

Effect of Operating Conditions on the Life of Traction Motor Bearings

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Currently, there is no practical method for determining the life of bearings used in traction motors for railway vehicles. Therefore, the first step in establishing such a method is to investigate how operating conditions affect bearing life. In this report, using a test rig capable of rotating traction motor bearings under conditions close to those experienced in real operating environments, we investigated the effects of “bearing temperature”, “vibration acceleration”, and “grease mass” on bearing life. The results showed that altering any of these conditions affects life, and that this effect can be quantified.