

**TILT LEVEL MONITORING AND SWITCH INFORMATION SYSTEM FOR
HEAVY EQUIPMENT OF BOMAG BW 211D-40SL SERIES**

By

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

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Bomag BW 211D-40 SL is a long-term investment capital in the field of heavy equipment. This unit is used for soil compaction in the construction process or others. One of the main components in this unit is the final drive, in this section it consists of a planetary gear arrangement, the final drive component is one of the components that often experience damage, one cause of damage to this component is due to errors when operating on tilt conditions. This research uses experimental methods to design a tilt monitoring tool for the unit during operation that can send notifications in real-time (using the internet of things). The device uses an MPU 6050 sensor to detect the tilt of the unit and is combined with the GSM Module SIM800L as a data sender to the internet. The vehicle owner or foreman mechanic can monitor through the blynk application. This notification is in the form of a condition of the slope of the unit that is working normally, warning with slope conditions above. This data will be used as a basis for assessing the work competence of correct or incorrect operators.

Keywords: Final Drive, MPU 6050, SIM800L, internet of things, accuracy, Bomag.

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DEDICATION

This study is wholeheartedly dedicated to my beloved parents Ikik Sukandar, Awang Suwangsih, Djadjat Sudradjat, Nining Sukarsih, My wife Esa Pratiwi S.Pd, and children Daiva, Adeera and Abrisham, who have been my source of inspiration and given me motivation and strength when I started to feel tired.

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