Investigating bending strength of spur gear: A review
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Gear tends to play a very vital role in all industries. As other mechanical systems, it is subject to design parameter, installation errors, method of manufacture and load uncertainties arising from randomness. Before engineers could design an efficient and safe gear, it is importance to understand how gear can fail is much needed. This article reviews the methodology used to investigate bending strength of spur gear; Finite Element Method (FEM), Numerical Calculation and Investigational Techniques were usually carried out in order to understand the bending strength of thin-rimmed spur gear. Works and experiment from the literature were studied, and their findings were extracted to understand the methods used. The most common method used to investigate bending strength is the numerical calculation. This method was used with several types of established equations and standards to predict gear failures. Next stage is to simulate the gear using Finite Element Method (FEM) in order to get the analysis of gear strength. The most important stage is to put the gears to physical experiment or testing facilities to determine and validate all data from the numerical calculation and FEM method.