REVERSE ENGINEERING APPROACH IN MAKING EMIRATE LARGE PLATE (DIA-25CM) DESIGN AT PT. DOULTON

A THESIS

Submitted in Partial Fulfillment of the Requirement for the Bachelor Degree of Engineering in Industrial Engineering

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IDENTIFICATION PAGE

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I certify that the research entitled "Reverse Engineering Approach In Making Emirate Large Plate (Dia-25cm) Design at PT. Doulton" in this thesis has not been submitted for any other degree.

I certify that to the best of my knowledge and belief, this thesis which I wrote does not contain the works of parts of the works of other people, except those cited in the quotations and bibliography, as a scientific paper should.

In addition, I certify that I understand and abide the rule stated by the Ministry of Education and Culture of The Republic of Indonesia, subject to the provisions of Peraturan Menteri Pendidikan Nasional Republik Indonesia Nomor 17 Tahun 2010 tentang Pencegahan dan Penanggulangan Plagiat di Perguruan Tinggi.

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ABSTRACT

The thesis entitled “Reverse Engineering Approach in Making Emirate Large Plate (Dia-25cm) Design at PT. Doulton” began with problem in transfer product in NPI Department. Transferred product came with two data, technical drawing and existing product. Existing product’s diameter was below the customers’ standard. Technical drawing is chosen for make the 3D CAD data. Trial result based on technical drawing had different shape with existing product. According to literature review, reverse engineering is used to get data from existing product. Thus, the contribution of this research was shown that reverse engineering approach can be used develop design of Emirate Large Plate (Dia-25cm) which has complete data but needs adjustment from geometric shape of existing product. The objective in this research is proposing reverse engineering approach to make the design of Emirate Large Plate (Dia-25cm) that can be accepted for both customer and market.

To fulfill all regulations, processes were developed by making 3D CAD data from technical drawing used PowerSHAPE 2013 software, scanning existing product used CMM and CMM Manager 3.0 Software, combining two data used PowerSHAPE 2013.

The results from those processes are 3D CAD data and the milling design data for company documentation. The design was accepted and ready to be produce in production. The trial cost calculation showed that $ 2132.576 was needed to develop trial process. Therefore, around $392.428 can be safe from trial process with reverse engineering approach.

Keywords : reverse engineering, ceramic, CAD, design, PowerSHAPE, CMM.