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**Datasheet for the decision  
of 7 May 2013**

**Case Number:** T 2276/11 - 3.4.02

**Application Number:** 01948761.0

**Publication Number:** 1295084

**IPC:** G01B11/275, G01B21/26,  
B62D17/00, G01M17/06

**Language of the proceedings:** EN

**Title of invention:**  
METHOD AND APPARATUS FOR MEASURING VEHICLE WHEEL SCRUB RADIUS

**Applicant:**  
Snap-on Incorporated

**Headword:**

**Relevant legal provisions:**  
EPC Art. 111

**Keyword:**  
Amendments to documents proposed for grant by the examining  
division not objectionable

**Decisions cited:**

**Catchword:**



**Beschwerdekammern  
Boards of Appeal  
Chambres de recours**

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Case Number: T 2276/11 - 3.4.02

**D E C I S I O N**  
**of Technical Board of Appeal 3.4.02**  
**of 7 May 2013**

**Appellant:** Snap-on Incorporated  
(Applicant) 10801 Corporate Drive  
Pleasant Prairie, Wisconsin 53158-1603 (US)

**Representative:** Eisenführ, Speiser & Partner  
Postfach 31 02 60  
80102 München (DE)

**Decision under appeal:** **Decision of the Examining Division of the European Patent Office posted on 1 June 2011 refusing European patent application No. 01948761.0 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chairman:** A. Klein  
**Members:** M. Rayner  
L. Bühler

## Summary of Facts and Submissions

- I. The patent applicant has appealed against the decision of the examining division refusing European patent application number 01948761.0 (=WO-A-02/01153) based on the main request before it, the appellant expressing disagreement with the text intended for grant based on the third auxiliary request. The patent concerns measuring vehicle wheel scrub radius.
- II. The appellant requested grant of a patent based on documents according to an auxiliary request submitted with its letter dated 19 March 2013. In that letter the appellant declared that in the case the Board of Appeal intended to grant a patent based on this auxiliary request, the hitherto pending main request and the request to hold oral proceedings were withdrawn.
- III. The wording of independent claims 1, 5 and 10 according to the auxiliary request of the appellant is as follows.

"1. A method of measuring a scrub radius of a wheel, comprising the steps of:

determining a steering axis, a centerline and a ground plane of a wheel using a computer-aided alignment apparatus,

wherein the ground plane is determined on the basis of a determined roll axis and a roll radius of the wheel by rolling the wheel between a first and a second position,

determining an intersection between the steering axis and the ground plane of the wheel,

determining an intersection between the centerline and the ground plane of the wheel, and  
determining a distance between the intersections, the

distance comprising the scrub-radius of the wheel,  
wherein the computer-aided alignment apparatus comprises a computer-aided, three-dimensional machine vision apparatus including optical scanning devices and optically scannable targets,  
and the method also includes:  
attaching an optically scannable target having a defined pattern to the wheel;  
optically scanning the target when the wheel is in the first position, and creating and storing values representing the first position; and  
optically scanning the target when the wheel is in the second position, and creating and storing values representing the second position;  
determining the angle through which the wheel was rolled between the first and second position;  
steering the wheel between the first and the second positions, and determining the steering axis of the wheel based on the stored position values; and  
further comprising determining a thickness and a claw plane of the wheel and determining the centerline based on the thickness and the claw plane.

5. A computer-aided alignment apparatus for measuring a scrub radius of a wheel, wherein the computer aided apparatus includes:  
a target having a defined pattern and being fixedly attachable to the wheel;  
a vision imager for detecting a first image of the target when the wheel is in a first position and for detecting a second image of the target when the wheel is in a second position; and  
a data processor programmed to determine a scrub radius of the wheel according to the method of any of claims 1 to 4.

10. A computer-readable medium carrying one or more sequences of instructions which, when executed by a processor, cause the processor to carry out the method according to one of the claims 1 to 4."

IV. During the appeal proceedings, the appellant submitted that claims 1 to 10 of the present auxiliary request were based on the claims of former third auxiliary request before the Examining Division and intended for grant. The claims were amended with respect to the former third auxiliary request before the Examining procedure as follows.

The last occurrence of "intersection" in claim 1 had been corrected to "intersections".

Claim 1 has been amended to define that the steering axis is also determined using a computer-aided alignment apparatus, and now includes the feature of claim 3 of the former third auxiliary request. This amendment is supported by page 4, lines 1 to 6, together with page 8, lines 9 to 16, and page 9, lines 10 to 12, and in particular claims 9, 18 and 27 of the original application documents. From these passages can be gathered that the steering axis can be determined from two determined positions and attitudes of the wheel having different steering angles.

Claim 10 is based on claim 21 of the original application documents and, as amended, makes reference to method claim 1. Support for the amendment is located in the paragraph bridging pages 10 and 11 and its following paragraphs of the original application documents.

Pages 3 and 9 had been amended for conformity with the description.

### **Reasons for the Decision**

1. The appeal is admissible.
2. Its review of the file has not made the board aware of any reason to question the positive view reached by the examining division with respect to the third auxiliary request before it.
3. Furthermore, the board is satisfied that the first auxiliary request before it does not give rise to objections in view of the reasons given by the appellant for the amendments effected during the appeal proceedings with respect to the third auxiliary request before the examining division.

### **Order**

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

The decision under appeal is set aside.

The case is remitted to the first instance with the order to grant a patent based on the following application documents:

#### **Description, Pages**

1-2, 4-8 and 10-12 filed during oral proceedings before the examining division on 21 September 2010,  
3,9 filed with the letter dated 19 March 2013,

**Claims, Numbers**

1-10 filed as new auxiliary request with the letter dated 19 March 2013,

**Drawings, Sheets**

1/5-5/5 as published.

The Registrar:

The Chairman:



M. Kiehl

A. Klein

Decision electronically authenticated