

大客车底盘总布置设计

摘 要

客车，作为汽车家族里承担公共交通和团体运输的主力成员，有着举足轻重的地位。客车要发挥相比于其余车型在公共交通与团体运输的优势，底盘布置的设计与优化便是客车设计师们必须要考虑的问题。

本此设计对象为商用车的底盘。首先以给出的使用要求入手，结合课题提供的参考客车底盘的布置设计，结合书中与资料的参数选择与对应计算，决定出符合给出的使用性能要求的各零件的参数和对应总成的选择；之后将选用的各零部件和总成进行装配，装配后可得该客车底盘；最后用所得底盘进行转向稳定性与动力性计算。校核此底盘布置的转向性是否稳定，动力性是否达到客车的使用要求。

通过本次对客车底盘总布置的设计，完成了对样车底盘布置的升级改造，使得设计新客车在保证安全节能的条件下，使性能指标超过样车。同时对底盘设计工作有了更深了解。

关键词 大客车；底盘；总布置设计；稳定性计算；动力性计算

The Assembly design of bus chassis

Abstract

Since the automobile was invented by German Carl Friedrich Benz in 1886, it has played an important role in the advancement of human civilization. In these hundreds of years, the improvement of vehicle performance is the research that human beings have never stopped. With the continuous development of automobile manufacturing industry, the performance layout of vehicle chassis becomes more and more important. As the four major assemblies of the automobile, the performance layout of the chassis will directly affect the performance of the vehicle.

The design object is the chassis of commercial vehicle. First of all, starting with the given use requirements, combined with the layout design of the reference bus chassis provided by the subject, combined with the parameter selection and corresponding calculation in the book and materials, the parameters of each part and corresponding assembly meeting the given use performance requirements are determined; then, the selected parts and assemblies are assembled to obtain the bus chassis; finally, the chassis is used Calculate the steering stability and dynamic performance. Check whether the steering performance of the chassis arrangement is stable and whether the power performance meets the use requirements of the bus

Through the design of the general layout of the bus chassis, the upgrading of the layout of the sample car chassis has been completed, which makes the performance index of the new bus exceed the sample car under the condition of ensuring safety and energy saving. At the same time, I have a deeper understanding of chassis design.

Keywords coach;chassis;General layout design; Stability calculation; Dynamic calculation

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