

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL SEARCH REPORT**

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 2016P02555WO	<b>FOR FURTHER ACTION</b> see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/EP2017/074660	International filing date ( <i>day/month/year</i> ) 28 September 2017 (28-09-2017)	(Earliest) Priority Date ( <i>day/month/year</i> ) 29 September 2016 (29-09-2016)
Applicant  CONTINENTAL AUTOMOTIVE GMBH		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

- the international application in the language in which it was filed  
 a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b.  This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c.  With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2.  **Certain claims were found unsearchable** (See Box No. II)

3.  **Unity of invention is lacking** (see Box No III)

4. With regard to the **title**,

- the text is approved as submitted by the applicant  
 the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

- the text is approved as submitted by the applicant  
 the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. 1  
 as suggested by the applicant  
 as selected by this Authority, because the applicant failed to suggest a figure  
 as selected by this Authority, because this figure better characterizes the invention
- b.  none of the figures is to be published with the abstract

INTERNATIONAL SEARCH REPORT

International application No  
PCT/EP2017/074660

A. CLASSIFICATION OF SUBJECT MATTER  
INV. F02M61/14 F02M61/16  
ADD.  
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)  
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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 3 070 323 A1 (DELPHI TECH INC [US]) 21 September 2016 (2016-09-21) paragraph [0040] - paragraph [0044]; figures 1-11 abstract	1-11
A	----- US 2015/330347 A1 (POHLMANN JENS [DE] ET AL) 19 November 2015 (2015-11-19) paragraph [0026] - paragraph [0042]; figures 1-7 abstract	1-11
A	----- US 2010/300406 A1 (HARVEY WILLIAM T [US] ET AL) 2 December 2010 (2010-12-02) paragraph [0027] - paragraph [0031]; figures 1-4 abstract	1-11
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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

"E" earlier application or patent but published on or after the international filing date

"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)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"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

"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

"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

"&" document member of the same patent family

Date of the actual completion of the international search  5 January 2018	Date of mailing of the international search report  12/01/2018
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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  Hermens, Sjoerd
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# INTERNATIONAL SEARCH REPORT

International application No  
PCT/EP2017/074660

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 970 953 A (LORRAINE JACK R [US] ET AL) 26 October 1999 (1999-10-26) column 3, line 36 - column 4, line 37 abstract -----	1-11

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2017/074660

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
EP 3070323	A1	21-09-2016	CN 105986946 A	05-10-2016
			EP 3070323 A1	21-09-2016
			US 2016273501 A1	22-09-2016
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US 2015330347	A1	19-11-2015	CN 104246204 A	24-12-2014
			DE 102012206887 A1	31-10-2013
			EP 2841759 A1	04-03-2015
			JP 6111322 B2	05-04-2017
			JP 2015514903 A	21-05-2015
			KR 20150003758 A	09-01-2015
			US 2015330347 A1	19-11-2015
			WO 2013160038 A1	31-10-2013
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US 2010300406	A1	02-12-2010	NONE	
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US 5970953	A	26-10-1999	US 5970953 A	26-10-1999
			WO 0042315 A1	20-07-2000
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