

Research title: *Design and realization of the body work of the Trigger 2, a scooter car*
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Company: Fox Industries / Trigger Cars
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Background

The Trigger car is a brightly colored moped on three wheels offering a fun driving experience at a maximum speed of 45 kilometers per hour. Trigger Cars is part of the Fox Industries company and manufactures and supplies scooter cars. The old version of the Trigger car needs updating, because several purchase parts are no longer available. The production and assembly process and the functional driving experience of the vehicle need improvement. A new body work design is developed to give the Trigger car a new and modern look, resulting in the Trigger 2.

Assignment

This assignment is focused on the design and realization of the body work of the new Trigger car. Material requirements for the body work are established and legislation requirements for the vehicle are researched. Vehicle dynamics are explored to model and create a chassis and to establish the vehicle's package. After defining the boundary conditions from the chassis, regulation prescriptions and the vehicle's package a design for the new Trigger car is made. This design is translated into a physical model to create a prototype of the new Trigger car with new body work. By learning from the prototype, a plan for series production of the new Trigger car is made.

Results

The result of the assignment is the developed prototype of the new Trigger car with new body work design. The modularity of components of the Trigger car is convenient for assembly. From the design process is learnt that it is advisable to assure all boundary conditions from regulation prescriptions, the vehicle's package and the chassis are known before a design concept of the vehicle is drawn. Otherwise, extra work has to be done when a translation from the design concept into product CAD parameters is to be made.



Personal experience

The thing I enjoyed most when working on this assignment is that I could witness the complete process from design to functional prototype. I enjoyed gathering information from documents and literature to use for and implement on a real product.