

Cost Optimization of Maintenance Schedule

V.S. Reliability

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Abstract

The project objective is to make a mathematical model that helps maintenance engineers to optimize the cost of maintenance without compromising reliability of selected components of a small airplane landing gear. This model will assist maintenance engineers in choosing between landing gear components that have high reliability and high cost, but require less maintenance and landing gear components that have low reliability and low cost but require more maintenance. This will allow aerospace companies to optimize the cost of the selected components without compromising their reliability. In addition, this project will help the engineers to make optimal decisions in less time. To build this model, we will apply our knowledge in maintenance engineering and economy. We will study the failure modes of the selected landing gear components, and estimate the number of times per year they need maintenance. We will also collect data about the maintenance cost and build the mathematical model that will help us make the best cost-wise and quality-wise decision. Finally, we will create a computer program that will implement this mathematical model.

Keywords

Reliability, Maintainability, aerospace, landing gears, preventive maintenance

BIOGRAPHY

Dr. Basel Alsayyed is an assistant professor at the department of mechanical engineering in the United Arab Emirates University. With over 16 years of experience in academia in many colleges and universities, and over 12 years of industrial experience, most of which are in the American automotive industry, Dr. Alsayyed has a passion for education in general and teaching in particular. Teaching is an art, a trust, a valuable transformation of students using certain methods and tools, and it is holy, are all part of his belief. He practices it in all aspects of his life, and to Dr. Alsayyed, students are the most valuable element in the education process; their needs have to be addressed in any continuous improvement discussion of the education process. Integration of academia and industry goals and activities are paramount. Sensing the industry needs and prepare future engineers to meet the challenges is an important dimension of Dr. Alsayyed's activities. Dr. Alsayyed research interests are in the areas of advanced manufacturing, quality & reliability, renewable energy, engineering education and knowledge management.

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