

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

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

To:

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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/EP2019/078481

International filing date (day/month/year)
21.10.2019

Priority date (day/month/year)
30.11.2018

International Patent Classification (IPC) or both national classification and IPC
INV. B60H1/00 B60H1/24

Applicant
JAGUAR LAND ROVER LIMITED

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>11-14, 20</u>
	No: Claims	<u>1-10, 15-19</u>
Inventive step (IS)	Yes: Claims	
	No: Claims	<u>1-20</u>
Industrial applicability (IA)	Yes: Claims	<u>1-20</u>
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

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

The following prior art documents (cited in the international search report) are referred to in this communication:

D1: JP H07 156647 A

D2: DE 10 2017 003550 A1

D3: JP 2015 199461 A

D4: JP 2018 043727 A

Item V

- 1 As to independent **claim 1**: Document **D1** discloses (see paragraphs [0015]-[0055] and figures 1-11) a vehicle system for use in a vehicle, the vehicle system comprising a vehicle cabin defined, at least in part, by an upper cabin surface and a lower cabin surface (see figures 1-3), the vehicle system comprising an air flow system and at least one seat (50, 52, 58) that defines a seating area for a user (P), the air flow system comprising at least one air vent (1) disposed in at least one of the upper cabin surface and the lower cabin surface (see figures 1-3), and an airflow apparatus configured to direct an airflow through the at least one air vent (1), wherein the at least one air vent (1) is configured to direct the airflow around a periphery within which the seating area is defined so as to generate a thermal curtain at least partly around the seating area (see paragraph [0029] and figures 2 and 3).
- 1.1 As to independent **claim 16**: Document **D1** also discloses (see paragraphs [0015]-[0055] and figures 1-11) a control system for controlling an air flow system of a vehicle, the vehicle having a vehicle cabin defined, at least in part, by an upper cabin surface and a lower cabin surface (see figures 1-3), the vehicle comprising at least one seat (50, 52, 58) that defines a seating area for a user (P), and an air flow system, the air flow system comprising at least one air vent (1) disposed in at least one of the upper cabin surface and the lower cabin surface (see figures 1-3), and an airflow apparatus configured to direct an airflow through the at least one air vent (1), and the at least one air vent (1) is configured to direct the airflow around a periphery within which the seating area is defined so as to generate a thermal curtain surrounding the seating area (see paragraph [0029] and figures 2 and 3), the control system comprising one or more controllers, configured to receive a seat signal relating to whether or not

- the vehicle seat (50, 52, 58) is occupied (see paragraph [0038]), generate a control signal to control the airflow through the at least one air vent (1) in dependence on the seat signal, and output the control signal so as to generate the thermal curtain at least partly around the seating area if the seat (50, 52, 58) associated with the seating area is occupied (see figures 6 and 7).
- 1.2 As to independent **claim 18**: Document **D1** also discloses (see paragraphs [0015]-[0055] and figures 1-11) a method of controlling an air flow system for a vehicle having a vehicle cabin defined, at least in part, by an upper cabin surface and a lower cabin surface (see figures 1-3), the vehicle comprising an air flow system, and at least one seat (50, 52, 58) that defines a seating area for a user (P), the air flow system comprising at least one air vent (1) disposed in at least one of the upper cabin surface and the lower cabin surface (see figures 1-3), an airflow apparatus configured to direct an airflow through the at least one air vent (1), the method comprising directing the airflow around a periphery within which the seating area is defined so as to generate a thermal curtain at least partly around the seating area (see paragraph [0029] and figures 2 and 3).
- 1.3 A vehicle system for use in a vehicle, a control system for controlling an air flow system of a vehicle and a method of controlling an air flow system for a vehicle with all the features defined in independent **claims 1, 16 and 18** of the present application are thus already known from the above mentioned prior art document. Thus, it appears that independent **claims 1, 16 and 18** are not novel as required by Article 33(2) PCT.
- 1.4 In this regard, it is noted that the subject-matter of independent **claims 1, 16 and 18** lacks novelty also over documents **D2** (see in particular the at least one air vent (6.1, 6.2, 6.3, 6.4, 7.1, 7.2) of the vehicle (F) in figures 1-4 and the disclosure of the paragraphs [0006]-[0010], [0043]-[0044], [0046] and [0062]) and **D3** (see in particular the at least one air vent (32, 33, 51, 54) of the vehicle in figures 1, 3 and 14 and the disclosure of the paragraphs [0026], [0041], [0044], [0095]-[0096] and [0100]) and the subject-matter of independent **claims 1 and 18** lacks novelty also over document **D4** (see in particular the at least one air vent (41b, 43b) of the vehicle (1) in figures 1-4 and the disclosure of the paragraphs [0033], [0048]-[0053], [0070] and [0073]).
- 1.5 Moreover, document **D1** is also novelty destroying for the subject-matter of dependent **claims 2-5, 9-10, 15, 17 and 19** (see in particular paragraphs [0029] and [0038] and figures 2-3 and 6-7).

- 1.6 Furthermore, the subject-matter of dependent **claims 6-8** lacks novelty over document **D2** (see in particular paragraphs [0006]-[0010] and [0043]-[0044] and figures 3 and 4).
- 1.7 Thus, it appears that the subject-matter of dependent **claims 2-10, 15, 17 and 19** is not novel as required by Article 33(2) PCT.
- 1.8 Having regard to dependent **claims 11-14 and 20** it appears that said claims relate to minor constructional features which do not appear to constitute a difference which could lead to subject-matter involving an inventive step according to Article 33(3) PCT as they merely relate to one of the known straightforward possibilities which the skilled person would select, depending on the circumstances, without exercising inventive skill, in order to orient and position the at least one air vent in the vehicle cabin known from **D1/D2/D3/D4** and to choose the temperature of the air flow of the air flow apparatus of the vehicle system known from **D1/D2/D3/D4**.
- 1.9 Thus, it appears that the subject-matter of dependent **claims 11-14 and 20** does not involve an inventive step as required by Article 33(3) PCT.

Item VII

- 2 Independent **claims 1, 16 and 18** are not drafted in the two-part form in accordance with Rule 6.3(b) of the PCT.
- 2.1 Prior art documents as **D1, D2, D3 and D4** should have been mentioned in the description in order to set out more fully the background art useful for understanding the invention (see Rule 5.1(a)(ii) PCT).
- 2.2 Reference numerals should have been added after the technical features of the claims in order to increase the intelligibility of the claims (see Rule 6.2(b) PCT).

Item VIII

- 3 Although **claims 1 and 16** have been drafted as separate independent claims, it appears that **claim 16** substantially includes all the features of **claim 1**, and therefore it should have been formulated as a claim dependent on independent **claim 1** (see Article 6 PCT and Rule 6.4(a) PCT).

- 3.1 The expressions "the seat... the seat... the seat...", "the seat...", "air flow vent...", "air flow vent...", "the first and second air vents...", "the vehicle seat... the seat...", "the seat... the seat... the seat..." and "the first and second air vents..." in **claims 3-4, 9-11, 16 and 19-20** lack clarity (see Article 6 PCT) because they are in contradiction with the at least one seat, the at least one air vent, the at least one first air vent and the at least one second air vent which have been previously defined.
- 3.2 The formulation "the one or more controllers collectively may comprise..." in **claim 17** lacks clarity (see Article 6 PCT) because it is not clear if the one or more controllers comprise or not the at least one electronic processor and the at least one electronic memory device.