06G7/70

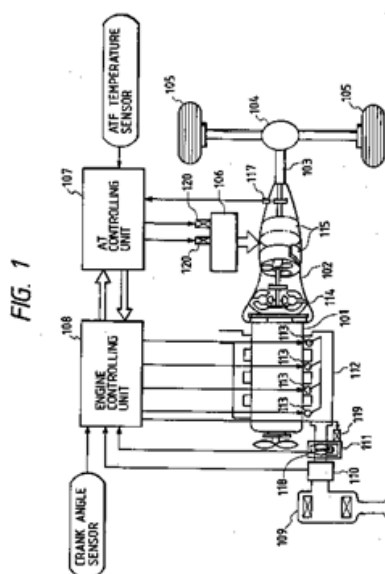
**CPC:** Y10T477/40 Y10T477/6407 Y10T477/676 Y10T477/6934 B60W30/18 B60W10/06 B60W10/11 B60W10/30 B60W30/188 B60W2050/0045 B60W2710/0666 B60W2710/105 F16H59/40 F16H59/42 F16H61/061 F16H63/502 F16H2059/385 F16H2059/467 F16H2061/0078 F16H2061/0096 B60W10/04 B60W30/1819

**European:** B60K41/06E B60W10/06 B60W10/11 B60W30/18 B60W30/188 L60K741/06E L60W10/30 L60W50/00B6A2 L60W600/70A2 L60W710/06E L60W710/10F R16H59/38T R16H59/40 R16H59/42 R16H59/46E2 R16H61/00Y1 R16H61/00Y7 R16H61/06E R16H63/50B

**US:** 192/3.58 192/3.62 364/424.08 477/108 477/125 477/30 477/78 701/51 701/53 701/54 73/862.326

PatBase - US5608626\_R

U.S. Patent Mar. 4, 1997 Sheet 1 of 23 5,608,626



**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| DE69405616 D1      | 19971023         | DE19946005616      | 19940328         |
| DE69405616 T2      | 19980129         | DE19946005616T     | 19940328         |
| EP0616919 A2       | 19940928         | EP19940104879      | 19940328         |
| EP0616919 A3       | 19941228         | EP19940104879      | 19940328         |
| EP0616919 B1       | 19970917         | EP19940104879      | 19940328         |
| JP3233494 B2       | 20011126         | JP19930103166      | 19930428         |
| JP3246791 B2       | 20020115         | JP19930068846      | 19930326         |
| JP6278506 A2       | 19941004         | JP19930068846      | 19930326         |
| JP6317242 A2       | 19941115         | JP19930103166      | 19930428         |
| US5608626 A        | 19970304         | US19940217861      | 19940325         |
| US5938712 A        | 19990817         | US19960751439      | 19961120         |

**Priority:**

**Probable Assignee:** HITACHI LTD

**Assignee(s):** (std): HITACHI AUTOMOTIVE ENG ; HITACHI CAR ENG CO LTD ; HITACHI LTD ; HITACHI LTD AND HITACHI AUTOMO

**Assignee(s):** HITACHI CAR ENGINEERING CO LTD HITACHINAKA IBARAKI JP ; HITACHI LTD AND HITACHI AUTOMOTIVE ENGINEERING CO LTD ; HITACHI CAR ENGINEERING CO LTD HITACHINAKA IBARAKI ; HITACHI AUTOMOT ENG CO LTD ; HITACHI CAR ENGINEERING CO LTD ; HITACHI LTD AND HITACHI AUTOMOTIVE ENGINEERING CO ; HITACHI CAR ENGINEERING CO ; HITACHI AUTOMOTIVE ENGINEERING CO ; HITACHI AUTOMOTIVE ENGINEERING CO LTD

**Inventor(s):** (std): IBAMOTO MASAHIKO ; KUROIWA HIROSHI ; MINOWA TOSHIMICHI ; OKADA MITSUYOSHI ; OZAKI NAOYUKI ; SATO KAZUHIKO ; YAMAGUCHI KAZUHIKO

**Inventor(s):** YAMAGUCHI KAZUHIKO IBARAKI 312 JP ; SATO KAZUHIKO IBARAKI 313 JP ; OZAKI NAOYUKI IBARAKI 312 JP ; OKADA MITSUYOSHI IBARAKI 312 JP ; MINOWA TOSHIMICHI NAKA GUN IBARAKI 319 11 JP ; KUROIWA HIROSHI IBARAKI 316 JP ; IBAMOTO MASAHIKO IBARAKI 312 JP

**Designated states:** DE FR GB

## 19) Family number: 34113225 (JP2007023852A)

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**Title:** FUEL INJECTION CONTROL DEVICE FOR INTERNAL COMBUSTION ENGINE

**Abstract:** PROBLEM TO BE SOLVED: To accurately control delivery quantity by simply and accurately performing correction of inclination direction of apply current-delivery quantity characteristics of a suction regulation valve and absorbing variation of characteristics due to difference of devices and deterioration. SOLUTION: ECU 3 stores I-Q characteristics of a median pump as reference characteristics for correcting quantity regulation characteristics of the suction regulation valve 6 of the fuel supply pump 4 beforehand, detects actual applied current values I1', I2' at a balanced pressure point when a specific common rail pressure P1 is changed to P2, and calculates reference applied current values I1, I2 on the reference characteristic line which are the values originally balanced on the balanced pressure point. Rotary component ? which is to be correction quantity is calculated with using difference DELTAW between area surrounded by the actual applied current values I1', I2' and the reference characteristic line and area surrounded by the reference applied current values I1, I2 and the reference characteristic line as an index value. Correction in the inclination direction is performed by performing rotation conversion of the reference characteristic line with using rotary component ?.

**Classifications:**

**International (IPC 8-9):** F02D41/00 F02D41/04 F02D41/38

F02M47/02 F02M55/02 (Advanced/Invention);

F02D41/00 F02D41/04 F02D41/38 F02M47/02

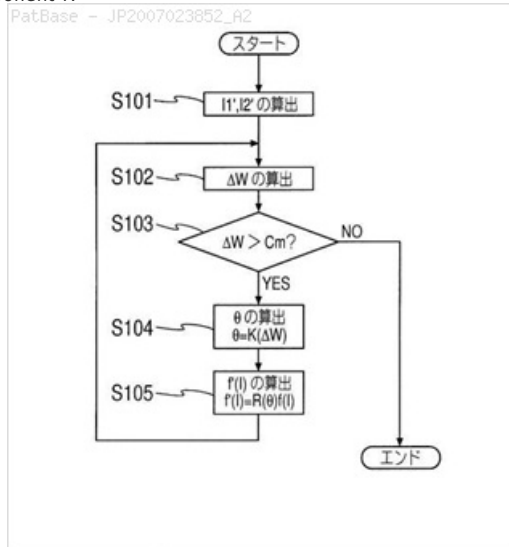
F02M55/02 (Core/Invention)

**CPC:** F02D41/2464 F02D41/3845 F02M59/102 F02M59/366

F02M63/0225 F02M63/0245

**European:** F02D41/24D4L10D F02D41/38C6B F02D43/02

F02M59/36D F02M63/02C4B4 R02M59/10B R02M63/02C



**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| DE102006000335 A1  | 20070118         | DE200610000335     | 20060713         |
| DE102006000335 A8  | 20070516         | DE200610000335     | 20060713         |
| DE102006000335 B4  | 20130221         | DE200610000335     | 20060713         |
| JP2007023852 A2    | 20070201         | JP20050205382      | 20050714         |
| JP4424275 B2       | 20100303         | JP20050205382      | 20050714         |

**Priority:**

JP20050205382 20050714

**Probable Assignee:** DENSO CORP

**Assignee(s):** (std): DENSO CORP

**Inventor(s):** (std): URUSHIBARA HIDEHIRO

## 20) Family number: 42805981 (WO09007594A2)

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**Title:** START ASSISTANCE METHOD AND DEVICE FOR A VEHICLE STOPPED ON AN INCLINED SURFACE

**Abstract:** The invention relates to a method for the start assistance of a vehicle stopped on an inclined surface and including a thermal engine (1), characterised in that, for a given position of the accelerator pedal (4), it comprises applying on the amount of fuel injected into the cylinders of the engine (1), a correction based on the measure of the slope of the road and the speed of the vehicle wheels (2).

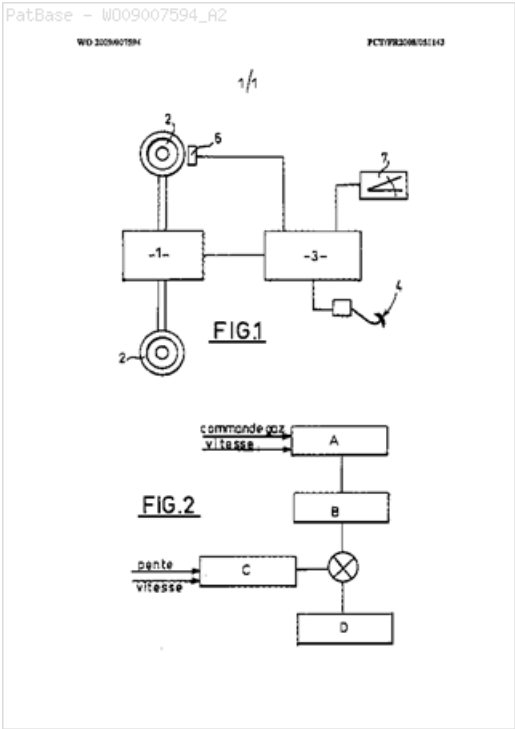
**Classifications:**

**International (IPC 8-9):** F02D41/06 F02D41/10

F02D41/30 (Advanced/Invention);

F02D41/06 F02D41/10 F02D41/30 (Core/Invention)

CPC: F02D41/021 F02D41/10 F02D2200/501 F02D2200/602  
F02D2200/702 F02D2250/21  
European: F02D41/02C F02D41/10 R02D200/501 R02D200/602  
R02D200/702 R02D250/21



Family:

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| FR2918714 A1       | 20090116         | FR20070056436      | 20070712         |
| FR2918714 B1       | 20150501         | FR20070056436      | 20070712         |
| W009007594 A2      | 20090115         | WO2008FR51143      | 20080625         |
| W009007594 A3      | 20091015         | WO2008FR51143      | 20080625         |

Priority:

FR20070056436 20070712

Probable Assignee: RENAULT SA

Assignee(s): AUBERT JEAN MARIE ; LE GARFF LAURENT ; RENAULT SA ; RENAULT SAS

Assignee(s): RENAULT SAS SOCIETE PAR ACTIONS SIMPLIFIEE ; RENAULT S A S

Inventor(s): AUBERT JEAN MARIE ; LE GARFF LAURENT

Inventor(s): JEAN MARIE AUBERT ; LAURENT LE GARFF

Agent(s): RENAULT SAS; RENAULT TECHNOCENTRE

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

21) Family number: 63118400 (JP2016145564A)

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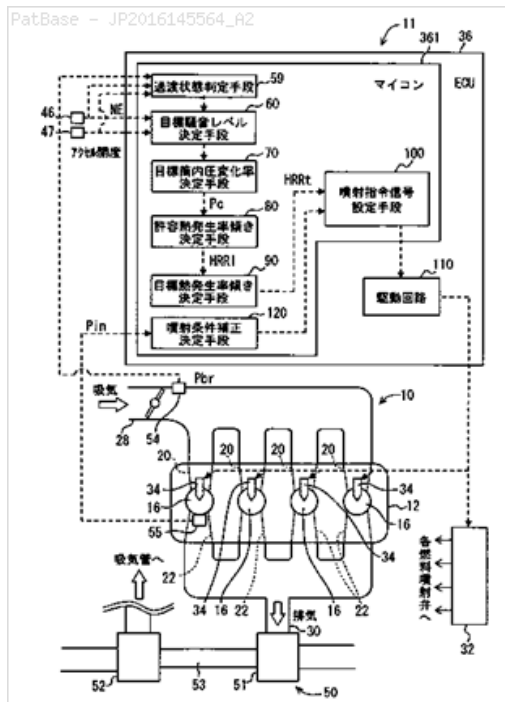
Title: FUEL INJECTION CONTROL DEVICE

**Abstract:** PROBLEM TO BE SOLVED: To provide a fuel injection control device which can suppress both the deterioration of smoke and the deterioration of combustion noise.SOLUTION: An ECU 36 comprises: target in-cylinder pressure change rate decision means 70 which decides a target in-cylinder pressure change rate being a target value of an in-cylinder pressure change rate within a prescribed period in which the in-cylinder pressure of an engine 10 rises accompanied by combustion to a value at which the combustion noise of the engine 10 does not exceed a target noise level; allowable heat generation rate inclination decision means 80 which decides an allowable value of an inclination of a heat generation rate in the prescribed period on the basis of a reference change rate component being a component of an in-cylinder pressure change generated by a piston motion of the engine 10 which is included in the target in-cylinder pressure change rate which also includes a combustion change rate component being a component of the in-cylinder pressure change resulting from the combustion; and a drive circuit 110 which controls an injection state so that the inclination of the heat generation rate of the internal combustion engine becomes a target heat generation inclination which is not larger than the allowable value.SELECTED DRAWING: Figure 1

Classifications:

International (IPC 8-9): F02D41/04 F02D41/22 F02D41/38 F02D41/40 F02D45/00 (Advanced/Invention)

CPC: F02D35/02 F02D35/023 F02D41/402 F02D41/403 F02D2200/0406 F02D2200/101 F02D2200/602 Y02T10/44

**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| DE102016101020 A1  | 20160811         | DE201610101020     | 20160121         |
| JP2016145564 A2    | 20160812         | JP20150023619      | 20150209         |
| JP6332070 B2       | 20180530         | JP20150023619      | 20150209         |

**Priority:**

JP20150023619 20150209

**Probable Assignee:** DENSO CORP**Assignee(s):** (std): DENSO CORP**Inventor(s):** (std): TOMIDA YASUFUMI ; TOMITA KAZUFUMI**22) Family number: 63363435 (IN05946CH2014A)**

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**Title:** AN ECU TO CONTROL FUEL INJECTION TIMING BASED ON INCLINATION OF A VEHICLE

**Abstract:** The various embodiments of the present disclosure provide an ECU 104 to control fuel injection timing based on inclination of the vehicle. The ECU 104 is adapted to receive inputs from various existing sensors for measuring engine speed 1022, pedal positions (1024, 1026), temperatures, pressures and the like. The ECU 104 is also adapted to store a first map 1042 comprising fuel injection timings to control at least one fuel injector 108. The ECU 104 is further adapted to: store a second map 1044 comprising correction factors to be applied based on the measured inclination, receive an input signal 106 indicative of inclination of the vehicle on a driving surface, select a correction factor from the second map 1044 corresponding to the measured inclination, and control fuel injection timing in dependence of the selected correction factor and at least said engine speed 1022, through said first map 1042.

**Classifications:****International (IPC 8-9):** F02D (Advanced/Invention)**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| IN05946CH2014 A    | 20160701         | IN2014CH05946      | 20141127         |

**Priority:**

IN2014CH05946 20141127

**Probable Assignee:** ROBERT BOSCH GMBH**Assignee(s):** BOSCH LTD ; ROBERT BOSCH GMBH**Inventor(s):** GANGAIAH JAGADISHA ; KAPADNIS VAIBHAV BALASAHEB ; KOTTIKE SIVA KUMAR**23) Family number: 47958049 (KR19980076625A)**

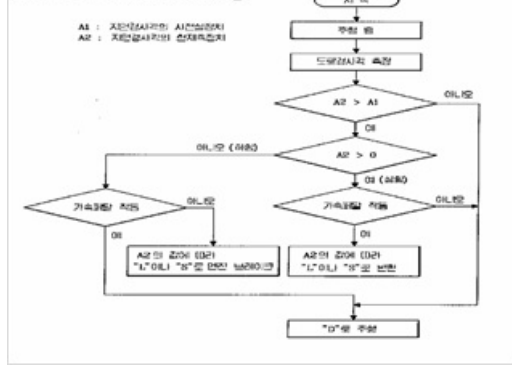
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**Title:** Automatic transmission, automatic transmission driving the vehicle ramp (Machine translation)

**Abstract:** Source: KR19980076625A **Machine translation:** During running of the vehicle automatic transmission according to the present invention is relates to a ramp vehicle automatic transmission, is when the inclination angle of inclination angle (A2) from the current measurement sensor comprising the steps of sensing a tilt angle of the pre-set when the ECU value (a1) and the current measured value preset; comparing the comparison value (A2, A2, A1 when the inclination of > downward; determining the upper and downward when the inclination of the ground 'L' or 'S' position of the accelerator pedal to switch us operation when operating the engine brake when operating continuously in the accelerator pedal position, and 'D', which allows a rider to upward when the inclination of the ground during the operation of the accelerator pedal and the accelerator pedal position 'L' or 'S' position in the US operation when the 'D' so that the continuously running will be configured. Accordingly, the ramp is performed such that during running automatically gear transmission without stress on the vehicle can be prevented from being damaged and braking fuel savings.

**Classifications:****International (IPC 8-9):** F16H61/00 (Advanced/Non-invention)**International (IPC 1-7):** F16H61/00

PatBase - KR19980076625\_R

**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| KR19980076625 A    | 19981116         | KR19970013405      | 19970411         |

**Priority:**

KR19970013405 19970411

**Probable Assignee:**

KIA MOTORS CORP

**Assignee(s):** (std):

KIA MOTORS CORP

**24) Family number: 48035787** (KR19980045490A)

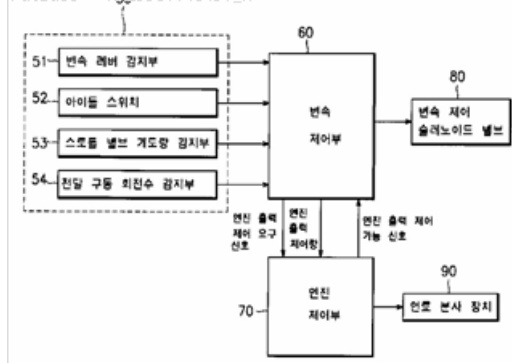
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**Title:** Engine and transmission control integration crypto control apparatus and method (Machine translation)

**Abstract:** Source: KR19980045490A **Machine translation:** Integrated control of the invention is that the engine and transmission, relates to a control apparatus and method for encryption, by detecting the information indicating the state of the vehicle according to the vehicle information to the light outputs an electrical signal input from the sensing unit 50, and the output control signal to operate in accordance with the engine, the engine according to the engine output control availability, and outputs a control signal to output a notification signal in accordance with an engine control unit 70, the vehicle information detection unit 50 receives a signal output from a repeat of the crypto control is determined by determining whether, the engine control unit (70) outputs a control signal to the output of the engine, the notification in accordance with the input received signal, depending on the value of the notification signal, controlling transmission speed change control unit 60 for outputting a signal, the speed change control unit 60 to operate in accordance with the signal outputted from the gear shift state determining a shift control solenoid valve 80, the engine control unit 70 in accordance with the control signal outputted from the operation of the engine, the engine has a fuel injection device 90 to adjust the output of 371, The inclination of the road on the main road, the vehicle does not have the driver pushes the brake pedal is pushed back in the automatic transmission to increase the convenience of the operator, and of the advantages also need not take on the driver applying a brake force of movement of the vehicle can be prevented from lowering the front contact.

**Classifications:****International (IPC 8-9):** F16H59/50 F16H59/60 (Advanced/Non-invention)**International (IPC 1-7):** F16H61/00

PatBase - KR19980045490\_A

**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| KR19980045490 A    | 19980915         | KR19960063675      | 19961210         |

**Priority:**

KR19960063675 19961210

**Probable Assignee:**

HYUNDAI MOTOR CO

**Assignee(s):** (std):

HYUNDAI MOTOR CO

**25) Family number: 7534026** (US5256959A)

© PatBase

**Title:** Control system for generator mounted on vehicle

**Abstract:** A control system for controlling the full current of a generator for a vehicle having an internal combustion engine operates to control the field current so as to change the output power of the generator. A storage unit is charged by the generator; a field current control unit for controlling the field current of the generator detects the output generated by the storage unit; and an engine control unit to which operation parameters of the internal combustion engine are applied controls at least one of a fuel supply and an ignition timing for the internal combustion engine. The engine control unit further operates to determine a kind of change of load being applied to the internal combustion engine when the load has changed

**Classifications:**

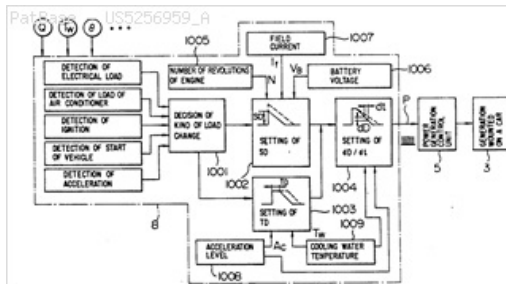
H02P9/14 (Advanced/Invention):

**International (IPC 1-7):** B60R16/02 F02D29/00

**CPC:** H02J7/1446 H02P9/14 Y02T10/92

**European:** H02J7/14F H02P9/14 Y02T10/92

**US:** 320/123 322/25



| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| DE4108751 A1       | 19910926         | DE19914108751      | 19910318         |
| DE4108751 C2       | 19950202         | DE19914108751      | 19910318         |
| JP2528995 B2       | 19960828         | JP19900067076      | 19900319         |
| JP3270700 A2       | 19911202         | JP19900067076      | 19900319         |
| KR100189692 B1     | 19990601         | KR19910003793      | 19910309         |
| KR19910017727 A    | 19911105         | KR19910003793      | 19910309         |
| US5256959 A        | 19931026         | US19910670285      | 19910315         |

JP19900067076 19900319

**Assignee(s):** (std): HITACHI LTD

**Inventor(s):** SAKAMOTO MASAHIDE KATSUTA JP ; NAGANO MASAMI KATSUTA JP ; ATAGO TAKESHI KATSUTA JP ;  
MORI YUICHI KATSUTA JP

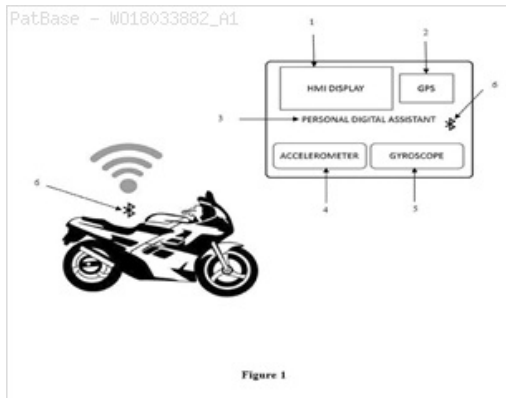
**Abstract:** The present invention is for detection of an accident and the necessary emergency control actions for a two-wheeled vehicle. Personal Digital Assistant (PDA) (3) which is a Smartphone or a tablet PC, with an accelerometer (4) and gyroscope sensors (5) are mounted in the vehicle. Fall detection is triggered if the lean angle of the vehicle exceeds a threshold on detection of panic break and engine working condition. The emergency action by the PDA (3) involves sending an SMS to the emergency contact and an emergency call to the contact. The information sent by the vehicle mounted PDA (3) contains latitude and longitude data of the vehicle location which is fetched from the GPS device (2) which is embedded inside the PDA (3). The emergency contact can take immediate actions to save the rider's life after the accident. Thus, rider's safety factor is increased and is suitable for all two-wheeled vehicles.

**International (IPC 8-9):** B60R21/01 B62J27/00 G08B21/00

G08G1/0965 (Advanced/Invention)

**CPC:** B60R2021/0088 B60R2021/01013 B60R21/01 B62J11/00

B62J2099/0006 B62J2099/002 B62J2099/004 B62K11/00 B62J27/00  
G08B25/016



| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| IN201641028338 A   | 20180223         | IN201641028338     | 20160819         |
| WO18033882 A1      | 20180222         | WO20171855009      | 20170818         |

## IN201641028338 20160819

**Assignee(s):** (std): TVS MOTOR CO LTD

**Inventor(s):** ARUMUGHAM SIVAKUMAR : SELVARAJAN BALAGANESH

**Designated states:** AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TH TJ TM TN TR TT UA UG US UZ VC VN ZA ZM ZW

**Title:** METHOD FOR CONTROLLING AND/OR REGULATING THE BRAKING TORQUE IN A DRIVE TRAIN, AND CONTROL AND REGULATING SYSTEM

**Abstract:** The aim of the invention is to regulate the braking torque in a drive train comprising an internal combustion engine (2) and a gearbox unit (3) which can be coupled to the same, using a regulatable clutch (5). To this end, the power introduced by the wheels into the drive train of the vehicle is transmitted via the regulatable clutch (5), in the overrun condition. The torque which can be transferred via the regulatable hydrodynamic clutch is controlled or regulated in such a way that the drive motor connected to the gearbox unit is operated at a rotational speed  $n_{Leerlauf}$  which is equal to or larger than the idling rotational speed  $n_{Leerlauf}$ .

**Classifications:**

**International (IPC 8-9):** B60W10/02 B60W10/06 B60W30/18

F16D48/06 F16H61/14 F16H61/21 (Advanced/Invention);

B60W50/00 (Advanced/Non-invention)

**International (IPC 1-7):** B60K41/02 B60K41/04 F16D48/06

F16H61/14

**CPC:** F16H2059/663 B60W10/06 B60W10/02 B60W30/18

B60W2050/0045 B60W2540/10 B60W2540/103 B60W2550/142

B60W2710/0644 B60W2710/065 F16H61/143 F16H61/21 Y02T10/52

Y10T477/679 Y10T477/755 Y10T477/78 B60W10/04 B60W30/1819

Y02T10/84

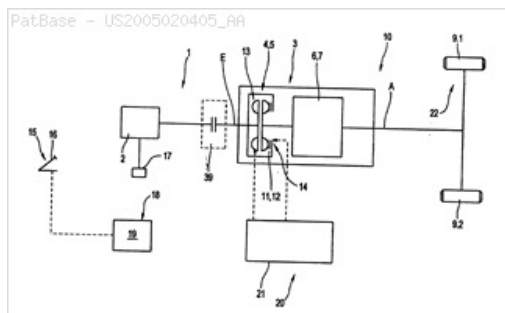
**European:** B60K41/02E B60W10/02 B60W10/06 B60W30/18

F16H61/14E F16H61/21 L60K741/02E L60W50/00B6A2 L60W540/10

L60W540/10K L60W550/14B L60W600/70A2 L60W710/06D

L60W710/06D1 Y02T10/52

**US:** 477/110 477/110P 477/176 477/176S 477/180



**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| DE10146742 A1      | 20030821         | DE20011046742      | 20010922         |
| DE50209185 D1      | 20070215         | DE20025009185      | 20020916         |
| EP1427600 A1       | 20040616         | EP20020779358      | 20020916         |
| EP1427600 B1       | 20070103         | EP20020779358      | 20020916         |
| US2005020405 AA    | 20050127         | US20040490350      | 20040827         |
| US7192386 BB       | 20070320         | US20040490350      | 20040827         |
| WO03029039 A1      | 20030410         | WO2002EP10360      | 20020916         |

**Priority:**

DE20011046742 20010922 DE20025009185 20020916 WO2002EP10360 20020916

**Probable Assignee:** VOITH TURBO GMBH AND CO KG

**Assignee(s):** (std): DIETZEL BERND ; VOITH TURBO GMBH AND CO KG ; VOITH TURBO KG

**Assignee(s):** VOITH TURBO GMBH

**Inventor(s):** (std): DIETZEL BERND

**Agent(s):** BAKER AND DANIELS LLP

**Designated states:** AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT JP LU MC NL PT SE SK TR US

**Title:** ENERGIESPARENDES ABGEFEDERTES GEWICHTSVERLAGERUNGS -NEIGETRIKE MIT EINEM DREHSCHWINGENRAHMEN DAS AUCH HYBRID ANGETRIEBEN WERDEN KANN ZUM REISEN Energy-saving MORE FLATTENED IN THE WEIGHT DISPLACEMENT -TILT WITH A ROTARY PIVOT FRAME THE TRIKE ALSO HYBRID CAN BE DRIVEN FOR TRAVELING (Machine translation)

**Abstract:** Source: DE102016000543A1 [DE] Durch geometrische Anordnung ein sicher zu fahrendes Gewichtsverlagerungs-Neigetricke mit 2 Raedern hinten und einem Neigbaren Vorderrad. Aufgebaut mit einem mehrgelenkigen mehrachsigen beweglichen Drehschwingenrahmen, dessen Neigungsfunktion auch arretiert werden kann. Verwendet wird eine Hinterachsantreibseinheit, mit einem darin eingebauten Differential zum Antreiben der zwei Hinterräder auch energiesparend mit Verbrennungsmotor und einem Drehfeldelektromotor Hybridisiert gleichzeitig angetrieben. Also ist fuer beide Motoren mit veraenderlicher uebersetzung ein Hinterradantreiben moeglich. Das zusaetzliche Gewicht durch, den Hybrid Fahr-Akku sowie durch das Reisegepaeck und den Drehfeldelektromotor des Hybriden Antriebes wird hier sicher auf den zwei nicht neigbaren Hinterrädern dieses Dreirades mit dem neigbarem Vorderrad mitgefuehrt. es hat fast keinen einfluss beim bremsen und Beschleunigen in der Schraege die durch die Gewichtsverlagerung des Fahrers erzwungen wird. **Machine translation:** By geometrical arrangement of a safe driving with 2 rear wheels tilt trike weight displacement and a tiltable front wheel. Configured with a more articulated multiaxially movable rotary pivot frame, the tilt function also can be locked. Used a rear-axle drive unit with a built-in differential to drive the two rear wheels and energy saving with internal combustion engine and an electric motor driven at the same time rotating field hybridizes. So for both motors with variable gear a rear wheel drive possible. The additional weight, the hybrid drive battery as well as the travel luggage and rotating field electric motor of the hybrid drive is securely on two non-tiltable rear wheels this three wheel with the tilting. It has almost no influence on the entrained front wheel braking and accelerating in the slope by shifting weight of the driver is enforced.

**Classifications:**

**International (IPC 8-9):** B62K5/027 (Advanced/Invention)

**CPC:** B62K5/027 B62K25/04 B62M23/02

Figure 1

671

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| DE102016000543 A1  | 20170803         | DE201610000543     | 20160120         |

## DE201610000543 20160120

HILBERER EDUARD

HILBERER EDUARD

**Abstract:** This abstract is provided to introduce a selection of concepts in a simplified form that are further described below in the Detailed System Description section. The abstract is not intended to identify key features of the claimed subject matter. Disclosed in this paper is a vehicle performance control device conceived to autonomously determine a safe, economic and eco-sustainable driving behaviour to reduce the mechanical stress, the wear and the maintenance cost of vehicles. The invention provides a vehicle performance control device arranged between the vehicle's Pedal Interface (PI) including the cruise control, the speed limitation and the speed control systems, or a combination of these, and the vehicle's Electronic Control Unit (ECU). The control device autonomously and dynamically acts on the functional status of the cruise control, the speed limitation or the speed control system to modulate the vehicle's performance. The performance is tuned depending on the current vehicle's position, speed, acceleration, inclination and pose respect to the ground. For example, the vehicle's max speed can be limited in specific geographic areas or during specific time intervals when the driver is supposed to drive improperly, excessively were off the vehicle, or parts of it, or stress the mechanics. The performance limitation can be turned off manually by the drivers for safety reasons, remotely by fleet's managers or fleet's management systems, or automatically by the system whenever the context requires the entire engine power to get the vehicle working properly. For example the engine performance will be not limited if the vehicle gets in an uphill over a certain inclination threshold to avoid stops due to torque outages. The control device embeds a communication unit able to connect to the internet, exchange data with personal computers, diagnostic tools or personal devices such as smartphones and tablets. The control device provides all the useful information for the estimation of the vehicle's status, the driver's behaviours and the induced mechanical stress and wear off. The communication unit is intended to exchange data for the monitoring of the vehicle's status, its performance and for the tuning of the control unit's strategy. The communication can be automatically scheduled by the system itself, attempted by the remote fleet's managers or the fleet's management systems, or performed by humans operators or the connected remote devices on requests. A human machine interface provides visual, acoustic or haptic feedbacks, or a combination of these, to the driver on the status of the control device, the estimated level of wear or mechanical stress induced on the vehicle or part of the vehicle, the drive safety, efficiency and the eco-sustainability.

**International (IPC 8-9):** B60W30/14  
B60W40/076 (Advanced/Invention);  
B60W40/09 B60W50/00 (Advanced/Non-invention)  
**CPC:** B60W30/146 B60W40/076 B60W40/09 B60W2050/0078  
B60W2550/402 B60Y2200/144

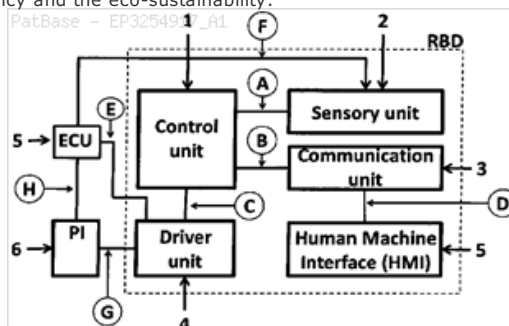


**Fig. 1**

## PatBase PDF Export - Page: 23 06/03/2019

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| EP3254917 A1       | 20171213         | EP20160425049      | 20160607         |

**Priority:**

EP20160425049 20160607

**Probable Assignee:** BARELLI GIUSEPPE

**Assignee(s):** (std): BARELLI GIUSEPPE

**Inventor(s):** (std): BARELLI GIUSEPPE

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

**30) Family number: 42251331 (JP2008201267A)**

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**Title:** SCREEN FITTING STRUCTURE OF MOTORCYCLE

**Abstract:** PROBLEM TO BE SOLVED: To provide a screen fitting structure of a motorcycle capable of enhancing its texture. SOLUTION: The screen fitting structure of the motorcycle comprises a cowl 24 provided before a driver, and a screen 25 which is provided before the driver and entirely surrounded by the cowl 24. An upper end of the screen 25 has a turn-around part 83 for turning a rib 64 of an upper frame of the cowl 24 around the driver side. The upper end of the screen 25 and the upper frame of the cowl 24 are fastened by a fastening member 85 from the lower side of the turn-around part 83.

**Classifications:**

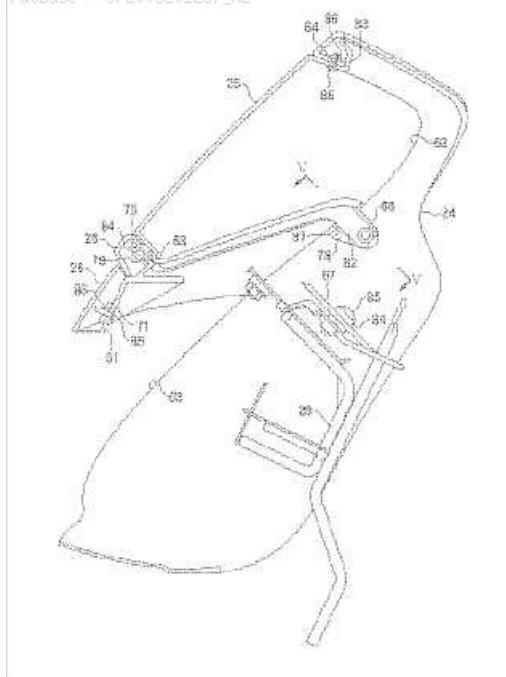
**International (IPC 8-9):** B62J17/00 B62J17/04

B62J6/00 (Advanced/Invention);

B62J17/00 B62J6/00 (Core/Invention)

**International (IPC 1-7):** B62J17/00 B62J17/04

PatBase - JP2008201267\_A2



**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| AR065360 AA        | 20090603         | AR2008P100643      | 20080215         |
| BRPI0800972 A      | 20081104         | BR2008PI00972      | 20080215         |
| BRPI0800972 B1     | 20180424         | BR2008PI00972      | 20080215         |
| CO6040042 A1       | 20090529         | CO20080014007      | 20080212         |
| IN00380CH2008 A    | 20090911         | IN2008CH00380      | 20080214         |
| IN255010 B         | 20130118         | IN2008CH00380      | 20080214         |
| JP2008201267 A2    | 20080904         | JP20070039764      | 20070220         |
| JP4823099 B2       | 20111124         | JP20070039764      | 20070220         |
| PE18092008 A1      | 20090109         | PE20080000347      | 20080218         |
| TH49541 B          | 20160525         | TH20081000028      | 20080104         |
| TH94141 A          | 20090227         | TH20081000028      | 20080104         |

**Priority:**

JP20070039764 20070220

**Probable Assignee:** HONDA MOTOR CO LTD

**Assignee(s):** (std): HONDA MOTOR CO LTD

**Assignee(s):** HONDA MOTOR CO

**Inventor(s):** (std): FUJITA KATSUMASA ; HARUKI NISHIMURA ; KATSUMASA FUJITA ; NAKAI SHIN ; NISHIMURA HARUKI ; SHIN NAKAI ; SHINADA SNAKAI

**Agent(s):** JUAN PABLO CADENA SARMIENTO

**31) Family number: 55035541 (JP2013231378A)**

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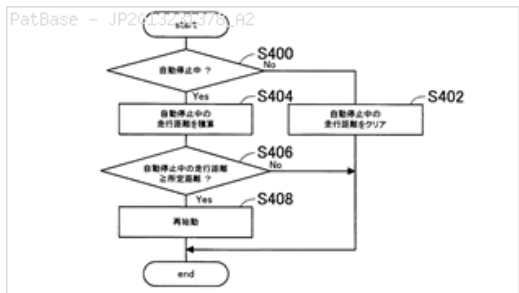
**Title:** CONTROL DEVICE FOR VEHICLE

**Abstract:** PROBLEM TO BE SOLVED: To provide a control device for a vehicle for determining a restart of an engine on the basis of a travel distance in an automatic stop.SOLUTION: A control device for a vehicle integrates a travel distance in an

automatic stop (S404) when an engine is automatically stopped after a predetermined automatic stop condition is established (S400: Yes), and determines whether or not the travel distance is a predetermined distance or longer (S406). The predetermined distance used in a determination of the S406 is set based on a master cylinder pressure, a brake negative pressure for operating a brake booster, and a gradient of a road. When the travel distance in the automatic stop becomes the predetermined distance or longer (S406: Yes), the automatic stop is prohibited even when a vehicle speed is a predetermined speed or lower and a predetermined brake negative pressure required for operating the brake booster is secured, and the engine is restarted (S408).

### Classifications:

**International (IPC 8-9):** F02D29/02 F02D45/00 (Advanced/Invention)  
**CPC:** F02N11/0818 B60W2550/142 F02N2200/0801 F02N2200/0807 F02N2200/124 Y02T10/48 B60W10/06 B60W2510/182 F02N11/0822 F02N2200/102 F02N2200/12 F02N2300/2011 F02N11/0833 B60W30/18018



### Family:

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| DE102013206270 A1  | 20131031         | DE201310206270     | 20130410         |
| JP2013231378 A2    | 20131114         | JP20120103326      | 20120427         |

### Priority:

JP20120103326 20120427

**Probable Assignee:** DENSO CORP

**Assignee(s):** (std): DENSO CORP

**Inventor(s):** (std): HAYAKAWA HIROHARU ; HAYAKAWA KOJI ; SUNAMI KENJI

## 32) Family number: 32631554 (JP2006057525A)

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**Title:** STARTER FAILURE DETECTING DEVICE

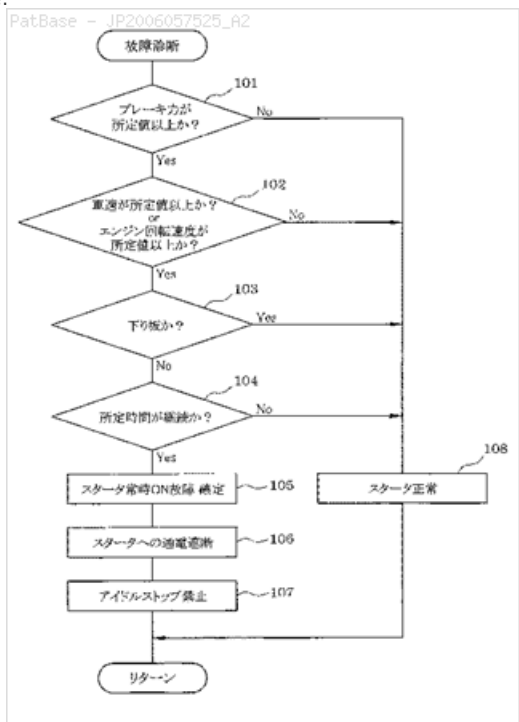
**Abstract:** PROBLEM TO BE SOLVED: To perform accurate diagnosis of a regular ON-failure of a starter without using a voltage detecting circuit for detecting the operated condition of the starter. SOLUTION: The presence or not of the regular ON-failure of a starter is determined depending on whether the condition that there is a probability of the regular ON-failure of the starter, namely, the condition that a vehicle speed or an engine speed is a preset value or higher although braking force works at a preset value or more on a travelling road not downsloping is kept on or not for a preset time or longer (S101-104). Herein, whether the braking force is the preset value or more or not can be determined depending on whether the footing amount of a brake pedal detected by a brake pedal footing amount sensor is a preset value or more or not, or whether brake hydraulic pressure detected by a brake hydraulic pressure sensor is a preset value or higher or not. Besides, whether the travelling road is downsloping or not can be determined in accordance with an output signal from an inclination sensor which detects the inclination of the travelling road or a vehicle.

### Classifications:

**International (IPC 8-9):** F02D17/00 F02D29/02 F02D41/22 F02D45/00 F02N11/08 F02N15/00 (Advanced/Invention); F02D17/00 F02D29/02 F02D41/22 F02D45/00 F02N11/08 F02N15/00 (Core/Invention)

**CPC:** F02D41/12 F02N11/0825 F02N11/108

**European:** F02N11/10 F02N11/10D R02D41/12 R02N11/08B R02N11/08B2F



### Family:

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| DE102005039141 A1  | 20060223         | DE200510039141     | 20050818         |
| JP2006057525 A2    | 20060302         | JP20040239808      | 20040819         |

### Priority:

JP20040239808 20040819

**Probable Assignee:** DENSO CORP

**Assignee(s):** (std): DENSO CORP  
**Assignee(s):** DENSO CORP KARIYA  
**Inventor(s):** (std): KADOWAKI HISASHI

**33) Family number: 11200852 (US5826208A)**

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**Title:** POWERTRAIN CONTROL DEVICE FOR A VEHICLE USING TARGETED TONGUE GENERATION FOR ELIMINATING SHIFT SHOCK

**Abstract:** The object of this invention is to reduce shift shocks by controlling the driving torque during gear shift changing so that the driving torque is represented by a smooth, ideal waveform. The driving torque calculating means estimates the output shaft torque of the automatic transmission from the engine torque characteristic or torque converter characteristic and, based on the estimated driving torque, generate a targeted torque pattern during gear shift changing. The engine torque control value calculating means calculates the control value for controlling the engine output torque, i.e., an ignition timing correction value DELTA theta ig, so as to eliminate the deviation between the targeted torque and the driving torque estimated by the driving torque calculating means. This ignition timing correction approximates the driving torque to smooth the targeted torque.

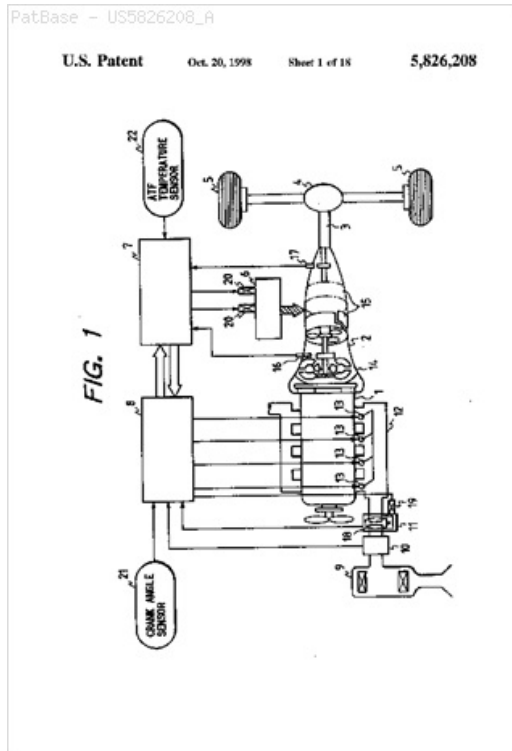
**Classifications:**

**International (ipc 8-9):** B60W10/02 B60W10/04 B60W10/06 B60W10/10 B60W10/18 B60W10/184 B60W30/18 B60W30/20 F02D29/00 F02D45/00 F02P5/15 F16H59/14 F16H61/00 F16H61/02 F16H61/04 F16H63/50 (Advanced/Invention); B60K22/00 (Advanced/Non-invention); F02D29/00 (Core/Invention)

**International (ipc 1-7):** B60K41/04 B60K41/06 B61K22/00 F02D29/00 F02D45/00 F02P5/15 F16H59/14 F16H61/02 F16H61/04  
**CPC:** Y02T10/46 Y10T477/688 B60W10/06 B60W10/11 B60W30/19 B60W2710/0666 F16H61/0021 F16H63/502 Y02T10/56 B60W10/04 B60W30/1819

**European:** B60K41/06E B60W10/06 B60W10/11 B60W30/19 F16H61/00K F16H63/50B L60K741/06E L60W710/06E R16H61/04M Y02T10/56

**US:** 477/115 701/54 701/64



**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| DE19539954 A1      | 19960502         | DE19951039954      | 19951026         |
| DE19539954 B4      | 20100602         | DE19951039954      | 19951026         |
| JP2001152894 A2    | 20010605         | JP20000309758      | 20001010         |
| JP3193244 B2       | 20010730         | JP19940262283      | 19941026         |
| JP3589970 B2       | 20041117         | JP20000309758      | 20001010         |
| JP8121202 A2       | 19960514         | JP19940262283      | 19941026         |
| JP8290729 A2       | 19961105         | JP19950096614      | 19950421         |
| KR19960013764 A    | 19960522         | KR19950036952      | 19951025         |
| US5826208 A        | 19981020         | US19950548470      | 19951026         |
| US6014604 A        | 20000111         | US19980170192      | 19981013         |

**Priority:**

JP19940262283 19941026 JP19950096614 19950421 US19950548470 19951026  
US19980170192 19981013 JP20000309758 20001010

**Probable Assignee:** HITACHI CAR ENGINEERING CO LTD

**Assignee(s):** (std): HITACHI CAR ENG CO LTD ; HITACHI CAR ENGINEERING CO LTD ; HITACHI CAR ENGINEERING KK ; HITACHI LTD ; HITACHI LTD AND HITACHI CAR ENGI

**Assignee(s):** HITACHI LTD AND HITACHI CAR ENGINEERING CO LTD ; HITACHI KAA ENG KK ; HITACHI LTD AND HITACHI CAR ENGINEERING CO ; HITACHI CAR ENGINEERING CO LTD HITACHINAKA IBARAKI ; HITACHI CAR ENGINEERING CO LTD HITACHINAKA IBARAKI JP ; HITACHI CAR ENGINEERING CO

**Inventor(s):** (std): IBAMOTO MASAHIKO ; KUROIWA HIROSHI ; OKADA MITSUYOSHI ; SATO KAZUHIKO ; SHIDA MASAMI

**Inventor(s):** SHIDA MASAMI MITO IBARAKI JP ; SATO KAZUHIKO HITACHIOHTA IBARAKI JP ; OKADA MITSUYOSHI HITACHINAKA IBARAKI JP ; KUROIWA HIROSHI HITACHI IBARAKI JP ; IBAMOTO MASAHIKO HITACHINAKA IBARAKI JP

**34) Family number: 33747667 (KR20050047688A)**

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**Title:** SYSTEM FOR REGULATING SPEED OF AUTOMOBILE

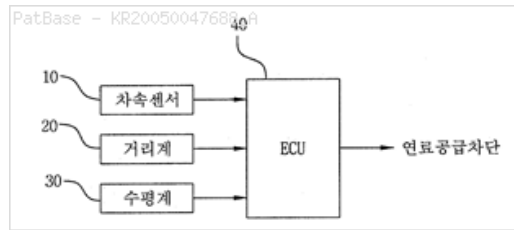
**Abstract:** Source: KR20050047688A **Machine translation:** The present invention relates to a conditional access system to the vehicle speed, the vehicle is in operation possible conditions by magnetic force on the accelerator operation when it is determined that the distance between the relative to the vehicle, the vehicle speed, such as the angle of inclination of the vehicle determines the acceleration pedal operating angle and not conducive to the vehicle speed after the comparison if it is determined, by cutting off the fuel supply to the safety of the passenger and the vehicle in order to protect the life, it is possible to prevent the speed of the vehicle, as well as car of the vehicle that can promote fuel economy relates to over-speed-limit system. Bycar, vehicle speed sensor, a rangefinder, supyeonggye, ECU

**Classifications:**

**International (IPC 8-9):** B60K31/00 (Advanced/Invention);  
B60K31/00 (Advanced/Non-invention);  
B60K31/00 (Core/Invention)

**International (IPC 1-7):** B60K31/00

**CPC:** B60K31/00



**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| KR20050047688 A    | 20050523         | KR20030081444      | 20031118         |

**Priority:**

KR20030081444 20031118

**Probable Assignee:** HYUNDAI MOTOR CO LTD

**Assignee(s):** (std): HYUNDAI MOTOR CO LTD

**Assignee(s):** HYUNDAI MOTOR COMPANY ; HYUNDAI MOTOR CO

**Inventor(s):** (std): LEE HYUN CHUL

**35) Family number: 53533193 (KR20130037859A)**

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**Title:** METHOD FOR INCREASING COAST DRIVING DISTANCE, AND APPARATUS APPLIED TO THE SAME

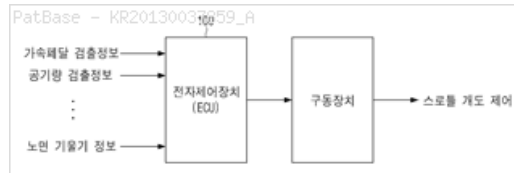
**Abstract:** PURPOSE: A method and device for increasing a coasting distance are provided to actively control a throttle valve to be totally opened in order to raise intake pressure to atmospheric pressure and reduce pressure loss in case of coasting, thereby increasing the coasting distance of a vehicle. CONSTITUTION: A method for increasing a coasting distance includes: a step of determining whether or not a driving vehicle satisfies a predetermined coasting condition using an electronic control unit(100); a step of changing the driving mode of the vehicle into a coasting mode when the vehicle satisfies the coasting condition; a step of shutting off fuel supply, and controlling a throttle valve to be opened more than a predetermined level in case of the coasting mode; and a step of providing intake pressure corresponding to the opening amount of the throttle valve to an engine in order to increase the coasting distance. [Reference numerals] (100) Electronic control unit(ECU); (AA) Acceleration pedal detection information; (BB) Air amount detection amount; (CC) Surface inclination information; (DD) Driving device; (EE) Controlling the opening amount of a throttle

**Classifications:**

**International (IPC 8-9):** F02D17/02 F02D29/02 F02D41/04

F02D9/02 (Advanced/Invention)

**CPC:** F02D41/04 B60W10/06 F02D9/08 F02D41/0087 Y02T10/47



**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| KR20130037859 A    | 20130417         | KR20110102349      | 20111007         |

**Priority:**

KR20110102349 20111007

**Probable Assignee:** CONTINENTAL AUTOMOTIVE SYSTEMS

**Assignee(s):** (std): CONTINENTAL AUTOMOTIVE SYSTEMS

**Assignee(s):** CONTINENTAL AUTOMOTIVE SYSTEMS CORP ; CONTINENTAL AUTOMOTIVE SYSTEMS CORPORATION

**Inventor(s):** (std): AN YOUNG SE