Design of the Honda Civic 2015 Steering System, Simulation Using Solidworks

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***Abstract*—This thesis by Nguyen Van Vu, an undergraduate student in Automotive Electronics at Thai Nguyen University of Information and Communication Technology, focuses on the design and simulation of the steering system for the Honda Civic 2015 model using Solidworks. The work covers the general principles of the steering system, the design of specific components, and the simulation process. The author acknowledges the limitations in the design and calculation process, emphasizing the need for further improvement. The project provides valuable experience in automotive design and simulation, despite the limitations.**

***Index Terms*—steering system, Honda Civic, Solidworks, design, simulation**

I. Introduction

Nguyen Van Vu, a student in the Automotive Electronics program at Thai Nguyen University, undertook this project to design and simulate the steering system of the Honda Civic 2015 using Solidworks. The thesis aims to provide a comprehensive understanding of the steering system, including the design of key components such as the power steering motor and steering gear. The project also involves the simulation of these components to ensure their proper functioning. The author acknowledges the limitations in the design and calculation process, highlighting the need for more in-depth calculations and a deeper understanding of the system components [1]. Published articles on the methods and subject of this project provide context for this English summary [7], [8].

II. Methods

The methods section describes the use of Solidworks for the simulation of the steering system. Nguyen Van Vu designed and simulated the power steering motor and the steering gear, among other components, to ensure the proper functioning of the system. The author utilized Solidworks to create detailed 3D models of the components, which were then subjected to various simulations to test their performance under different conditions. The simulations included stress analysis, motion analysis, and other relevant tests to ensure the reliability and efficiency of the steering system [1].

III. Results

The results of the simulation are not quantitatively reported in the thesis. The author completed the design and simulation of the steering system components, including the power steering motor and steering gear. However, the author acknowledges the limitations in the design and calculation process, noting that more in-depth calculations and a deeper understanding of the system components are needed. The simulations illustrated the behavior of the components under various conditions, but no specific performance metrics or evaluation results are provided [1].

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IV. Discussion

The discussion highlights the author's efforts in researching and designing the steering system, as well as the limitations encountered, such as the need for more in-depth calculations and a deeper understanding of the system components. The author emphasizes the importance of these components in ensuring the proper functioning of the steering system. The limitations in the design and calculation process are discussed, and the author expresses a desire for further improvement. The project provided valuable experience in automotive design and simulation, but the author acknowledges that the current work is not yet complete [1].

V. Conclusion

Nguyen Van Vu successfully completed the design and simulation of the Honda Civic 2015 steering system using Solidworks. Despite the limitations, the project provided valuable experience in automotive design and simulation. The author acknowledges the need for further improvement and expresses a desire to continue working on the project. The work covered the design of key components such as the power steering motor and steering gear, and the simulations illustrated the behavior of these components under various conditions [1].

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