

PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing (day/month/year) **See form PCT/ISA/210**

Applicant's or agent's file reference 5035713/1076	FOR FURTHER ACTION See paragraph 2 below
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International application No. PCT/FR2010/050004	International filing date (day/month/year) 05.01.2010	Priority date (day/month/year) 07.01.2009
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International Patent Classification (IPC) or both national classification and IPC
F16H1/32 F16H57/02 F02C6/20 B64D27/26

Applicant
AIRBUS OPERATIONS (SAS)

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 or 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 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.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP	Date of completion of this opinion	Authorized officer
Facsimile No.		Telephone No.

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Box No. I	Basis of this opinion
1.	<p>With regard to the language, this opinion has been established on the basis of:</p> <p><input checked="" type="checkbox"/> the international application in the language in which it was filed</p> <p><input type="checkbox"/> 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)).</p>
2.	<p><input type="checkbox"/> 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))</p>
3.	<p>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 filed or furnished:</p> <p>a. (means)</p> <p><input type="checkbox"/> on paper</p> <p><input type="checkbox"/> in electronic form</p> <p>b. (time)</p> <p><input type="checkbox"/> in the international application as filed</p> <p><input type="checkbox"/> together with the international application in electronic form</p> <p><input type="checkbox"/> subsequently to this Authority for the purposes of search</p>
4.	<p><input type="checkbox"/> 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 in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.</p>
5.	<p>Additional comments:</p>

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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
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1. Statement			
Novelty (N)		Claims <u>1-7</u>	YES
		Claims _____	NO
Inventive step (IS)		Claims <u>1-7</u>	YES
		Claims _____	NO
Industrial applicability (IA)		Claims <u>1-7</u>	YES
		Claims _____	NO

2. Citations and explanations:

Reference is made to the following documents:

D1 FR 1 405 188 A (BOEING CO) 2 July 1965 (1965-07-02)

D2 EP 0 798 207 A2 (GEVERS DAVID E [US]) 1 October 1997 (1997-10-01)

D3 DE 29 03 389 A1 (BREINLICH RICHARD DR) 4 October 1979 (1979-10-04)

Document D1, which is considered to be the prior art closest to the subject matter of the claim, describes (the reference signs between parentheses apply to this document): an aircraft turbine engine which comprises means capable of completely shifting the engine, and therefore also the axis thereof, with respect to the aircraft.

Therefore, the subject matter of claim 1 differs from this known arrangement in that: the axis of the fan can be transversally shifted with respect to the axis of the generator of hot airflow which drives same.

The subject matter of claim 1 is therefore novel (PCT Article

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33(2)).

The problem addressed by the present invention can thus be considered to be that of enabling a fan with a larger diameter to be used, without compromising the ground clearance of the aircraft during landing, takeoff and during the stay of the aircraft on the ground.

The solution to this problem, as proposed in claim 1 of the present application, is considered to involve an inventive step (PCT Article 33(3)), for the following reasons:

no available document of the prior art suggests or even enables, in a double flow turbine engine with streamlined fan, the axis of the fan to be transversally shifted with respect to the generator or to the engine.

Although various documents such as D2 or D3 propose to swing or even transversally shift the axis of the aircraft propeller in a turbo-propeller, this cannot be adapted as such to a double flow turbo-fan, because the streamlining of a fan is not free to take any position, but, on the contrary, is closely linked to the generator by the fact that the fan streamlining surrounds a cold fluid which in turn surrounds the generator. On the other hand, the motor or the generator of the turbo-propeller does not contribute in a double flow arrangement, and makes possible a complete decoupling of the generator positions and propeller positions.

Claims 2-7 are dependent on claim 1 and as such likewise meet the PCT requirements of novelty and inventive step.

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Box No. V

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Box No. VII **Certain defects in the international application**

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

The description does not cite any document which reflects the prior art.