

<<机械原理>>

图书基本信息

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内容概要

Robert L . Norton著的《Design of machinery : all introduction to the synthesis and analysis of mechanisms and machines》是美国比较广泛应用的机械原理教材。

该书在2004年出版了第三版。

在我国已经出版了该书第二版的影印本和翻译本。

现把该书第三版改编为内容适合我国机械原理教学基本要求的简本，供我国机械原理双语教学使用，也可作为机械原理教学的辅助教材，还可供机械工程方面的专业人员参考。

该书内容丰富，大部分内容适合我国机械类本科生的教学要求。

原书858页，共包括16章的内容、参考文献和习题、6个附录、1个索引和1个光盘目录。

其中第1章至第9章为第一部分（PART I），称为机构运动学；第10章至第16章为第二部分（PART II），称为机械动力学。

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章节摘录

The term ergonomics is synonymous with human factors engineering. We often see reference to the good or bad ergonomics of an automobile interior or a household appliance. A machine designed with poor ergonomics will be uncomfortable and tiring to use and may even be dangerous. (Have you programmed your VCR lately , or set its clock ?

) There is a wealth of human factors data available in the literature. The type of information that might be needed for a machine design problem ranges from dimensions of the human body and their distribution among the population by age and gender , to the ability of the human body to withstand accelerations in various directions , to typical strengths and force generating ability in various positions. Obviously , if you are designing a device that will be controlled by a human (a grass shortener , perhaps) , you need to know how much force the user can exert with hands held in various positions , what the user ' S reach is , and how much noise the ears can stand without damage. If your device will carry the user on it, you need data on the limits of acceleration that the body can tolerate. Data on all these topics exist. Much of it was developed by the government which regularly tests the ability of military personnel to withstand extreme environmental conditions. Part of the background research of any machine design problem should include some investigation of human factors.

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