

A Study on the Correlation between Retainer Material and Bearing Life

C. S. Lee¹, J. W. Park¹, S. Y. Lim¹, M. S. Chang¹ and B. S. Kang^{1*}

¹ Mechanical Systems Safety Research Division Department of Reliability Assessment,
Korea Institute of Machinery & Materials, Deajeon, Korea

*Corresponding author: kbs668@kimm.re.kr

1. Introduction

The bearing consists of outer ring and inner ring, and retainer to maintain the gap between the balls. Recently, in order to lighten the automobile and minimize the power loss, bearings manufacturers are carrying out researches on weight reduction of bearings.

Therefore, bearings manufacturers have made the bearings lighter by changing the retainer material that does not affect the bearing life calculation formula. However, studies on the failure due to the change of the retainer material have not been carried out.

Therefore, in this paper, simulation and life test of bearings of different material than existing bearing retainer materials are performed. As a result, it was confirmed that the cause of failure of bearings having different retainer materials was friction caused by balls, and the shape parameter was 2.52 and the scale parameter was 164 hours.

2. Body of abstract

3. Equations, figures, and tables

4. Deadline and other information

Acknowledgment

References