سیویلیکا - ناشر تخصصی مقالات کنفرانس ها و ژورنال ها
گواهی ثبت مقاله در سیویلیکا
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عنوان مقاله:

Simulation, Analysis and Investigation of Crack Behind the Timing Belt of Pride and XU7 With XFEM technique Using Finite Element of ABAQUS software

محل انتشار:

چهارمین کنفرانس بین المللی پژوهش در علوم و مهندسی (سال: 1398)

تعداد صفحات اصل مقاله: 13

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خلاصه مقاله:

The timing belt is one of the important parts in the proper functioning of the internal combustion engine, which, while transmitting power, is responsible for coordinating the camshaft rotation with the desire of cameras. This coordination provides the opening and closing of the valves at the right time. Timing belt fluctuations reduce belt life, make noise and fluctuate the speed of camshafts. The speed fluctuation in the camshaft affects the arm time, the closing of the valves and, consequently, the entry of air and smoke, which can reduce engine performance. The behavior of this system in dynamically driven motors is highly dependent on the design of various parameters, including the type of timing belt, the stitch strap characteristics, the motor parameters and the friction of the components. In this research, we examine the left -hand side of the belt with the help of the limited element of Abakus software. In this analysis, the Power Law and Maxps Damage clauses have been used to expand the crack. The analyzes for Pride and Samand time bands have been carried out and the results are presented in great detail. The timing of these cars has been analyzed in three generations: CR, EPDM and HNBR, and the results are presented below.

کلمات کلیدی:

CR, HNBR, EPDM, Crack, Low Power Rule, Finite Element

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