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Datasheet for the decision of 11 February 2025

Case Number: T 0353/23 - 3.2.01

Application Number: 07748051.5

Publication Number: 2148800

IPC: B60W30/14, B60W10/02, B60W10/06, B60K31/00, B60W30/18

Language of the proceedings: EN

Title of invention:
METHOD FOR INCREASING ACTIVE DURATION TIME OF AN AUTOMATIC FREEWHEELING FUNCTION IN A VEHICLE

Patent Proprietor:
Volvo Lastvagnar AB

Opponent:
Scania CV AB

Headword:

Relevant legal provisions:
EPC Art. 54, 56

Keyword:
Novelty - (yes)
Inventive step - (no) - obvious solution

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

Boards of Appeal

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Case Number: T 0353/23 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 11 February 2025

Appellant: (Patent Proprietor)	Volvo Lastvagnar AB 405 08 Göteborg (SE)
Representative:	Valea AB Box 1098 405 23 Göteborg (SE)
Respondant: (Opponent)	Scania CV AB 151 87 Södertälje (SE)
Representative:	Thum, Bernhard Thum & Partner Thum Mötsch Weickert Patentanwälte PartG mbB Siebertstr. 6 81675 München (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 20 December 2022 concerning maintenance of the European Patent No. 2148800 in amended form.**

Composition of the Board:

Chairman	G. Pricolo
Members:	M. Geisenhofer
	S. Fernández de Córdoba

Summary of Facts and Submissions

I. Appeals were filed by the patent proprietor and the opponent against the interlocutory decision of the opposition division finding that, on the basis of the auxiliary request 1, the patent in suit met the requirements of the EPC.

II. With regard to the main request, the opposition division held that the subject-matter of claim 1 lacked novelty over document:

E1 DE 10 2004 017 115 A1

III. The opponent withdrew their appeal with letter dated 17 June 2024, hence becoming respondent to the remaining appeal of the appellant-patent proprietor.

IV. Oral proceedings were held before the Board.

(a) The appellant (patent proprietor) requested that the decision under appeal be set aside and the patent be maintained in amended form on the basis of the claims of the main request filed with the statement of grounds of appeal.

(b) The respondent did not attend the oral proceedings. In their reply to the patent proprietor's statement of grounds of appeal, the respondent (opponent) submitted inter alia that the appellant's main request was not allowable for lack of novelty over

E1 or inventive step starting from E1, i.e. that the appeal of the patent proprietor be dismissed.

V. Independent claim 1 of the main request reads as follows:

"*Method for increasing active duration time of an automatic freewheeling function in a vehicle with cruise control and during a cruise control active period, said function comprising means for determining a first vehicle set speed ($v_{set\ speed}$) for when said function is allowed to be activated under at least prevailing conditions, said first vehicle set speed ($v_{set\ speed}$) being the set speed of the cruise control, comprising the steps of:*

- *calculating a predetermined allowable vehicle speed drop (d) to a first under speed value ($v_{underspeed}$) below said first vehicle set speed ($v_{set\ speed}$) for at least prevailing conditions and;*
- *controlling said function based on said under speed value, in order to extend active duration time of said function,*

and characterized in that the magnitude of said vehicle under speed value ($v_{underspeed}$) will not be lower than that a highest gear of a transmission in the vehicle, or a gear engaged just before the freewheel function was activated, will be possible to reengage when the vehicle speed reaches said vehicle under speed value ($_{vunderspeed}$) and the freewheel function will be inactivated and a gear will have to be engaged."

VI. The appellant's arguments can be summarised as follows:

(a) The subject-matter of claim 1 was novel over document E1 since

(i) E1 lacked the step of calculating an allowable speed drop based on the prevailing conditions; and

(ii) E1 did not require that the gear engaged after freewheeling was the same gear as when starting freewheeling.

(b) The prior art did not render the subject-matter of claim 1 obvious.

VII. The respondent's arguments can be summarised as follows:

(a) Document E1 disclosed both calculating the allowable speed drop based on prevailing conditions and using the same gear after freewheeling that was used before.

(b) In any case, the skilled person would modify the method of E1 such that the same gear as used before was also used after freewheeling.

Reasons for the Decision

1. The main request filed with the patent proprietor's statement of grounds of appeal is identical to the main request underlying the decision under appeal.

2. The subject-matter of claim 1 of the main request is novel over E1 (Article 54 EPC).

2.1 Document E1 discloses a method for increasing active duration time of an automatic freewheeling function in a vehicle with cruise control and during a cruise control active period (see paragraph [0008]), said

function comprising means for determining a first vehicle set speed $v_{set\ speed}$("*obere Schwelle der Sollgeschwindigkeit*") for when said function is allowed to be activated under at least prevailing conditions (see paragraph [0014]: "*äußere Randbedingungen und Einflüsse*"), said first vehicle set speed $v_{set\ speed}$ being the set speed of the cruise control (see paragraph [0016]).

The method comprises the steps of:

- calculating a predetermined allowable vehicle speed drop d to a first under speed value $v_{underspeed}$ ("*untere Schwelle der Sollgeschwindigkeit*") below said first vehicle set speed $v_{set\ speed}$ for at least prevailing conditions; and
- controlling said function based on said under speed value, in order to extend active duration time of said function (as soon as the set speed is exceeded, freewheeling is allowed until the speed drops below the under speed value).

2.2 The appellant argues that the under speed value of D1 is not calculated, in particular not for at least prevailing conditions.

2.2.1 In the Board's view, the under speed value ("*untere Schwelle*") of E1 is determined on the basis of the speed chosen by the driver when activating the active cruise control. The under speed value is obtained by deducing a speed drop from this speed.

2.2.2 The determination of the under speed value is done by considering a plurality of prevailing conditions as set out in paragraphs [0012] and [0014] such that the speed drop d must depend on the prevailing conditions (n. b. the vehicle set speed was set by the driver and hence

cannot be modified by the active cruise control), which implies that the speed drop d has not always the same value but is set individually. Determining the individual speed drop d thus involves a step of calculating.

2.3 The opposition division further held that the vehicle in E1 would use the same gear after freewheeling that was used when starting freewheeling. They referred to paragraph [0016] indicating suitable speed values, and considered it implicitly disclosed that a vehicle running at a speed of more than 100 km/h always used the highest gear available, hence also during the active cruise control described in that passage.

2.3.1 The Board agrees that it is probable that the vehicle of E1 uses during the active cruise control described in paragraph [0016] (i.e. when running at a speed between 100 km/h and 125 km/h) at any time the same gear, in particular the highest available gear. However, D1 does not exclude a gear shift at the end of the freewheeling function before reengaging.

2.3.2 E1 hence does not provide a direct and unambiguous disclosure that the speed drop d is chosen such that "*the magnitude of the vehicle under speed value will not be lower than that a highest gear of a transmission in the vehicle, or a gear engaged just before the freewheel function was activated, will be possible to reengage when the vehicle speed reaches said vehicle under speed value and the freewheel function will be inactivated and a gear will have to be engaged*".

2.4 Thus the subject-matter of claim 1 differs from the method known from E1 by the feature of the

characterizing portion, and hence is novel, contrary to the finding of the opposition division.

3. The subject-matter of claim 1 of the main request is, however, not inventive when starting from document E1 as closest prior art (Article 56 EPC).

3.1 As pointed out by the respondent in their reply, and mentioned by the Board in the communication pursuant to Article 15(1) RPBA, in the above-mentioned example of paragraph [0016] of E1, disclosing a speed variation from 125 to 100 km/h for a vehicle on a motorway ("Autobahnfahrt"), the skilled person would consider no gear shift as an obvious option, because usually at that speed range the highest available gear is the one that is engaged, and thus would also be the one that is reengaged at the end of the glide phase.

In fact, E1 aims at optimizing consumption and comfort, and in claim 8 teaches to use a higher gear when reaching the under speed value, as compared to normal operation. The Board agrees with the respondent that the disclosure of claim 8 suggests that for the example of paragraph [0016], although in normal operation a lower gear could be selected at 100 km/h, a higher gear may be engaged, i.e. the same high gear or the highest gear of the transmission may be re-engaged for accelerating the vehicle. Thus, the teaching of E1 renders it obvious avoiding a down-shifting when re-engaging a gear on termination of the freewheel function. In other words, the above-mentioned distinguishing feature is rendered obvious by the disclosure of E1.

3.2 The appellant argued that claim 1 of the main request requires that under any prevailing conditions the same

gear as used before freewheeling must also be used when reengaging the gear after freewheeling. At the oral proceedings the appellant referred to a hypothetical example in which a heavily packed vehicle driving on a steep incline of the road (the appellant referred to a vehicle on its way to a ski resort which carries a maximum of passengers with ski equipment on a steep road to the hill) would not be able to increase its speed from 100 km/h to 125 km/h with the highest gear transmission such that a downshift after freewheeling would be needed to accelerate.

The Board is not convinced by this argument because it refers to an extreme situation in which it is likely that the freewheeling function would not be initiated at all in E1, in view of the fact that in extreme load conditions the vehicle could not be run under optimized consumption conditions (which is the aim of E1, see paragraph [0006]), the power demand remaining constantly high and thus not allowing for freewheeling phases. In any case, contrary to the appellant's view, the claim does not require reengagement of the same gear when inactivating the freewheel function in all possible conditions, including any extreme conditions. It suffices that this is carried out in normal conditions in which cruise control is active and a freewheeling function available to allow for fuel savings (see paragraph [0012] of the contested patent), as in E1.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

H. Jenney G. Pricolo

Decision electronically authenticated