



(51) International Patent Classification:

<i>F02D 41/10</i> (2006.01)	<i>F01N 3/20</i> (2006.01)
<i>F02B 37/18</i> (2006.01)	<i>F01N 3/021</i> (2006.01)
<i>F02D 41/02</i> (2006.01)	<i>F02B 37/00</i> (2006.01)
<i>F02B 37/20</i> (2006.01)	<i>F02B 37/013</i> (2006.01)
<i>F02D 23/02</i> (2006.01)	<i>F02B 37/12</i> (2006.01)
<i>F02D 21/08</i> (2006.01)	<i>F02B 39/16</i> (2006.01)
<i>B61C 5/04</i> (2006.01)	<i>F01N 3/00</i> (2006.01)
<i>F01N 3/10</i> (2006.01)	

(21) International Application Number:

PCT/US2012/040424

(22) International Filing Date:

1 June 2012 (01.06.2012)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

13/152,361 3 June 2011 (03.06.2011) US

(71) Applicant (for all designated States except US): **GENERAL ELECTRIC COMPANY** [US/US]; 1 River Road, Schenectady, NY 12345 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **GOKHALE, Manoj** [IN/IN]; Ge India Technology Centre Pvt. Ltd., 122, Epip, Phase II, Hoodi Village, Whitefield Road, Bangalore 650066 (IN).

(74) Agents: **KRAMER, John, A.** et al.; General Electric Company, Global Patent Operation, 2 Corporate Drive, Suite 648, Shelton, CT 06484 (US).

(81) Designated States (unless otherwise indicated, for every

kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every

kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

— as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

Published:

— with international search report (Art. 21(3))

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR CONTROLLING AN ENGINE WITH TURBOCHARGER

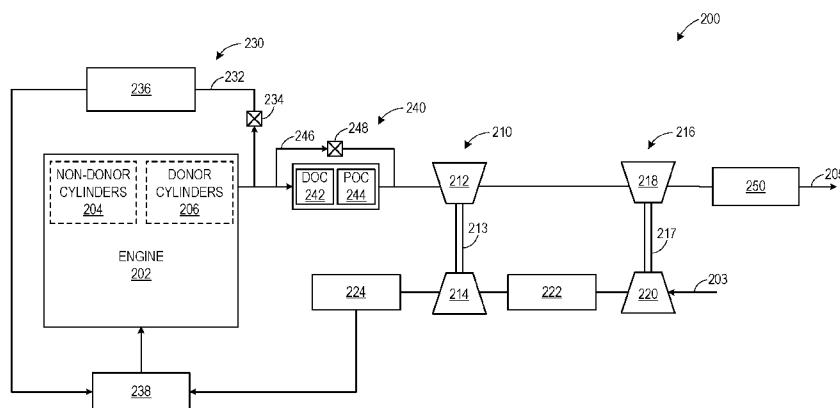


FIG. 2

(57) Abstract: An engine system includes an exhaust passage through which exhaust gas is configured to flow from the engine (202), and a turbocharger (210, 16) with a turbine (212, 218) positioned in the exhaust passage. The engine system further includes an exhaust gas treatment system (240) disposed in the exhaust passage upstream of the turbine (212, 218), the exhaust gas treatment system including at least one exhaust gas treatment device (242, 244) and a bypass (246) with a bypass valve (248), the bypass valve configured to be adjusted to reduce exhaust gas flow through the exhaust gas treatment device (242, 244) in response to a transient engine operating condition.





(88) Date of publication of the international search report:
17 April 2014

Previous Correction:
see Notice of 10 January 2013

(15) Information about Correction:

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2012/040424

A. CLASSIFICATION OF SUBJECT MATTER					
INV.	F02D41/10	F02B37/18	F02D41/02	F02B37/20	F02D23/02
	F02D21/08	B61C5/04	F01N3/10	F01N3/20	F01N3/021
	F02B37/00	F02B37/013	F02B37/12	F02B39/16	F01N3/00
According to International Patent Classification (IPC) or to both national classification and IPC					

B. FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols) F02D F02B F01N F02M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 2005 171932 A (TOYOTA MOTOR CORP) 30 June 2005 (2005-06-30)	1-3,5-7, 9-14,17, 18,20,22
Y	PAJ abstract; paragraph [0025] - paragraph [0047]; figures 1,2	4,15,19
X	EP 2 123 877 A1 (TOYOTA MOTOR CO LTD [JP]) 25 November 2009 (2009-11-25)	1-3,5-7, 9-14,17, 18,20,22
Y	paragraph [0028] - paragraph [0033]; figures 1,3	4,15,19
Y	US 2004/182372 A1 (KENNEDY MICHAEL P [US]) 23 September 2004 (2004-09-23) paragraph [0009]; figure 1	4,15,19

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 24 October 2013	Date of mailing of the international search report 03/03/2014
---	---

Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Aign, Torsten
--	--

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/040424

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-7, 9-15, 17-20, 22

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-7, 9-15, 17-20, 22

Control of a turbocharged internal combustion engine in which a bypass of an exhaust gas treatment device upstream of an exhaust gas turbine is opened in a transient operating condition.

2. claims: 8, 16, 21

Control of a turbocharged internal combustion engine in which a bypass of an exhaust gas treatment device upstream of an exhaust gas turbine is opened under high ambient temperature conditions.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2012/040424

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 2005171932	A	30-06-2005	NONE

EP 2123877	A1	25-11-2009	AT 488678 T 15-12-2010
			CN 101600865 A 09-12-2009
			EP 2123877 A1 25-11-2009
			JP 4462282 B2 12-05-2010
			JP 2008223658 A 25-09-2008
			US 2010024399 A1 04-02-2010
			WO 2008114730 A1 25-09-2008

US 2004182372	A1	23-09-2004	BR PI0408505 A 07-03-2006
			CA 2517405 A1 30-09-2004
			CN 1761804 A 19-04-2006
			EP 1604101 A2 14-12-2005
			JP 2006520872 A 14-09-2006
			KR 20050118191 A 15-12-2005
			MX PA05009188 A 18-10-2005
			US 2004182372 A1 23-09-2004
			WO 2004083692 A2 30-09-2004
