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# 列车车钩常见故障机理与维护

## 摘要

随着交通道路的高速发展，人们日常生活中越来越离不开动车、高铁、地铁等交通工具，而这些交通工具有效的减少道路的拥挤，方便人们的出行。这次主要研究对象是在列车之间紧紧相连的半永久车钩，它能够保证列车车辆在急速行驶中始终可以链接为一个列车车组。列车半永久车钩是一种在列车车体与车体之间的连接装置。为了能够使得车钩连接牢固可靠没有间隙，所以列车半永久车钩选取的是易分离式连接卡环相连接。车钩本身能够让列车在行驶中通过横向、纵向轨道曲线让车辆做旋转运动。列车车钩结构设计的主要内容包括确定最佳的设计方案, 以及列车车钩设计的总体尺寸和结构参数的选择计算及校核，绘制车钩结构总装配图以及关键零部件图，总结设计方法和步骤，编写设计说明书。但是，列车在行驶时会遇到紧急刹车与启动，所以也要了解车钩的承受能力，以便能够让列车安全运行。

**关键词：**列车，半永久车钩，结构设计

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## Abstract

With the rapid development of traffic roads, people in daily life more and more from the car, high-speed rail, subway and other means of transport, and these vehicles effectively reduce the road congestion, to facilitate people's travel. The main object of this study is the semi-permanent couplings that are tightly connected between the trains, which ensures that the train vehicle can always be linked to a train group during rapid driving. Train semi-permanent coupler is a connection between the car body and the body of the device. The semi-permanent couplings of the trains are connected with a detachable connection ring that allows the coupler to be securely fast and free of clearance. The coupler itself allows the train to travel in a horizontal, longitudinal orbit curve to allow the vehicle to rotate. The main contents of the design of the car coupler include the determination of the best design scheme and the calculation and checking of the overall size and structural parameters of the train hook design, drawing the total assembly drawing of the coupler structure and the key parts drawing, summarizing the design method and steps, writing a design specification. However, the train will encounter emergency braking and start, so also understand the ability to accept the hook, so that the train can run safely.

**Key words:** train、 semi-permanent coupler 、 the structure design

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