

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)**

To:

see form PCT/ISA/220

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/EP2017/074660

International filing date (day/month/year)
28.09.2017

Priority date (day/month/year)
29.09.2016

International Patent Classification (IPC) or both national classification and IPC
INV. F02M61/14 F02M61/16

Applicant
CONTINENTAL AUTOMOTIVE GMBH

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application


2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA:



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Date of completion of this opinion

see form
PCT/ISA/210

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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established 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)).
2. This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
 - a. forming part of the international application as filed:
 - in the form of an Annex C/ST.25 text file.
 - on paper or in the form of an image file.
 - b. furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. furnished subsequent to the international filing date for the purposes of international search only:
 - in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)).
 - on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).
4. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	<u>1-11</u>
	No: Claims	
Inventive step (IS)	Yes: Claims	<u>1-11</u>
	No: Claims	
Industrial applicability (IA)	Yes: Claims	<u>1-11</u>
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1 Reference is made to the following document:

D1 EP 3 070 323 A1 (DELPHI TECH INC [US]) 21 September 2016
(2016-09-21)

2 D1 is regarded as being the prior art closest to the subject-matter of claim 1, and discloses:

A fuel injection assembly having a longitudinal axis (L) and comprising an elongate fuel injector having a fuel inlet port (68) and a fuel outlet port, an injector cup (32), a holding element (84,82,80) for securing the fuel injector to the injector cup (32), wherein the injector cup (32) comprises a generally cylindrical body extending along the axis L and having an upper and a lower end, the cup (32) having a cavity at its lower end adapted to receive a fuel inlet port of the fuel injector (68), a first opening or openings (46,54) are formed in the peripheral wall of the injector cup for receiving the holding element (84,82,80), the holding element (84,82,80) is generally U-shaped having two generally parallel arms (80,82) shaped and positioned to engage opposite lateral sides of an annular groove (78) in the fuel injector to secure the fuel injector in the injector cup (32), when inserted in the injector cup (32),

The subject-matter of claim 1 therefore differs from this known fuel injection assembly in that the free ends of the two arms of the holding element project from the injector cup, have adjacent the free ends a retention arrangement engageable by a spring clip, and the spring clip has at least one depending leg engageable in a corresponding receiving part on the fuel injector to accurately locate the angular position the fuel injector relative to the injector cup and is therefore new (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as providing a fuel injection assembly which is easier and quicker to assemble, particularly in securing the fuel injector in the injector cup.

The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons: In none of the in the search report cited documents can be found an

indication that would incite the man skilled in the art to modify the fuel injection assembly of D1 in a way that would lead to the subject matter of the application.

- 3 Claims 2-11 are dependent on one or more independent claims whose subject-matter is considered as being new and inventive, as discussed above, and as such said dependent claims also meet the requirements of the PCT with respect to novelty and inventive step.

Re Item VIII

- 4 Claim 1 does not meet the requirements of Article 6 PCT because the matter for which protection is sought is not clearly defined. The claim attempts to define the subject-matter in terms of the result to be achieved (cf. 'shaped and positioned to engage', which merely amounts to a statement of the underlying problem, without providing the technical features necessary for achieving this result.
- 5 Independent claim 1 is not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art
- 6 Reference number (18) in claim 2 seems to apply to both the spring clip as the retention arrangement. According to the requirements of Rule 11.13(m) PCT, the terminology and the signs must be consistent throughout the application.