



US007555942B2

(12) **United States Patent**  
**Baehr et al.**

(10) **Patent No.:** **US 7,555,942 B2**  
(45) **Date of Patent:** **Jul. 7, 2009**

(54) **METHOD AND DEVICE FOR CHECKING THE AUTO-OPENING FUNCTION OF AN ACTUATOR-OPERATED CLUTCH**

(75) Inventors: **Markus Baehr**, Achem (DE); **Juergen Gerhart**, Appenweier (DE); **Michael Schuhen**, Buehl-Oberweier (DE)

(73) Assignee: **LuK Lamellen und Kupplungsbau Beteiligungs KG**, Buehl (DE)

(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 71 days.

(21) Appl. No.: **11/803,889**

(22) Filed: **May 16, 2007**

(65) **Prior Publication Data**

US 2007/0267268 A1 Nov. 22, 2007

(30) **Foreign Application Priority Data**

May 20, 2006 (DE) ..... 10 2006 023 807

(51) **Int. Cl.**

**G01M 13/02** (2006.01)

(52) **U.S. Cl.** ..... **73/115.04**

(58) **Field of Classification Search** ..... **73/115.01, 73/115.02, 115.03, 115.04, 116.04**

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,847,272 A \* 12/1998 Schneider et al. .... 73/115.02  
7,313,943 B2 \* 1/2008 Smith ..... 73/1.79  
2007/0158160 A1 \* 7/2007 Puiu ..... 192/70.23  
2009/0064774 A1 \* 3/2009 Panzer et al. .... 73/115.04

\* cited by examiner

*Primary Examiner*—Eric S McCall

(74) *Attorney, Agent, or Firm*—Simpson & Simpson, PLLC

(57) **ABSTRACT**

In a method for checking the auto-opening function of an actuator-operated clutch, the clutch is moved out of its closed position into its open position or out of its open position into its closed position by the actuator at a predetermined constant speed. During this movement of the clutch a force/distance curve is recorded; the point of the path at which the force is minimal is determined; and the clutch is moved to the determined path point by the actuator. The actuator is deactivated; and it is checked whether following deactivation of the actuator, the clutch returns into its open position in a predetermined manner.

**7 Claims, 2 Drawing Sheets**

