

PHYSICAL AVAILABILITY IMPROVEMENT STRATEGIES FOR SCANIA R620
DOUBLE TRAILERS: ENGINE LOAD OPTIMIZATION ON VARIED ROAD
CONDITIONS

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22352005

MASTER'S DEGREE

in

MASTER OF MECHANICAL ENGINEERING
ENGINEERING MANAGEMENT



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July 2024

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

PHYSICAL AVAILABILITY IMPROVEMENT STRATEGIES FOR SCANIA R620 DOUBLE TRAILERS: ENGINE LOAD OPTIMIZATION ON VARIED ROAD CONDITIONS

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Continuous improvements are carried out to support the increase in physical availability of Scania R620 double trailer equipment to support the achievement of coal hauling production volumes. Engine load time above 85% is the main problem in this research which must be resolved in order to reduce the biggest Pareto problem, namely the engine system. The analysis was carried out using the pareto problem, fishbone diagram, and regression analysis methods and supported by experimental studies on double trailer equipment so that several recommendations for improvements were obtained to reduce the Scania R620 double trailer engine load. Improvements were carried out from optimizing the payload, improving & applying appropriate driving methods, and creating an engine load monitoring system so that engine load time above 85% could be reduced by a maximum of 15%. Commitment and good cooperation from all departments & collaboration with distributor and principal to carry out improvement activities are the key to the success of improvement. The results of this improvement, the engine load was successfully reduced below 15%. This research was successful in changing the high load operational condition which was previously indicated to normal condition with several improvement activities carried out. This has an impact on increasing the physical availability of R620 equipment from the previous 78.4% to 84.2%, an increase of 5.8%.

Keywords: Physical Availability, Engine Load, Scania R620, Pareto, Fishbone, Regression Analysis

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DEDICATION

Appreciatively, I dedicated this thesis to me, another part of myself that always eager for challenges in life. And especially for:

1. My beloved wife Dian Puspitasari and my children Kalandra Raka Alfatih and Kiandra Rangga Alfaqih, who have given the time with me lost because of my work and college time
2. My beloved Parents: Sumbogo Adibowo S.H and Osa Handayani who always support me though their endless love and prayers, my sisters Olga Maya Puspita S, and Okta Nadia Puspa S who always cheer me up, May Allah always give them health and always take care of them.
3. The dean of Faculty of Engineering Management Swiss German University Dr. Ir. Maulahikmah Galinium, S.Kom., M.Sc
4. The whole lecturers at Magister Mechanical Engineering Department of Faculty Engineering Management Swiss German University and the staffs.
5. All those who have helped the researcher to complete the thesis which may not be mentioned one by one

ACKNOWLEDGEMENTS

By the name of Allah the most gracious and the most merciful. I'm thankful to Him that with His blessings and continuous help from many people, this thesis has been completed on time.

I would like to offer millions of thanks to our families. Their continuous support and understanding has become our strength to overcome many obstacles that I have encountered throughout this journey. I will never forget their sacrifices and unconditional love that has allowed us to accomplish many achievements in life, including the completion of this thesis. Next, I would like to thank our advisor & co Advisor for his help in completing this thesis. Without constant help from him, I'm sure to have encountered many problems and difficulties while doing this thesis. Last but not least, I would like to offer many thanks to our friends who have assisted us a lot throughout the process of completing this thesis. Only Allah can repay all the kindness you have offered. Thank you.

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