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**Datasheet for the decision  
of 26 January 2010**

**Case Number:** T 0229/08 - 3.2.01

**Application Number:** 99204292.9

**Publication Number:** 1010617

**IPC:** B64D 11/00

**Language of the proceedings:** EN

**Title of invention:**  
Overhead accomodations for aircraft

**Patentee:**  
The Boeing Company

**Opponent:**  
AIRBUS SAS/AIRBUS OPERATION/AIRBUS OPERATIONS Ltd/AIRBUS  
OPERATIONS GmbH/AIRBUS OPERATIONS S.L.

**Headword:**  
-

**Relevant legal provisions:**  
RPBA Art. 12(4)

**Relevant legal provisions (EPC 1973):**  
EPC Art. 54(2), 56

**Keyword:**  
"Late-submitted material - opposition"  
"Novelty (yes)"  
"Inventive step (yes)"

**Decisions cited:**  
G 0007/93, T 0229/85, T 0272/92, T 0633/97, T 0718/98

**Catchword:**  
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Case Number: T 0229/08 - 3.2.01

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.01  
of 26 January 2010

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(Opponents)

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**Decision under appeal:**

Decision of the Opposition Division of the European Patent Office posted 29 November 2007 rejecting the opposition filed against European patent No. 1010617 pursuant to Article 102(2) EPC 1973.

**Composition of the Board:**

**Chairman:** S. Crane  
**Members:** J. Osborne  
G. Weiss

## Summary of Facts and Submissions

- I. The appeal is directed against the decision posted 29 November 2007 rejecting an opposition filed against European patent No. 1 010 617. The patent derives from an application filed on 14 December 1999 and claiming right of priority from previous applications filed on 14 December 1998 (M2) and 9 December 1999.
- II. The following evidence in the opposition proceedings played a role also during the appeal:
- M4: EP-A-0 901 964 published 17 March 1999;
- M5: EP-A-0 901 963 published 17 March 1999;
- M6: DE-C-330 168;
- M7: EP-A-0 901 962 published 17 March 1999;
- M11: US-A-4 066 227.
- III. The opposition division had disregarded evidence designated as M12 which at the request of the patent proprietor was excluded from public inspection.
- IV. At oral proceedings held on 26 January 2010 the appellant requested that the decision under appeal be set aside and the patent revoked. The respondent requested that the appeal be dismissed (main request) or in the alternative that the patent be maintained in amended form on the basis of claims filed with a letter of 18 August 2008 (auxiliary requests 1 to 3).

V. Claim 1 as granted (main request) reads:

"An aircraft having a passenger cabin with a ceiling and a crown space above the ceiling and an accessible storage, rest, or work accommodation, comprising:

- (a) a compartment in the crown space having a minimum floor area of at least 1.4 m<sup>2</sup> (15 square feet);
- (b) an aperture in the passenger cabin ceiling, connecting the compartment to the passenger cabin, the aperture having a minimum width or diameter of at least 70 cm (28 inches);
- (c) a landing having a minimum area of at least 0.55 m<sup>2</sup> (6 square feet), positioned no more than 90 cm (36 inches) below the floor of the compartment, below at least a portion of the aperture, inside a passenger cabin module, and at least 135 cm (54 inches) below the crown of the aircraft fuselage; and
- (d) stairs or a ladder leading from the landing to the floor of the passenger cabin."

Claims 2 to 7 specify features additional to those of claim 1.

VI. The appellants' submissions may be summarised as follows:

The opposition division was wrong to have disregarded M12 since it is highly relevant. Although the document was filed only shortly before the oral proceedings they should have been postponed to enable an investigation of the matter of public availability. As regards introduction of M12 during the appeal procedure, in accordance with decision T 633/97 the acceptance of late-filed material into the procedure should depend on

the complexity of the matter. Late-filed material should be disregarded during the appeal procedure only if it raises technical or legal questions which are so complex that they cannot be dealt with without postponing oral proceedings. Since M12 was relied on in the statement setting out the grounds of appeal no such complex issues are present here.

The subject-matter of claim 1 according to the main request is not new with respect to each of M4, M5, M7 and M11. As regards M4 the embodiment of figures 3, 4 comprises a landing 56 which is separated from the floor of the overhead compartment by four steps. As is visible from figure 4 the steps are steep. An industry standard exists for such steps in accordance with which they have a vertical interval of between 18 and 30cm. Multiplying a scale factor derived from typical dimensions shown in M4 by the mid-point of the interval results in a height of less than 90cm for the four steps between the landing and the compartment floor. As regards the dimension of the landing 56, the minimum permitted dimension of the corridor shown in figures 3, 4 is 50.8cm and the steps are shown as being some 50% larger. Since the landing is essentially square it has a floor area larger than the minimum presently claimed. The function of the landing as a passing place, as described in the patent specification, is also known from M4 in which a landing is provided only in embodiments having no designated passing place. The specification of the landing as being for "safety purposes" also implies an area which would need to be larger than presently claimed. Thus, both of these facts confirm what can be derived from figure 4 of M4. M5 discloses an aircraft in which a passenger cabin is

provided beneath a ceiling which is shown above the people illustrated in figure 19, the area above the ceiling forming a crown space containing many seats. M7 discloses all features of present claim 1 for the same reasons as M4. M11 discloses an aircraft comprising a passenger cabin having a ceiling above which is a crown space in which there is a passenger compartment, see particularly figures 3, 4.

Even if the subject-matter of claim 1 according to the main request were new with respect to M4 by virtue of the features of the 0.55 m<sup>2</sup> minimum area of the landing and the maximum 0.9 m dimension from the landing to the floor of the compartment, it would not involve an inventive step. The advantages attributed to the claimed subject-matter by the respondent do not result from the features of the claim. The technical problems solved by the features of the claim are to facilitate or improve the passing of crew members and to ease entry into the compartment. These features are to be considered independently for inventive step and are each the result of an obvious measure for the skilled person since he would simply dimension the landing by selecting from common values. Alternatively, the skilled person wishing to improve on space utilisation in overhead sleeping areas would look to the technical field of railway sleeping wagons having similar problems and so become aware of M6. M6 discloses in figure 11 an upper compartment above a ceiling and reached from a landing accessible by a ladder. The features of 90 cm maximum and 0.55 m<sup>2</sup> minimum are implicitly disclosed because otherwise the use of the landing to access the upper compartment would be difficult. In the further alternative the claimed

features are the result of mere optimisation of parameters.

VII. The respondent's rebuttal was essentially that:

M12 was late filed and the opposition division correctly exercised its discretion under Article 114(2) EPC 1973. According to decision G7/93, "a Board of Appeal should only overrule the way in which a first instance department has exercised its discretion if it comes to the conclusion either that the first instance department in its decision has not exercised its discretion in accordance with the right principles ..., or that it has exercised its discretion in an unreasonable way, and has thus exceeded the proper limits of its discretion." The board therefore is bound by that decision to restrict its review accordingly.

The subject-matter of claim 1 according to the main request is new with respect to all of M4, M5, M7 and M11. The figures of M4 are diagrammatic and mutually inconsistent and so cannot be used as a sole source of disclosure, particularly not by measurement. The presently claimed area of the landing permits persons to pass each other. It is evident that the landing in figure 3 of M4 is not a passing place because in the embodiment of figure 9 there are both a landing and a passing place. As regards disclosure in M4 of the 90 cm dimension the only possible indication is the number of steps above the landing. Since the landing is always shown below halfway between the respective floors it is evident that the dimension above the landing would exceed 90 cm. The appellants' allegations regarding the dimension of the corridor have no validity for areas



accessible only by crew. Moreover, since the walls of the corridor are angled the dimension at the floor could be somewhat less than that required for a conventional aisle. The disclosure of M5 does not anticipate the subject-matter of claim 1 at least because the passenger cabin is not below the floor and there is no crown area above the ceiling. The relevant disclosure of M7 corresponds to that of M4. M11 does not disclose an aircraft having a passenger compartment in a crown space above the ceiling of a passenger cabin and therefore there is also no aperture providing access to such a compartment and no landing positioned beneath the floor of such a compartment.

The subject-matter of claim 1 also is not rendered obvious by the state of the art. When beginning from M4 and employing the problem/solution approach it is necessary to correctly define the problem. In accordance with case law it is not permissible to include in the statement of problem a pointer to the solution. M4 discloses passing places only in the compartment and does not address accessing the compartment from the landing. The patent specification lists multiple advantages deriving from the claimed features, some follow from the landing area, others from the height from the landing to the compartment. The ability to use the landing as a space for changing results from a combination of both. In as far as M4 does teach the position of a landing the present patent goes against that teaching by positioning the landing higher. Optimisation of parameters relates to balancing known constraints in a new way. However, in the present case there are new advantages achieved by the chosen values. It is conventional that space in commercial

aircraft be optimised for generation of revenue. Nevertheless, the stairwell according to M4 would be dead space whereas in accordance with present claim 1 space is made available below the steps. M6 can be seen as relevant only with the benefit of hindsight. Design and space considerations differ greatly between modern aircraft and railway wagons from 1920. Moreover, there is no teaching regarding the area of a landing.

### **Reasons for the Decision**

1. Conventional aircraft are designed to maximise the revenue generation of passenger cabin space by providing either accommodation for the highest number of passengers or facilities which enable accommodation of passengers paying premium rates. However, for long-haul flights additional accommodation is necessary to provide rest facilities for crew. In accordance with the present patent such rest areas are provided in a way as not to impact on revenue generation. A rest area is provided in the crown space of the fuselage above the ceiling of the passenger cabin and is accessed from a landing.

#### *State of the art*

2. The board concurs with the finding of the opposition division that M2 does not contain all features of claim 1 and the respondent does not challenge this finding. It follows that the first claimed date of priority is not valid and M4, M5 and M7 form state of the art within the meaning of Article 54(2) EPC 1973.

3. The opposition division disregarded M12 because it was late-filed and *prima facie* availability to the public before the second claimed date of priority could not be established. M12 had been filed on the last working day before the oral proceedings and whilst the appellants do not challenge that M12 was late-filed, they argue that it is highly relevant and that the opposition division had a duty to postpone the oral proceedings to investigate the matter of its public availability. The appellants request the board to admit M12 into the proceedings.

3.1 Article 12(4) RPBA essentially provides that everything presented in the statement setting out the grounds of appeal shall be taken into account by the board but "without prejudice to the power of the Board to hold inadmissible ... evidence ... not admitted in the first instance proceedings ...". The appellants argue that late-filed evidence should be disregarded during the appeal procedure only if it raises technical or legal questions which are so complex that they cannot be dealt with without postponing oral proceedings implies that any evidence submitted in a statement setting out the grounds of appeal must be taken into consideration. However, that would run contrary to the provision of Article 12(4) RPBA setting out the board's power to do otherwise. Decision G 7/93 (OJ EPO 1994, 775) relates to review of discretionary decisions taken by the first instance, albeit in the context of the exercise of discretion in accordance with Rule 86(3) EPC 1973. The Enlarged Board of Appeal states: "If a first instance department is required under the EPC to exercise its discretion in certain circumstances, such a department should have a certain degree of freedom when exercising

that discretion, without interference from the Boards of Appeal." The phrase "under the EPC" is a clear indication that the Enlarged Board of Appeal intended this statement to be applicable beyond the restricted provision of Rule 86(3) EPC 1973. The present board therefore considers that it is in the first place charged with reviewing the opposition division's exercise of its discretion. Decision T 633/97 (not published in OJ EPO), to which the appellants refer, relates only to evidence which is first filed during appeal proceedings and is therefore not relevant to the present case. The appellants' argument that the board's approach to this matter would encourage parties to delay the late filing of documents until filing an appeal is not valid. The provision of Article 12(4) RPBA relates to evidence which not only was not admitted but also "could have been presented" in first instance proceedings. It is therefore evident that in both cases the board would have equal power to hold late-filed evidence inadmissible, whereby the party filing the evidence during appeal would have to overcome the additional hurdle of satisfying the board that its action in first presenting it in the statement setting out the grounds of appeal did not amount to tactical abuse, see T 718/98 (not published in OJ EPO).

- 3.2 During the oral proceedings before the opposition division a total of more than one hour was spent on consideration of whether M12 should be introduced, in particular as to whether it had been shown to have been made available to the public. In the contested decision the opposition division clearly explains why it considered that the opponents had failed to show that M12 was available to the public before the second

priority date and therefore why it disregarded it in accordance with Article 114(2) EPC 1973. The board considers that in so doing the opposition division acted in accordance with the right principles and exercised its discretion in a wholly correct way.

- 3.3 The board therefore refuses the request of the appellants to introduce M12 into the procedure.

*Main request*

*Novelty*

4. M4 also relates to the provision of a rest area for crew in aircraft, positioned above the ceiling of the passenger cabin. Steps lead from the floor of the passenger cabin to the rest area which comprises an aisle bounded by bunks and, in some embodiments, a lounge area. M4 comprises seventeen figures showing various embodiments and concentrates on the layout of the rest area itself. The appellants rely on measuring the relative dimensions of the aisle and the steps in one embodiment to determine the size of a side of the landing and thereby arrive at its area. Since the drawings are diagrammatic, however, it has to be considered whether they serve to convey a technical teaching to the skilled person, see e.g. T 272/92 (not published in OJ EPO). Figures 2 to 4 are described as all illustrating the same embodiment, figure 2 being "a diagrammatic cross-section", figure 3 being "a diagrammatic top plan of the aft portion of the aircraft of figure 2" and figure 4 being "a diagrammatic top perspective of an overhead rest area in accordance with figure 3". In accordance with

figure 3 the stairway is incorporated together with an equipment bay in a passenger cabin module in the transverse centre of the aircraft. The stairway comprises a first group of steps leading transversely upwards to a landing followed by a second group leading longitudinally upwards. The drawing illustrates three risers in the first group and four in the second. In the perspective view of figure 4, on the other hand, it is not apparent that there is a landing, there being merely a straight stairway of seven steps visible. If the uppermost step of that stairway were in fact a landing there would be at least six steps leading transversely upwards to it. This is clearly inconsistent with figure 2. Inconsistency between drawings which are described as illustrating the same respective embodiments occurs also in respect of figures 6, 7 and 12, 13. As a result, M4 cannot be regarded as conveying a teaching to the skilled person as regards the relative dimensions of the steps, landing and aisle. Even if M4 were to be found to reliably teach a number of steps between the landing and the aisle, the appellants' assertion that the dimensions of each step and of the aisle would be determined in accordance with industry standards could not be accepted as no such standards have been made available as evidence in the file. It follows that the features of the at least 0.55 m<sup>2</sup> area of the landing and the maximum 90 cm dimension in claim 1 are not disclosed.

5. M5 also relates to an aircraft having provision for rest areas for crew but they are below the deck of an otherwise generally conventional passenger cabin. It follows that there is no disclosure of at least the

- feature of a compartment in a crown space above the ceiling of the passenger cabin.
6. The parts of M7 on which the appellant relies and which are potentially relevant to novelty of present claim 1 are essentially identical to the corresponding content of M4 and the board's findings set out under point 4 above apply in equal measure.
  7. M11 relates to a mezzanine structure for increasing the passenger carrying capacity of an aircraft. A supporting wall located on the longitudinal centre line of the floor of the passenger cabin supports an upper deck which is accessible by stairways at each end and which comprises a central aisle between lines of seats positioned on a floor somewhat raised above the aisle. The ceiling of the passenger cabin is close to the upper lobe of the fuselage. The appellants argue that the underside of the structure defines a ceiling whereby an aperture would be formed at each end of the structure and the aisle would form a landing. However, even if the aisle were considered to be a landing it would be neither below at least a portion of what the appellants consider to be the "aperture" nor in a passenger cabin module i.e. in a structure such as may be used in an aircraft to house a galley or toilet, as required by present claim 1.
  8. It follows from the foregoing that none of M4, M5, M7 and M11 discloses all features of present claim 1 and the board concludes that the subject-matter of claim 1 is new. Since claims 2 to 7 contain all features of claim 1 the same conclusion is applicable to them.

*Inventive step*

9. The board concurs with both parties that the closest state of the art is the disclosure of M4 which does not include the features that the landing:

- has a minimum area of at least 0.55 m<sup>2</sup>; and
- is positioned no more than 90 cm below the floor of the compartment.

9.1 The respondent argues that these two features in combination permit the landing to be used as an area for a crew member to change his clothes, whereby the 90 cm dimension would permit access to articles present in the compartment in which no provision for standing upright would be necessary. A further function attributed to the landing is that of a passing location. The corresponding problem to be solved would be to improve the utility of the arrangement disclosed in M4. The appellants argue that the advantages which the respondent attributes to the subject-matter of claim 1 are not, in fact, achieved by the features of the claim but only by a combination of further disclosed features. However, the board is satisfied that, whilst certain additional features would better permit the advantages to be achieved, the claimed features do represent the minimum necessary for rendering them achievable. The appellants further argue that the two features of claim 1 which are new with respect to M4 are to be considered independently and solve the respective problems of permitting turning on the landing and improving access from the landing to the aisle. However, these statements of problem include a pointer to the



solution offered by the subject-matter of present claim 1 and therefore do not result from a correct application of the problem/solution approach, see T 229/85 (OJ EPO 1987, 237).

- 9.2 The landing as disclosed in some embodiments of M4 serves merely as an intermediate platform between mutually orthogonal sections of the stairway, the only function attributed to it being related to safety, albeit in the absence of any further explanation. The appellants argue that a passing location is provided only in embodiments in M4 comprising no landing, thereby suggesting that the landing implicitly has that function. However, in each embodiment having a passing location it is positioned in a lounge area which in the embodiment of figure 9 is provided in combination with a landing on the staircase. Moreover, whilst the passing location in the lounge is mentioned in each embodiment in which it is present, the only function associated with the landing is safety. It follows that M4 provides no motivation to the skilled person to consider the landing as serving any purpose other than as an intermediate step in the stairway. The skilled person therefore would not choose to dimension the landing to permit crew members to pass. Since the landing is shown as being essentially square and defined by the steps above and below it, an area of at least  $0.55 \text{ m}^2$  would imply a step width of some 0.75 cm. Such a dimension would not be readily chosen by the skilled person putting into effect the teaching of M4, particularly the teaching that non revenue-generating space in the aircraft is at a premium.

9.3 The appellants further take the view that the two features of 0.55 m<sup>2</sup> and 90 cm both would result from a mere optimisation of parameters when putting into effect the teaching of M4. However, as already set out in the preceding paragraph, the skilled person would not select a step width so large as to create a landing of 0.55 m<sup>2</sup> area in the light of the teaching of M4 alone. Also, there is nothing in M4 which directs the attention of the skilled person to the vertical spacing between the landing and the floor of the compartment so the argument that he would 'optimise' this to a value of 90 cm or less is pure conjecture.

10. M6, which was published in 1920, relates to a railway sleeping car. It aims to improve on space utilisation when beginning from a state of the art in which beds were arranged at two levels in differing orientations. In a second embodiment according to M6 a bed in one compartment is located above the ceiling of another compartment and accessed via a ladder having a platform at its upper level. The appellants see this as a teaching to the skilled person to modify the arrangement according to M4 to arrive at the subject-matter of present claim 1. The board does not agree with that view. Firstly, the skilled person seeking to improve the teaching of M4 would not expect and therefore not seek inspiration from a document in a different technical field dating from some 80 years earlier. Secondly, M6 is wholly silent as regards the platform, in particular its size and position relative to the upper floor so that even if the skilled person were to consider it he would learn nothing which would cause him to adopt the presently claimed features. Indeed, the steps in M6 lead from a compartment which

in itself is adequately proportioned whereby the platform evidently serves no purpose beyond that of a convenient uppermost step.

11. On the basis of the foregoing the board concludes that the subject-matter of present claim 1 is not rendered obvious by the available state of the art. The board therefore finds that the subject-matter of claim 1 involves an inventive step. Since claims 2 to 7 contain all features of claim 1 that finding applies in equal measure to them. Under these circumstances consideration of the respondent's auxiliary requests would be superfluous.

## **Order**

### **For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:

C. Rodríguez Rodríguez

S. Crane