

Diploma Thesis Examination Report

“Accuracy enhancement of the fuel level sensor checkpoint”

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Content: The thesis is about the study of FLS (fuel level sensor) of car, covering from the design aspect as well as the fabrication of that product including the analysis of the wire arm material. The error or out of the tolerance of the FLS is also studied and analyzed from theoretical aspect and then compared with the data from the assembly line.

Evaluation: In this thesis particularly the accuracy of the FLS is studied in more detail including the possible source of error. From the collected data taken from assembly line, after being sorted out and classified from various criteria can be identified, which criteria giving major influence on the rate of accuracy failure. There are five criteria that have been considered as the source of inaccuracy of the FLS, one of them is the wire arm.

From the point of view fabrication and material, analysis of the wire arm as one possible source of error FLS can be considered as an interesting topic of discussion. It is reported in this thesis from the Correlation matrix of analyzed parameters (Tab 7.2, page 68) for instance that wire manufacturer B has considerably higher rate of FLS non-complying with the acceptance compared to other manufactures.

Further, from different heat treatment parameters (Tab 8.5, page 74) it show that wire manufacturer B using higher temperature compared to the other manufacturers.

Now the questions are:

- a) Why wire arm from manufacturer B, having higher yield strength and ultimate strength as shown on Fig 8.3 showing higher rate of non-complying product compared to other manufacturer?
- b) Does the wire with higher yield strength and ultimate strength from manufacturer B having different “*spring back behaviour*” is not carefully considered during the bending processes?

However, the rest of the study, the work and the writing of the thesis are excellent.

Mark : Excellent

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Signature:

