

THE DEVELOPMENT OF THE ELECTRICITY INSPECTION CAR "GIC" SEATS CAPACITY IN ENGINEERING FACULTY OF YOGYAKARTA STATE UNIVERSITY

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ABSTRACT

The aims of this study are to develop and realize an electric car model for inspection and campus tour with four seats. This electric inspection car model is expected to become a product icon for FT UNY, especially in engineer technology and automotive technology in UNY. With this technology research scheme, in the first stage aimed to design the overall body of the electric inspection car and produce the chasis.

Research Methods and Methods with a model developed by Borg & Gall. Development is done by the following steps: 1) Potential and problem analysis; 2) Needs analysis; 3) Product design; 4) Group discussion / Focus Group Discussion (FGD); 5) Product manufacture; 6) First stage product testing; 7) Product Revision; 8) Second stage product testing; 9) Product Revision; 10) Final product manufacture.

The results of this study are 1) design of chassis and electric inspection car "GIC" body with four seats; 2) The chassis design meets the strength criterion by means of vertical load testing with load 6000N through solidwork software, the *factor of safety* result is 1,537; 3) The production of GIC chassis includes several systems from the chassis, there are frame, steering system, brakes and suspension systems. But it needs to be followed up again due to limited funding.

Kata Kunci: *electric car, inspection car, seats*