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**Datasheet for the decision
of 28 January 2008**

Case Number: T 1218/05 - 3.2.04

Application Number: 98113287.1

Publication Number: 0892161

IPC: F02B 17/00

Language of the proceedings: EN

Title of invention:

Ignition timing control apparatus and method for internal combustion engine

Applicant:

Nissan Motor Company Limited

Opponent:

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Headword:

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Relevant legal provisions:

EPC Art. 123

EPC R. 103(1)a)

Relevant legal provisions (EPC 1973):

EPC Art. 84, 111(1), 113(1)

Keyword:

"Clarity (main request): yes - broad definition"

"Remittal for further prosecution"

Decisions cited:

G 0010/93

Catchword:

-



Case Number: T 1218/05 - 3.2.04

D E C I S I O N
of the Technical Board of Appeal 3.2.04
of 28 January 2008

Appellant: Nissan Motor Company Limited
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Representative: Grünecker, Kinkeldey,
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 7 February 2005
refusing European application No. 98113287.1
pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: M. Ceyte
Members: M. Poock
T. Bokor

Summary of Facts and Submissions

- I. This appeal lies from the decision of the Examining Division of 7 February 2005 refusing European patent application no. 98 113 287.1.

The Examining Division held that the application did not meet the requirements of Article 84 EPC because in feature b) of claims 1, 19 and 20 it was not clear what the difference between the content of the first memory storing at least one first ignition timing map and the content of the second memory storing a second ignition timing map was. The second ignition timing map was considered as a steady state ignition timing map as well as the first ignition timing map.

The Examining Division in its communication of 3 March 2004 had objected to the clarity of claim 1. After the Applicant's reply, the summons to the requested oral proceedings were dispatched in which the Examining Division expressed that its previously stated position was maintained.

- II. The Appellant lodged the appeal on 4 April 2005 and paid the prescribed fee simultaneously. The statement of grounds of appeal was received on 30 May 2005.
- III. The Appellant (Applicant) argued that the independent claims were clear and that the requirements of Article 113(1) EPC were violated. In the summons to attend the oral proceedings it was not stated that the Examining Division still had fundamental concerns about clarity which was the sole ground for refusing the application. Thus, the Appellant was taken by surprise

and was not allowed to properly take position and present its comments against this objection.

IV. The Appellant requested

- that the decision under appeal be set aside and a patent be granted with claims 1 to 20 of the main request faxed on 9 January 2008 or claims 1 to 19 of the auxiliary request 1 filed with letter of 5 December 2007;
- that oral proceedings be arranged, if the foregoing requests cannot be allowed during the written proceedings;
- on a subsidiary basis, that the case be remitted to the Examining Division for further prosecution; and,
- that the appeal fee be reimbursed.

V. The independent claims of the main request read as follows:

"1. Apparatus adapted to control an internal combustion engine comprising: memory means adapted for storing ignition timing maps (ADVTRSL, ADVTRSR) for use in several combustion modes of the engine (1) including a stratified charge combustion and a homogeneous charge combustion, said memory means comprises

- a) a first memory adapted for storing at least one first ignition timing map (ADVTRSL) for use when a combustion mode of the engine (1) is in a steady state of a stratified charge combustion, and
- b) a second memory adapted for storing a second ignition timing map (ADVTRSR) corresponding to the stratified charge combustion carried out at a rich limit of an air-fuel mixture ratio of an air-fuel

mixture supplied into each cylinder of the engine (1) and for use when the combustion mode of the engine (1) is transferred at a switching point between the stratified charge combustion and the homogeneous charge combustion; said apparatus further comprising

c) an ignition timing generator adapted for generating an ignition timing value (ADVS) in the combustion mode of the stratified charge combustion of the engine (1) when the combustion mode of the engine (1) is transferred at a switching point between the stratified charge combustion and the homogeneous charge combustion and adapted for using both of the first ignition timing map (ADVTRSL) and the second ignition timing map (ADVTRSR); and

d) an ignition device adapted for igniting the air mixture fuel supplied into each engine cylinder at a point of time corresponding to said ignition timing value (ADVS) generated by the ignition timing generator when the combustion mode of the engine (1) is transferred at a switching point between the stratified charge combustion and the homogeneous charge combustion."

"19. An internal combustion engine which carries out a switching of a combustion mode between a stratified charge combustion and a homogeneous charge combustion according to an engine driving condition, the internal combustion engine (1) comprising an apparatus according to at least one of the claims 1 to 18."

"20. A method for an internal combustion engine (1), the method comprising the steps of:
using ignition timing maps (ADVTRSL, ADVTRSR) for several combustion modes of the engine (1) including a

stratified charge combustion and a homogeneous charge combustion,

a) storing at least one first ignition timing map (ADVTRSL) used when a combustion mode of the engine (1) is in a steady state of a stratified charge combustion, and

b) storing a second ignition timing map (ADVTRSR) corresponding to the stratified charge combustion carried out at a rich limit of an air-fuel mixture ratio of an air-fuel mixture supplied into each cylinder of the engine (1) and which is used when the combustion mode of the engine (1) is transferred at a switching point between the stratified charge combustion and a homogeneous charge combustion; and

c) generating an ignition timing value (ADVS) in the combustion mode of the stratified charge combustion of the engine (1) when the combustion mode of the engine (1) is transferred at a switching point between the stratified charge combustion and the homogeneous combustion and using both of the first ignition timing map (ADVTRSL) and the second ignition timing map (ADVTRSR); and

d) igniting the air mixture fuel supplied into each engine cylinder at a point of time corresponding to said ignition timing value (ADVS) generated by the ignition timing generator when the combustion mode of the engine (1) is transferred at a switching point between the stratified charge combustion and the homogeneous charge combustion."

Reasons for the Decision

1. The appeal is admissible.
2. Amendments - main request
 - 2.1 Claims 1 and 20

These claims are supported by the originally filed claims 1 and 20 and description page 1, lines 12 to 18 (for the feature that the apparatus is adapted to control an internal combustion engine) and page 21, lines 17 to 21 (for the features that the first and second memory are comprised by memory means adapted for storing ignition timing maps (ADVTRSL, ADVTRSR) for use in several combustion modes of the engine (1) including a stratified charge combustion and a homogeneous charge combustion and the use of such ignition timing maps).

The substitution of the wording "during the transfer to the switching point of the combustion mode of the engine (1) between the stratified charge combustion and the homogeneous charge combustion" by the wording "when the combustion mode of the engine (1) is transferred at a switching point between the stratified charge combustion and the homogeneous charge combustion" is based on this wording in feature b of these claims.

Finally, the substitution of the wording "air mixture fuel" with "air-fuel mixture" is also based on this wording in feature b.

2.2 Claim 19

The addition of this claim is based on the description as originally filed, page 6, lines 17 to 20 in combination with figure 1A.

2.3 Hence, the amendments in claims 1 and 20 and the addition of claim 19 do not contravene the requirements of Article 123(2) EPC.

3. Clarity - main request

3.1 Claim 1 does not require that the content of the first and second memories is different. It only requires that the first memory is adapted for storing at least one first ignition timing map for use when a combustion mode of the engine is in a steady state of a stratified charge combustion and that the second memory is adapted for storing a second ignition timing map corresponding to the stratified charge combustion carried out at a rich limit of an air-fuel mixture ratio of an air-fuel mixture supplied into each cylinder of the engine and for use when the combustion mode of the engine is transferred at a switching point between the stratified charge combustion and the homogeneous charge combustion.

3.2 Such broad definition of the claim's subject-matter does not automatically render it unclear. Since the meaning of these features is unambiguous, i.e. the maps could be different or identical, the Board concludes that these features do not render claim 1 unclear.

- 3.3 The same considerations apply to claims 19 and 20.
- 3.4 Hence, claims 1, 19 and 20 all meet the requirements of Article 84 EPC 1973 so that it was not necessary to consider the auxiliary request.

4. Reimbursement of the appeal fee

4.1 According to Rule 103(1)a) EPC, reimbursement of the appeal fee shall be ordered where the Board of Appeal deems an appeal to be allowable and if such reimbursement is equitable by reason of a substantial procedural violation.

4.2 In the present case, clarity of claim 1 was objected with the communication of 3 March 2004 which was maintained after the Applicant's reply as set out in the summons to the oral proceedings before the Examining Division. Thus, the Applicant had to expect that in the oral proceedings clarity issues will be addressed and was therefore not taken by surprise.

It follows that the requirements of Article 113(1) EPC 1973 were not violated, i.e. no substantial procedural violation took place. Consequently, the request to reimburse the appeal fee had to be rejected.

5. Remittal to the first instance

5.1 While Article 111(1), second sentence, first alternative, EPC 1973 gives the Boards of Appeal the power to decide in ex-parte proceedings on fresh issues where the application has been refused on other issues, proceedings before the Boards of Appeal in ex-parte

cases are primarily concerned with examining the contested decision (see decision G 10/93, OJ EPO 1995, 172, points 4 and 5 of the reasons), fresh issues being normally remitted to the Examining Division, so that the submission can be examined and decided upon without "loss of an instance".

5.2 Since in the present case, the Examining Division decided solely upon the clarity of the independent claims, the Board considers it appropriate to remit the case to the first instance for consideration of the undecided issues on the basis of claims 1 to 20 of the main request faxed on 9 January 2008.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the Examining Division for further prosecution.

The Registrar:

The Chairman:

G. Magouliotis

M. Ceyte