IMPROVEMENT OF HYDRAULIC PULSATION DAMPER

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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

IMPROVEMENT OF HYDRAULIC PULSATION DAMPER

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Komatsu Germany GmbH manufactures large hydraulic mining excavators (PC3000-PC8000). There are a lot of hydraulic components installed in an excavator, one of which is a pulsation damper. According to Komatsu's OMM (Operating Manual), the lifetime of the pulsation damper is 2000 hours. In order to decrease expenses, most users do not follow this recommendation. The other reason is because there is no real data to indicate that the pulsation damper really is broken at 2000 operating hours. The aim of this thesis is to identify and develop a system to monitor the condition of pulsation damper. Therefore, failure caused by broken pulsation damper could be prevented. Sampling method is used to obtain the result. Broken component, new component, and used component are installed in turns, on an operating machine. Later, the data results are compared. With the result, the indication for the broken component could be defined.

Keywords: Komatsu Germany, Hydraulic, Excavator, Pulsation Damper, OMM.

DEDICATION

This thesis work is dedicated to Komatsu Germany GmbH, who has given me an opportunity to conduct a thesis project. It really was a wonderful and great experience for me to be able to use my knowledge that I learnt from the university and devoted it for my Bachelor Thesis with a big company, like Komatsu. I really do hope that this thesis project could help to improve the quality of Komatsu's machines.

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