

**Internal distribution code:**

- (A) [ ] Publication in OJ  
(B) [ ] To Chairmen and Members  
(C) [X] To Chairmen  
(D) [ ] No distribution

**D E C I S I O N**  
**of 12 June 2001**

**Case Number:** T 0995/97 - 3.2.2

**Application Number:** 94107956.8

**Publication Number:** 0628283

**IPC:** A61B 5/22

**Language of the proceedings:** EN

**Title of invention:**

Method of calculating work burden index and apparatus for carrying out said method

**Applicant:**

TOYOTA JIDOSHA KABUSHIKI KAISHA

**Opponent:**

-

**Headword:**

-

**Relevant legal provisions:**

EPC Art. 52(2)(3); 84; 123(2)

**Keyword:**

"Clarity (yes, after amendment)"

"Terminology to be used as originally defined in the application as filed"

"Mathematical method (no, after amendment)"

**Decisions cited:**

T 0208/84, T 0769/92, T 0953/94, T 0833/91

**Catchword:**

-





Case Number: T 0995/97 - 3.2.2

**D E C I S I O N**  
**of the Technical Board of Appeal 3.2.2**  
**of 12 June 2001**

**Appellant:** TOYOTA JIDOSHA KABUSHIKI KAISHA  
1, Toyota-cho  
Toyota-shi  
Aichi-ken 471-8571 (JP)

**Representative:** Pellmann, Hans-Bernd, Dipl.-Ing.  
Patentanwaltbüro  
Tiedtke-Bühling-Kinne & Partner  
Bavariaring 4  
D-80336 München (DE)

**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted 5 May 1997 refusing  
European patent application No. 94 107 956.8  
pursuant to Article 97(1) EPC.

**Composition of the Board:**

**Chairman:** W. D. Weiß  
**Members:** M. G. Noël  
J. C. M. De Preter

## Summary of Facts and Submissions

- I. European application No. 94 107 956.8 (publication No. 0 628 283) was refused by decision of the Examining Division issued on 5 May 1997 on the grounds that the claims did not meet the requirements of Article 84 EPC (clarity and conciseness) and of Article 52(2) and (3) EPC (mathematical methods or methods for performing mental acts).
- II. On 23 June 1997, the appellant (applicant) lodged an appeal against this decision. A statement of grounds was filed on 8 September 1997 along with a new set of claims 1 to 6. Oral proceedings were also requested.
- III. In a communication of the Board dated 27 March 2001 sent following a summons to attend oral proceedings, the appellant was informed that the newly filed claims still suffered from the same deficiencies as those objected by the first instance. The appellant's attention was drawn to amendments which, when applied, would possibly overcome these objections.
- IV. The appellant replied on 30 May 2001, submitting a new set of amended claims 1 to 5.

It requested that the case be remitted to the Examining Division in order to proceed further with the case on the substantive issues and that the oral proceedings be cancelled.

- V. In consequence of those submissions, the Board cancelled the oral proceedings.

Independent claims 1 (method) and 3 (apparatus) read as follows:

"1. A method of changing a work procedure by using a work burden index (TV<sub>AL</sub>) indicative of the extent of burden borne by a worker in various works subject to maximum muscle contraction ratio changes during the work time comprising the steps of:

measuring (step X<sub>1</sub>) a maximum muscle contraction ratio (MA) when a work content has been continued for a predetermined time (T);

calculating (step X<sub>2</sub>) from said measured maximum muscle contraction ratio (MA) and said predetermined time (T), an equivalent work burden (WS\*) in a standard work, wherein a work burden index (LA) calculated from the measured maximum muscle contraction ratio (MA) and the predetermined time (T) is equal (equation (8)) to the same work burden index (LA) calculated from the equivalent work burden (WS\*) in the standard work and the predetermined time (T), and wherein a relation (equation (7)) between the work burden index (L), work time (t), and work burden (WS) is known in said standard work;

inputting, for each work unit, a work content parameter and an actual work time;

calculating (Step X<sub>3</sub>), from said equivalent work burden (WS\*), the actual work time (t), and the inputted work content parameter, the work burden index (TV<sub>AL</sub>) when the work unit is continued for said actual work time (t);

and

correcting the work unit until the calculated work burden index (TV<sub>AL</sub>) is normalized."

"3. An apparatus for calculating a work burden index (TVAL) of a work content (A), said work burden index (TVAL) being indicative of the extent of burden borne by a worker in various works subject to maximum muscle contraction ratio changes during the work time, said work burden index being an objective measure of the hardness of work of a worker performing said work content for an actual time (TA), the apparatus comprising:

means for measuring (X1) the maximum muscle contraction ratio (M) when a work content (A) has been continued for a predetermined time (T);

means for calculating (X2) from said measured maximum muscle contraction ratio (MA) and said predetermined time (T), an equivalent work burden (WS\*) in a standard work, wherein a work burden index (LA) calculated from the measured maximum muscle contraction ratio (MA) and the predetermined time (T) is equal (equation (8)) to the same work burden index (LA) calculated from the equivalent work burden (WS\*) in the standard work and the predetermined time (T), and wherein a relation (equation (7)) between the work burden index (L), work time (t), and work burden (WS) is known in said standard work;

means for inputting (X8, X14), for each work unit, a work content parameter and an actual work time;

means for calculating (X3), from said equivalent work burden (WS\*), the actual work time (t), and the inputted work content parameter, the work burden index (TVAL) when the work unit is continued for said actual work time (t).

## Reasons for the Decision

1. The appeal is admissible.
2. *Amendments*
  - 2.1 Claim 1 is based on the independent method claim 5 on which the decision under appeal is based (main request), completed by a more specific introduction and by reference signs taken up from the original description. In particular, the original terminology used in the application as filed has been re-established in all the claims. Terms such as "standard work" and "equivalent work burden" are sufficiently clearly defined in the application as filed to be understood and used by a person skilled in the art, without having to refer to any additional literature. Therefore, the subject-matter of claim 1 is clear and fairly supported by the application as filed (Articles 84 and 123(2) EPC).
  - 2.2 Claim 1 is now directed to a method of changing a work procedure by using a work burden index indicative of the extent of burden borne by a worker in various works subject to maximum contraction ratio changes during the work time (original description, top of page 5 and bottom of page 11). The features related to the use of the calculating method in the environment of the technical process of changing a work procedure just represent the technical contribution which, in accordance with the case law of the Boards of Appeal (e.g. T 208/84, section 5; T 769/92, section 3.3; T 953/94, section 6.2 and T 833/91, section 3.1), is necessary to ensure that the subject-matter of claim 1

does not fall under Article 52(2)(3) EPC. Therefore, claim 1 does no longer embrace subject-matter which is excluded from patentability on grounds of Article 52(2) and (3) EPC.

- 2.3 In claim 2 the parameters  $C_1$  to  $C_3$  and  $d_1$  to  $d_3$  have been restricted to their numerical values taken from the description, to meet the provisions of Article 123(2) EPC. However, there are still some clerical errors which will have to be removed.

Based on claim 2 submitted in the applicant's enclosure of 30 May 2001 (page 2):

in line 6, "WS" should read "WS\*"

in line 13, "log (T)" should read "log (t)" and "equation (7)" should read "equation (3)"

in line 16, "log (WS)" should read "log (WS\*)" and "equation (3)" should read "equation (7)"

- 2.4 The subject-matter of the apparatus claim 3 has been amended in conformity with that of the method of claim 1. Therefore, claim 3 is also formally acceptable, as well as claims 4 and 5 which are dependent thereon.

### 3. Remittal

Since the refusal by the Examining Division was restricted to formal deficiencies under Articles 84, 123(2) and 52(2) and (3) EPC, now removed, and considering that the claims have been further modified by the appellant, the Board considers it appropriate to



remit the case to the first instance for further prosecution on the substantive issues.

**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:

V. Commare

W. D. Weiß