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**Datasheet for the decision
of 24 June 2022**

Case Number: T 2888/18 - 3.2.01

Application Number: 14167293.1

Publication Number: 2803619

IPC: B66F9/22, F16H61/475

Language of the proceedings: EN

Title of invention:

Industrial vehicle and method for controlling industrial vehicle

Patent Proprietor:

KABUSHIKI KAISHA TOYOTA JIDOSHOKKI

Opponent:

Linde Material Handling GmbH

Headword:

Relevant legal provisions:

EPC Art. 123(2), 54, 56, 84

RPBA Art. 12(2), 12(4)

RPBA 2020 Art. 13(1)

Keyword:

Amendments - added subject-matter - main request (yes) -
auxiliary request 1 (no)

Admission into proceedings - auxiliary request 1 (yes)

Claims - clarity - auxiliary request 1 (yes)

Novelty - auxiliary request (yes)

Inventive step - auxiliary request (yes)

Decisions cited:

T 2385/17, T 2891/18

Catchword:



Beschwerdekammern

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Case Number: T 2888/18 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 24 June 2022

Appellant: Linde Material Handling GmbH
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Decision under appeal: **Interlocutory decision of the Opposition**
Division of the European Patent Office posted on
23 October 2018 concerning maintenance of the
European Patent No. 2803619 in amended form.

Composition of the Board:

Chairman W. Marx
Members: M. Geisenhofer
O. Loizou

Summary of Facts and Submissions

I. The appeal was filed by the opponent (appellant) against the interlocutory decision of the opposition division that, on the basis of auxiliary request 9 (then on file), European patent EP 2 803 619 met the requirements of the EPC.

In particular, the opposition division decided that the subject-matter of the claims of this request

- was novel and inventive; and
- did not extend beyond the content of the application as filed.

II. The following documents are mentioned in the present decision:

E1	DE 10 2010 047 628 A1
E3	EP 2 617 675 A1

III. At the oral proceedings held before the board, the appellant (opponent) requested that the decision under appeal be set aside and that the patent be revoked.

The respondent (patent proprietor) requested that the appeal be dismissed (main request) or, in the alternative, that the patent be maintained in amended form on the basis of one of auxiliary requests 1 - 5 filed with the reply.

IV. Independent claim 1 according to the **main request** (patent as maintained during opposition proceedings) reads as follows:

"An industrial vehicle (101, 201) driven by an internal combustion engine (1), the industrial vehicle (101, 201) comprising:

a hydraulic mechanism (4, 5);
an operation lever (21a, 22a) operated to operate the hydraulic mechanism (4, 5);
a pump (2) driven by the internal combustion engine (1) to discharge hydraulic oil;
a hydraulic control valve unit (10, 210) supplied with the hydraulic oil from the pump (2) and adapted to control the hydraulic oil supplied to the hydraulic mechanism (4, 5) based on the operation of the operation lever (21a, 22a);
a lever operation detector (21b, 22b) adapted to detect the operation of the operation lever (21a, 22a);
an internal combustion engine controller (43) adapted to control the internal combustion engine (1); and
a valve controller (41) adapted to receive detection information from the lever operation detector (21b, 22b) and control the hydraulic control valve unit (10, 210),
wherein the valve controller (41) is adapted to determine whether a speed of the internal combustion engine (1) is less than or equal to a first predetermined speed,
wherein the valve controller (41) is adapted so that when the lever operation detector (21b, 22b) detects the operation of the operation lever (21a, 22a) under a situation in which the valve controller (41) determines that the speed of the internal combustion engine (1) is less than or equal to the first predetermined speed, the valve controller (41) operates the hydraulic control valve unit (10, 210) to discharge the hydraulic oil without supplying the hydraulic oil to the hydraulic mechanism (4, 5) and instructs the internal combustion engine controller (43) to increase the speed of the internal combustion engine (1), and, after instructing the internal combustion engine controller (43) to increase the speed of the internal combustion

engine (1), determines whether the speed of the internal combustion engine (1) exceeds the first predetermined speed and determines whether a predetermined time has elapsed since instructing the internal combustion engine controller (43) to increase the speed of the internal combustion engine (1), and subsequently operates the hydraulic control valve unit (10, 210) to supply the hydraulic mechanism (4, 5) with the hydraulic oil when the valve controller (41) determines that at least one of the conditions that the speed of the internal combustion engine (1) exceeds the first predetermined speed and that the predetermined time has elapsed is fulfilled."

The main request comprises a further independent claim 6, which reads as follows:

"A method for controlling an industrial vehicle (101, 201) that is driven by an internal combustion engine (1) and includes a hydraulic mechanism (4, 5), an operation lever (21a, 22a) operated to operate the hydraulic mechanism (4, 5), a pump (2) driven by the internal combustion engine (1) to discharge hydraulic oil, a hydraulic control valve unit (10, 210) supplied with the hydraulic oil from the pump (2) and adapted to control the hydraulic oil supplied to the hydraulic mechanism (4, 5) based on the operation of the operation lever (21a, 22a), and a lever operation detector (21b, 22b) adapted to detect the operation of the operation lever (21a, 22a), the method comprising: controlling the internal combustion engine (1) by an internal combustion engine controller (43); determining by a valve controller (41) whether a speed of the internal combustion engine (1) is less than or equal to a first predetermined speed; when the lever operation detector (21b, 22b) detects the operation of the operation lever (21a, 22a) under a

situation in which it is determined by the valve controller (41) that the speed of the internal combustion engine (1) is less than or equal to the first predetermined speed, operating the hydraulic control valve unit (10, 210) to discharge the hydraulic oil without supplying the hydraulic oil to the hydraulic mechanism (4, 5) and instructing the internal combustion engine controller (43) to increase the speed of the internal combustion engine (1); after operating the hydraulic control valve unit (10, 210) to discharge the hydraulic oil and instructing the internal combustion engine controller (43) to increase the speed of the internal combustion engine (1), determining by the valve controller (41) whether the speed of the internal combustion engine (1) exceeds the first predetermined speed and determining whether a predetermined time has elapsed since instructing the internal combustion engine controller (43) to increase the speed of the internal combustion engine (1); and operating the hydraulic control valve unit (10, 210) to supply the hydraulic mechanism (4, 5) with the hydraulic oil when determining by the valve controller (41) that at least one of the conditions that the speed of the internal combustion engine (1) exceeds the first predetermined speed and that the predetermined time has elapsed is fulfilled."

- V. Claims 1 and 6 of **auxiliary request 1** differ from claims 1 and 6 according to the main request in that the expression "at least one of the conditions" has been replaced by "one of the conditions".
- VI. The appellant's arguments can be summarised as follows and are dealt with in more detail in the Reasons for the decision:

- (a) The subject-matter of claim 1 of the **main request**, *inter alia*, extended beyond the disclosure of the application as originally filed since the expression "at least one of the conditions" also covered the scenario in which both cited conditions were fulfilled at the same time (and-alternative), which lacked disclosure in the application as filed. The same applied to claim 6.
- (b) **Auxiliary request 1** should not be admitted.

Firstly, the respondent failed to substantiate why all the deficiencies raised against the main request were overcome by the amendments filed with auxiliary request 1, the auxiliary request hence not complying with Article 12(2) RPBA 2007. Secondly, this request was only filed during appeal proceedings but should have been filed during opposition proceedings, thus not complying with Article 12(4) RPBA 2007.

Moreover, Article 13(1) RPBA 2020 was applicable, since this request was only substantiated with the respondent's letter of 10 February 2020, i.e. not in the reply to the statement of grounds of appeal.

- (c) Independent claims 1 and 6 of auxiliary request 1 were not limited but, instead, still claimed the and-alternative, the deficiencies identified with regard to the main request hence still applying to auxiliary request 1.
- (d) The subject-matter of claims 1 and 6 lacked disclosure in the application as filed. A combination of originally filed claims 1 and 2 did not provide a disclosure since it lacked several

features. The description, however, disclosed only two embodiments with many more features, such that claims 1 and 6 represented an unallowable intermediate generalisation.

- (e) Claims 1 and 6 lacked clarity since they defined neither what happened if the speed was above the predetermined speed nor how the discharge of oil was carried out.
- (f) The subject-matter of claims 1 and 6 of auxiliary request 1 lacked novelty over E1 and also lacked at least an inventive step over a combination of E1 with the common general knowledge or E3.

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

- (a) The **main request** was not unallowably amended since the expression "at least one of the conditions" was literally disclosed in paragraph [0043] of the description.
- (b) **Auxiliary request 1** resolved in particular the objection of unallowable amendment raised against the main request. The amendments were explained on page 18 in the reply to the statement of grounds of appeal, where reference was also made to the respondent's arguments presented with regard to the main request, thus providing reasons why the auxiliary request fulfilled the requirements of patentability.

The filing of this request during opposition proceedings was not necessary since the opposition division understood the expression not to cover the

and-alternative, contrary to the appellant's arguments when filing its appeal.

- (c) The expression "one of the conditions" had to be considered in its context and did not comprise a combination of conditions, contrary to the expression "at least one of the conditions".
- (d) The amended subject-matter was disclosed in the originally filed application as a combination of the originally filed claims 1 and 2. Moreover, some of the objections raised by the appellant under Article 123(2) EPC were new attacks, which were not put forward during the opposition proceedings and hence should not be admitted as late-filed submissions.
- (e) Claims 1 and 6 were clear enough. There was no need to provide more details. Besides, a discussion was not admissible in view of G 3/14.
- (f) The subject-matter of claims 1 and 6 was novel over document E1 since the latter did not disclose determining whether a predetermined time had elapsed since instructing the internal combustion engine to increase speed.
- (g) The use of time as one of the conditions was rendered obvious neither by the common general knowledge nor by E3. The attack based on a combination of E1 and E3 was a new attack and should not be admitted.

Reasons for the Decision

Main request

Amendments (Article 123(2) EPC)

1. Claim 1 as maintained by the opposition division (main request) contains subject-matter which extends beyond the content of the application as originally filed.

1.1 Claim 1 refers to "at least one of the conditions that the speed of the internal combustion engine exceeds the first predetermined speed and that the predetermined time has elapsed".

This passage of claim 1 hence defines two conditions which the valve controller determines to be fulfilled, whereby either only one of the conditions is fulfilled at a time (i.e. either the speed of the engine exceeds the first predetermined speed or the predetermined time has elapsed) or both conditions are fulfilled simultaneously (i.e. the speed of the engine exceeds the first predetermined speed and the predetermined time has elapsed).

1.2 A criterion using both conditions at the same time is, however, not disclosed in the application as originally filed.

1.2.1 Originally filed claim 2 reads "when determining that a predetermined time has elapsed or the speed of the internal combustion engine has increased". Therefore, it only provides direct and unambiguous support for either the one condition or the other condition, but not for both conditions being fulfilled at the same time.

1.2.2 This is also supported by the description: As set out in the flow diagram of the control shown in figure 2, the control first checks whether the predetermined time has elapsed (S5), and it is only in the event that the predetermined time has not yet elapsed that it is checked whether the engine speed has increased (S7). If the predetermined time has already elapsed, the control cancels directly the subsequent unload instruction without checking the engine speed condition.

1.2.3 The respondent argues that the expression "at least one of the conditions" used in claim 1 is literally disclosed on page 8, line 20, of the description as originally filed (paragraph [0043] of the published application).

This passage is, however, part of the description of a first embodiment of the invention relating to the control of figure 2 (see "Brief Description of the Drawings" and paragraph [0028]). Therefore, the skilled person, when reading the description, does not merely follow the literal meaning of the passage on page 8, line 20, in isolation without considering the context. Moreover, the skilled person also considers the steps shown in figure 2 and explained in paragraphs [0031] - [0036] of the published application and deduces therefrom that the first embodiment does not provide for a check for both conditions at the same time.

1.3 The use of both conditions at the same time therefore lacks a direct and unambiguous disclosure in the application as originally filed, claim 1 hence not complying with the requirements of Article 123(2) EPC.

The same applies *mutatis mutandis* to claim 6.

- 1.4 The patent in suit hence cannot be maintained on the basis of the main request, contrary to the decision of the opposition division.

Auxiliary request 1

Admittance

2. Auxiliary request 1 was filed by the respondent with the reply to the statement of grounds of appeal and was admitted into the appeal proceedings by the board.
- 2.1 The appellant alleged that auxiliary request 1 was filed without any substantiation as to why it remedied the various objections raised, auxiliary request 1 hence not fulfilling the requirements of Article 12(2) RPBA 2007 ("*the reply shall contain a party's complete case ... and should specify all the facts, arguments and evidence relied on*"). Therefore, it should not be taken into account according to Article 12(4) RPBA 2007 ("*everything presented by the parties ... shall be taken into account by the Board if and to the extent it ... meets the requirements in (2)*").
- 2.1.1 The board does not agree since the respondent referred - on page 18 of its reply to the statement of grounds of appeal under the heading "II. AUXILIARY REQUEST 1" in the second paragraph - to the appellant's argument that the and-alternative in claim 1 lacked disclosure in the application as originally filed (see reference to "section '4. Feature i2'"). It is therefore clear that auxiliary request 1 was filed to overcome the objection under Article 123(2) EPC with regard to the and-alternative.

- 2.1.2 Furthermore, the respondent stated in the third paragraph that "the before-mentioned argumentation given with respect to the Main Request applies to Auxiliary Request 1 as well". In the parts of its reply to the statement of grounds relating to the main request, the respondent set out why further objections under Article 123(2) EPC should be considered unfounded and why the requirements of novelty, inventive step and clarity were fulfilled.
- 2.1.3 Therefore, auxiliary request 1 filed with the reply to the appellant's statement of grounds of appeal is sufficiently substantiated as required under Article 12(2) RPBA 2007 in combination with Article 12(4) RPBA 2007.
- 2.1.4 Decision T 2385/17 mentioned by the appellant is not applicable in the present case. Indeed, that decision concerned a different situation, in which auxiliary requests were filed by the respondent in its reply without even providing any arguments as to why the amended set of claims overcame the objections raised.
- 2.2 For this reason, the appellant's further argument that the filing of auxiliary request 1 was only substantiated by the respondent after it had filed the reply and hence represented an amendment of the respondent's case that had to comply with Article 13(1) RPBA 2020 cannot be accepted either.
- 2.3 The appellant also argued that this request should have been filed during opposition proceedings and therefore was not to be admitted under Article 12(4) RPBA 2007. In particular, the formulation "at least" had been subject of an objection already during opposition

proceedings, as confirmed by auxiliary requests 3 and 4 filed in first-instance proceedings. Therefore, the patent proprietor should have reacted earlier by filing a further auxiliary request in order to avoid the risk of having no pending auxiliary request if the objection were to convince the board.

As seen in the contested decision, the opponent objected to the combination of using both time and speed at the same time as criteria for deciding whether to supply oil to the hydraulic mechanism in claim 1 of auxiliary request 9 as maintained in opposition proceedings, i.e. the and-alternative specified in claim 1, (see Reasons for the Decision, page 16, point 2.9.2, last sentence). However, the opposition division concluded (point 2.9.5) that the requirements of Article 123(2) EPC were met. The respondent hence had neither a reason nor an opportunity during opposition proceedings to file a further request after filing auxiliary request 9 during oral proceedings before the opposition division, in which the and-alternative was omitted. Auxiliary request 1 was only filed in response to the statement of grounds of appeal, where the appellant once again objected the lack of disclosure of the and-alternative.

2.4 Finally, the appellant alleged that the amendments according to auxiliary request 1 did not limit the scope of claims 1 and 6 since the expression "one of the conditions A and B" also covered a combination of conditions A and B, and hence was equivalent to "at least one of the conditions A and B" as specified in the main request. According to the case law of the Boards of Appeal, "one" had to be construed as "at least one". In support of this understanding, the appellant referred to T2891/18, reasons 1.2.2.

Furthermore, the appellant argued that the use of the word "conditions" in the plural already constituted a combination of several conditions. This understanding was confirmed by the conditions being enumerated whereby the conjunction "and" (and not "or") was used between the conditions.

- 2.4.1 In the board's view, the expression "one of the conditions A and B" used in the context of the patent in suit cannot be understood to also cover the combination of conditions A and B.

The word "conditions" must necessarily be used in the plural since a plurality of possible conditions are enumerated thereafter. It is also linguistically correct to separate the only two items of the enumeration by the conjunction "and".

- 2.4.2 This is also not contrary to the decision T2891/18, which states that if a claim requires an entity N times, the entity may also be present in a number of more than N, i.e. the expression is to be understood as "at least N times". The expression "one of the conditions" constitutes, however, not a pointer to a combination of conditions. Instead, it only indicates that, besides the explicitly cited conditions, further conditions may be applied as separate, but independent conditions and not combinations thereof.

- 2.4.3 In the board's understanding, the expression "one of the conditions A and B" is therefore not equivalent to "at least one of the conditions A and B" and does not include the combination of conditions A and B. The breadth of claims 1 and 6 of auxiliary request 1 is hence restricted compared to the main request.

2.5 For the above reasons, the board admitted auxiliary request 1 into the appeal proceedings.

Amendments (Article 123(2) EPC)

3. The subject-matter of claim 1 of auxiliary request 1 is disclosed in the application as originally filed.

3.1 The opposition division referred in its decision only to the description - of a first embodiment of the invention described in paragraphs [0029] and [0035] [0039] or of a second embodiment described in paragraphs [0056] and [0060]-[0062] - as a possible disclosure for the claimed subject-matter.

3.2 The board, however, considers claim 1 of auxiliary request 1 to be based mainly on a combination of the originally filed claims 1 and 2.

The arguments of the appellant with regard to an unallowable intermediate generalisation of what was disclosed in the description of the first or second embodiment in the above-mentioned paragraphs are hence irrelevant.

3.3 With regard to the disclosure of originally filed claims 1 and 2, the appellant argued that the originally filed claim 2 referred - in the list of criteria for cancelling the unload instruction (i.e. "*to supply the hydraulic mechanism with the hydraulic oil*") - to "*an increase of speed*" in general, whereas claim 1 of auxiliary request 1 referred to "*a speed that exceeds a first predetermined speed*". The increase in speed in claim 2 was not quantified, and a speed could allegedly be increased (e.g. by a small amount)

without exceeding the claimed threshold - this depended only on the choice of the threshold.

3.3.1 As correctly noted by the appellant, the speed increase in the originally filed claim 2 is not further quantified and it even comprises small increases in engine speed, e.g. due to fluctuations. However, the same applies to "the first predetermined speed" recited in claim 1, representing the threshold used to determine whether or not the engine speed is increased. This is confirmed by paragraph [0070] of the published application, which states that "*the predetermined speed may be any speed that allows detection of increase in the engine speed*".

3.3.2 It is important to note that the patent in suit uses the expressions "increase of speed" and "speed exceeding a first predetermined speed" as synonyms.

Here, the board shares the respondent's view (see letter dated 29 December 2021) that paragraph [0070] specifies that "*the first predetermined speed ... is used as the reference to determine whether or not the engine speed has increased*". Therefore, the originally filed application contains clear support for replacing the step of "*determining that the speed of the internal combustion engine has increased*" (original claim 2) by specifying the reference for determining an increase of speed, namely by "*determining whether the speed of the internal combustion engine exceeds the first predetermined speed*" (paragraph [0070]).

3.3.3 The information given in paragraph [0070] stating that an increase in speed is to be considered equivalent to a speed exceeding a preset threshold constitutes general information that is not inextricably linked to

further features mentioned in that paragraph. Contrary to the appellant's view, it is not the decisive key issue in that context whether the engine speed is detected by a speed sensor or by different means since the determination of whether the speed condition is fulfilled does not depend on how it is measured.

- 3.3.4 It is not decisive either whether the threshold is described as a "*predetermined speed*" or a "*first predetermined speed*" since no particular value is mentioned in the expression used for the threshold.
- 3.3.5 It was thus originally disclosed that a threshold defined as a "*first predetermined speed*" is used to determine whether the speed has increased, as specified in the originally filed claim 2.
- 3.4 The appellant further argued that the originally filed claim 1 referred to "a situation in which a speed of the internal combustion engine is less than or equal to a predetermined speed" but did not specify which part of the vehicle carried out that check. Claim 1 of auxiliary request 1, however, required it to be the valve controller that carried out the check, but this information was only disclosed in paragraph [0029] of the description in combination with a "*speed sensor (42)*".
 - 3.4.1 Since the vehicle of claim 1 as originally filed comprises, besides mechanical parts (such as a pump, a valve unit and a hydraulic mechanism), only a valve controller and an internal combustion engine controller, one of these controllers must carry out the check. As can be seen in figure 1, the engine controller (43) exclusively receives input from the valve controller (41) whereas the valve controller

receives various inputs such as information about speed. It is hence clear that it can only be the valve controller that checks whether the speed has exceeded the first predetermined speed.

- 3.4.2 This information is, furthermore, not inseparably linked to how the speed is measured, in particular not being inseparably linked to the speed sensor mentioned in paragraph [0029] and shown in figure 1, as alleged by the appellant. The skilled person knows from their expert knowledge a plurality of further methods to measure speed, whereby the kind of measurement of the speed is not inseparably linked to the step of determining whether the measured speed has increased.
- 3.5 The appellant further argued that the originally filed claim 1 claimed that a speed criterion was only determined under the condition that the lever operation detector detected operation of the operation lever, whereas in claim 1 according to auxiliary request 1 (added feature: "*the valve controller (41) is adapted to determine whether a speed of the internal combustion engine (1) is less than or equal to a first predetermined speed*") the determination of whether a speed of the internal combustion engine was less than or equal to a first predetermined speed was not dependent on this condition. Consequently, the claimed subject-matter of granted claim 1 was broader and extended beyond what was originally disclosed.
- 3.5.1 The board cannot accept this argument since the originally disclosed expression "*wherein the valve controller is adapted so that when the lever operation detector detects the operation of the operation lever under a situation in which a speed of the internal combustion engine is less than or equal to the*

predetermined speed" already requires the valve controller to be adapted to determine whether a speed of the engine fulfils the specified speed condition. In particular, this speed condition has to be fulfilled in claim 1 as originally filed as a prerequisite for triggering - in response to an operation of the lever - the claimed operation of the hydraulic valve unit to discharge hydraulic oil. It hence was - contrary to the appellant's understanding - not provided in originally filed claim 1 to only determine the speed when the lever is operated but speed was determined permanently. Therefore, the insertion of this determination step as an additional feature in claim 1 of auxiliary request 1 merely specifies a feature which was already present in the original claim 1.

- 3.6 The appellant furthermore argued that claim 1 of auxiliary request 1 specified ("*...since instructing the internal combustion engine controller to increase the speed*") that the starting point of the time measurement was the instant when the valve controller instructed the combustion engine controller to increase the speed of the combustion engine, i.e. a sequence of steps (increase instruction and determination step) defining a first time interval (subsequently followed by a second time interval in which the hydraulic control valve unit was operated to supply hydraulic oil). This information was not available in the claims as originally filed.

Claim 2 as originally filed, however, refers to this point in time when using the expression "*after instructing the internal combustion engine controller to increase the speed of the internal combustion engine...*".

It is hence disclosed in the originally filed claim 2 that the time is to be measured starting from the instruction to increase speed.

- 3.7 Finally, the appellant argued that the expression "one of the conditions" must be understood as "at least one of the conditions". Claim 1 of auxiliary request 1 hence also disclosed a combination of speed exceeding the first predetermined speed and time exceeding the predetermined time, whereas claim 2 as originally filed disclosed only either the speed exceeding the first predetermined speed or time exceeding the predetermined time.

As set out above in the section on admittance of auxiliary request 1, the appellant's understanding of the expression "one of the conditions" is not shared by the board. In the board's understanding, the expression used in claim 1 of auxiliary request 1 corresponds in content to the expression used in claim 2 as originally filed.

- 3.8 The same applies *mutatis mutandis* to claim 6.
- 3.9 None of the appellant's objections raised under Article 123(2) EPC thus prejudices the maintenance of the patent based on auxiliary request 1.
- 3.10 Since the appellant's objections did not convince the board, the question of whether some of those objections were raised for the first time in appeal proceedings and therefore should not be allowed can be left unanswered. This is in line with what was requested by the respondent.

Clarity (Article 84 EPC)

4. Claims 1 and 6 of auxiliary request 1 are clear.

4.1 The appellant alleged that claims 1 and 6 only defined how the hydraulic valve control unit was operated if the speed of the internal combustion engine dropped below the predetermined speed, but they remained silent with regard to its control if the speed was above the threshold. This rendered the claimed subject-matter unclear. Moreover, by using terms such as "whether" or "when", this suggested that only one condition out of a plurality of conditions was checked.

Since the EPC does not stipulate that all details of the vehicle and its control are to be defined in the independent claim but only the features relevant to a clear and complete definition of the invention, the board sees no reason why claim 1 or 6 should define the claimed control in the case of different conditions being fulfilled, e.g. how the combustion engine is controlled if the speed is above the threshold. The invention consists of a particular control carried out when the speed drops below the predetermined speed, whereby the aim is to regain speed of the combustion engine without stalling.

4.2 The appellant further argued that claims 1 and 6 did not define how the hydraulic oil was discharged.

Once again, this is not the decisive key issue for the definition of the invention. It is sufficient that, as soon as the combustion engine is likely to stall, the vehicle is freed from load by discharging hydraulic oil. How the oil is discharged, which parts of the vehicle are involved and whether the hydraulic oil

remains in a closed hydraulic circuit or an open circuit is used are not decisive issues for defining the invention.

- 4.3 The board hence considers it unnecessary to claim the additional information allegedly required according to the appellant.
- 4.4 As regards the alleged contradiction between the selection of a single condition ("*determines one of the conditions*") and the term "and" specified in the last feature of claim 1 when enumerating the conditions, the board finds that this feature is linguistically correctly formulated, as set out further above (point 2.4). The board also sees no clarity issue in the fact that the discharge of hydraulic oil depends exclusively on the operation of the operation lever, whereas for the subsequent supply with hydraulic oil there is no indication of whether the operation lever is still operated.
- 4.5 Since the arguments put forward by the appellant are not convincing in substance, it can be left open whether the clarity objections raised under Article 84 EPC can prejudice the maintained claims or whether those objections only concern granted features that cannot be the subject of an objection according to G 3/14.

Novelty (Article 54 EPC)

5. The subject-matter of claim 1 of auxiliary request 1 is novel over document E1.

- 5.1 It is undisputed between the parties that E1 discloses an industrial vehicle driven by an internal combustion engine (2), the industrial vehicle comprising:
- a hydraulic mechanism (12);
 - an operation lever (20b) operated to operate the hydraulic mechanism;
 - a pump (15) driven by the internal combustion engine to discharge hydraulic oil;
 - a hydraulic control valve unit (16) supplied with the hydraulic oil from the pump and adapted to control the hydraulic oil supplied to the hydraulic mechanism based on the operation of the operation lever;
 - a lever operation detector (see paragraph [0034]) adapted to detect the operation of the operation lever;
 - an internal combustion engine controller (4) adapted to control the internal combustion engine; and
 - a valve controller (5) adapted to receive detection information from the lever operation detector and control the hydraulic control valve unit.

The valve controller (5) is adapted to determine whether a speed of the internal combustion engine is less than or equal to a first predetermined speed (n_{uL}).

The valve controller is adapted so that when the lever operation detector detects the operation of the operation lever in a situation in which the valve controller determines that the speed of the internal combustion engine is less than or equal to the first predetermined speed, the valve controller instructs the internal combustion engine controller to increase the speed of the internal combustion engine. This situation

corresponds to leaving a stand-by of the engine when the vehicle is at rest to restart operation.

After instructing the internal combustion engine controller to increase the speed of the internal combustion engine, the valve controller further determines whether the speed of the internal combustion engine exceeds the first predetermined speed and it is only then that it allows operation of the hydraulic control valve unit to supply oil to the hydraulic mechanism.

5.2 Firstly, it was disputed whether the valve controller in E1, in the situation in which the speed of the internal combustion engine does not exceed the first predetermined speed and the operation lever is actuated, also operates the hydraulic control valve unit to discharge the hydraulic oil without supplying the hydraulic oil to the hydraulic mechanism.

5.2.1 The appellant argued that this was implicitly disclosed in E1 since the running pump (being in communication with a storage reservoir for hydraulic oil) continuously provided hydraulic oil to the hydraulic mechanism such that the oil had necessarily to be discharged somewhere (e.g. to the storage reservoir) if the operating function of the load device in E1 was inhibited. Indeed, the pressure in the system would, otherwise, increase beyond its limits.

5.2.2 This is based, however, on the incorrect assumption from the disclosure in E1 that the pump in E1 will always provide a specific amount of hydraulic oil to the hydraulic mechanism. There is no disclosure in E1 concerning what happens to the hydraulic oil when the operating function of the load device is inhibited. It

is also common practice to either stop the hydraulic pump in the case of a stand-by of the vehicle engine or to at least reduce the displacement volume of the hydraulic pump to zero. It therefore cannot be concluded that, if the stand-by situation is left in E1 and the engine speed does not exceed the first predetermined speed, the pressure in the hydraulic mechanism necessarily increases such that a discharge of hydraulic oil is an inevitably required measure and thus is implicitly disclosed in E1.

- 5.2.3 Further arguments put forward by the appellant in this respect, namely that the term "*to discharge*" did not limit the subject-matter of product claim 1 since it only described a function or suitability, or that the term "when" (see: "*when the lever operation detector detects ...*") only specified an optional condition which did not have to be fulfilled, did not convince the board.

These features are specified in the context that "*the valve controller is adapted so that ...*" and therefore require a valve controller performing exactly these functions. Moreover, it cannot be derived directly and unambiguously from E1, allegedly disclosing that no hydraulic oil was supplied to the hydraulic mechanism when operating in stand-by, that an excess of hydraulic oil necessarily exists and has to be discharged, e.g. to a storage reservoir or by recirculating the fluid. As set out in the preceding paragraph, there are further options available in order to avoid an overpressure situation.

- 5.3 Secondly, the appellant argued that the valve controller in E1 was in principle able to measure time since, after a preset time of non-operation in the

order of a few seconds (said time was not further specified in claim 1), the engine was set in a stand-by mode (see paragraph [0039] of E1). The valve controller was thus suitable - as allegedly only required by the term "adapted to" - to be reprogrammed to also determine whether a predetermined time had elapsed since instructing the internal combustion engine controller to increase the speed of the internal combustion engine. Moreover, allegedly, it was necessarily required in E1 (see paragraph [0041] using the term "solange") that a time span had passed since blocking the signal of the operation lever.

5.3.1 By specifying that "the valve controller is adapted so that ...", however, claim 1 of auxiliary request 1 requires the valve controller to be able to determine the time that has elapsed since instructing the speed increase, i.e. a hardware device or software programmed to carry out the function of determining this specific time span, which is not disclosed in respect of the control units known from E1. The only time span determined in E1 relates to a period of non-actuation of the operating lever ("*Nichtbetätigungszeitspanne*") to start a stand-by operation of the engine. Moreover, paragraph [0041] in E1 merely states that the signal is blocked until the minimum rotational speed is reached. There is no disclosure regarding a determination of whether a predetermined time has elapsed since instructing the internal combustion engine controller to increase the speed of the internal combustion engine.

5.3.2 As a consequence thereof, the valve controller of E1 is also unable to operate the hydraulic control valve unit to supply the hydraulic mechanism with the hydraulic oil when the valve controller determines that one of

the conditions that the speed of the internal combustion engine exceeds the first predetermined speed and that the predetermined time has elapsed is fulfilled. The reason for this is that the valve controller of E1 is not able to check the second condition (that the predetermined time has elapsed, which is the time determined since instructing the internal combustion engine controller to increase the speed), which is not considered to be merely an optional alternative.

- 5.4 The subject-matter of claim 1 thus differs from the vehicle of E1 in that
- the valve controller operates the hydraulic control valve unit to discharge the hydraulic oil without supplying the hydraulic oil to the hydraulic mechanism when the speed does not exceed the predetermined first speed;
 - the valve controller determines whether a predetermined time has elapsed since instructing the internal combustion engine controller to increase the speed of the internal combustion engine; and
 - the valve controller subsequently operates the hydraulic control valve unit to supply the hydraulic mechanism with the hydraulic oil when the valve controller determines that one of the conditions that the speed of the internal combustion engine exceeds the first predetermined speed and that the predetermined time has elapsed is fulfilled.

- 5.5 The same reasoning applies *mutatis mutandis* to independent claim 6.

Inventive step (Article 56 EPC)

6. The subject-matter of claim 1 of auxiliary request 1 is not rendered obvious starting from E1 as the closest prior art.

6.1 The appellant argued that discharging oil to unload the hydraulic mechanism and avoid an increase in pressure was part of the common general knowledge of the skilled person, but was also rendered obvious by E3, which explicitly showed a discharge piping.

Furthermore, the skilled person would also determine the time elapsed since the instruction to increase the speed of the combustion engine, and would compare this time with a predetermined time as a supplementary condition used to decide whether to supply oil to the hydraulic mechanism, in order to prevent stalling of the engine (as mentioned in paragraph [0069] of the patent). This problem was also mentioned in E1 (paragraph [0013]), which suggested taking into account a time span (see paragraphs [0039] and [0041], as discussed in respect of novelty), which the skilled person only had to consider also in case of an actuation of the operation lever. Moreover, this problem was allegedly solved in E3 (see paragraphs [0005], [0007]) by discharging hydraulic oil if the engine speed was lower than a predetermined value (paragraph [0032]), and "then" supplying hydraulic oil to the hydraulically operated device (see paragraph [0031] if the engine speed was higher than the predetermined value: the term "then" implying an offset in time).

6.1.1 Admittedly, the skilled person could probably reprogram a valve controller to determine the time elapsed since

the instruction to increase speed of the combustion engine. However, there is no reason available that explains why the skilled person starting from E1 as the closest prior art indeed would do that, in particular since there is no reason to use an additional condition based on time in E1. The non-actuation period used in E1 to reduce engine speed to a stand-by speed (paragraph [0039]) is not related at all to a check carried out when the operation lever is actuated, thereby triggering the increase of the engine speed. The sentence mentioned by the appellant in paragraph [0041] of E1 does not refer to a predetermined time period, but merely states that the decisive criterion for blocking the encoder signal is whether the minimum speed has been reached or not. Paragraph [0032] of E3 does not teach that the exceeding of the speed of the internal combustion engine and the supply of hydraulic oil have to take place offset in time, i.e. no teaching for checking whether a predetermined time has elapsed is derivable therefrom.

6.1.2 There is no document available that teaches that, in addition to, or instead of, checking whether the actual speed is above a threshold before providing oil to the hydraulic mechanism, one could also use a time-based criterion. Alleging that this was an obvious modification of E1 is an unallowable *ex post facto* analysis based on the knowledge that the patent in suit uses time as an additional criterion.

6.1.3 The board therefore considers it not obvious to use the time elapsed since the instruction to increase the speed of the combustion engine. Therefore, claim 1 of auxiliary request 1 is based on an inventive activity.

- 6.2 It hence can be left open whether the skilled person would obviously consider discharging oil to unload the combustion engine under the condition specified in claim 1.
- 6.3 The same reasoning applies *mutatis mutandis* to independent claim 6.
- 6.4 Since the combination of E1 and E3 does not allow a skilled person to arrive at the claimed invention, the question of whether this line of argument represents a new line of attack can be left unanswered.
7. Further lines of argument were not raised by the appellant and the board thus sees no reason why the patent should not be maintained on the basis of auxiliary request 1.
8. Amending the description as upheld by the opposition division was not necessary, as agreed by the parties.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division with the order to maintain the patent in amended form in the following version:

Description:

Pages: 4 to 7 of the patent specification and pages 2, 3 and 8 as filed during the oral proceedings before the opposition division on 14 June 2018.

Claims:

No. 1 to 6 according to the auxiliary request 1 filed with the reply to the statement of grounds of appeal dated 5 July 2019.

Drawing sheets 1/5 to 5/5 of the patent specification.

The Registrar:

The Chairman:



A. Vottner

W. Marx

Decision electronically authenticated