



HUMAN ENGINEERING

	REPUBLIK INDONESIA DEPARTEMEN PERHIMPATAN KELOMPOK TEKNIK
PERMITSALINAN	- 9 MAR 2006
REVISI	531/7I/Hd.3/2006
REVISI	Rf 620.82 GAN 06
REVISI	

	REPUBLIK INDONESIA DEPARTEMEN PERHIMPATAN KELOMPOK TEKNIK
PERMITSALINAN	

**ERGONOMICS APPROACHES ON QUALITY CONTROL
OF NONCONFORMING PRODUCT
(Case Study at PT. Hitachi Construction
Machinery Indonesia)**

FINAL REPORT

**This is Submitted to Fulfill Prerequisite of
Industrial Engineer of International S-1 Program**



Written by

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INTERNATIONAL CLASS IN INDUSTRIAL ENGINEERING

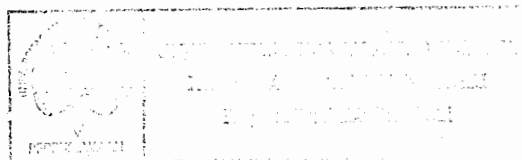
INDUSTRIAL ENGINEERING DEPARTMENT

FACULTY OF INDUSTRIAL TECHNOLOGY

ATMA JAYA YOGYAKARTA UNIVERSITY

YOGYAKARTA

2006



APPROVAL

Final Report of International S-1 Program

Title:

**ERGONOMIC APPROACHES ON QUALITY CONTROL OF
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Indonesia)**

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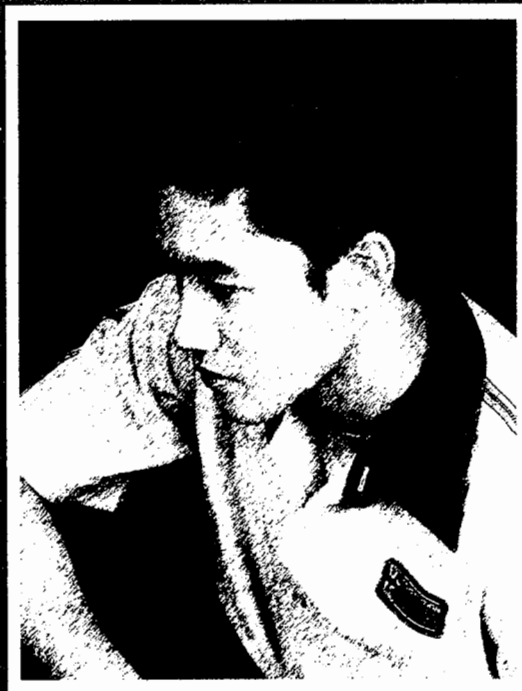


FAKULTAS
TEKNOLOGI INDUSTRI

Luddy Indra Purhama, M.Sc

*This Final Project is dedicated
to God for all the wisdom He
have Taught me and above all
the love and Acer he have
provide until this Day.,*

*To MY Father In Heaven.
BeLoVED Mother and Brother
Who encouraged Me during all
of my year and above all their
countless love, and Finally to
all my friends.*



*I know the plans I have for you,"
declares the Lord, "plans to
prosper you and not to harm you,
plans to give you hope and a future."*

- Jeremiah 29:11

**Now faith is being sure
of what you hope for
and certain of what
you do not see.**

- hebrews 11:1

ACKNOWLEDGEMENTS

Thanks to God that has direct my paths so that this final report can be compiled.

This final report is one of the prerequisite to finish the undergraduate study program in Industrial Engineering Department, Industrial Technology Faculty, Atma Jaya Yogyakarta University.

I am so grateful to many people who encouraged me to finish this final report and who helped me along the way. On this opportunity, I would like to thanks:

1. Mr Ign. Luddy Indrapurnama, S.T., M.Sc, as the Dean of Industrial Technology Faculty, Atmajaya Yogyakarta University.
2. Mr Baju Bawono, S.T., M.T., as the Head of Industrial Engineering Department, Industrial Technology Faculty, Atmajaya Yogyakarta University.
3. Miss Luciana Triani Dewi, S.T., M.T., as the first adviser, who had spent his time to give guidance, direction, inputs and correction in writing this final report.
4. Mrs. DM. Ratna Tungga Dewa S.Si., M.T., as the second adviser, who had spent her time to give inputs, guidance and correction in writing this final report.
5. To Mr Michele Tanza (Quality Assurance Manager of PT. HCMI), Mr Sutrisno, and all the Quality

Assurance staff thank you for the help during the research.

6. To my father in heaven, my mother and brother that always support and encouraged me to compile this final report.
7. To all of my family, My uncle Mr. Isa, aunt Tisni, Rendy, Wendy, Dendy, and ngentaxs mudika boy's, Anton, Dhana, Mia, Nungki, Bar2, Sisca, Rini who had give me a lot of advise and encouraged me to finish this final report.
8. To my friends, Renee, Lai_far far away, Ric@, Amanda_way, Yunks-Q, Anton^{chetom}, Ari, and all of my friends that I can't listing their names.
9. To my best friend Anton XL, I never forget you thank you for being my best friend.

The writer realize that this final report still has a lot of imperfections, so any criticize and inputs are really expected. Eventually, the analyst hopes that this final report can be useful and can be developed in a further research.

Yogyakarta January 10, 2006

The Writer

Roberto Ganis Hascariyo / IIE 02932

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ABSTRACT

This study takes place in the manufacturing company in PT. Hitachi Construction Machinery Indonesia by the object of study is unconformity of 40 mm diameter of hole on ZX-30 Boom Product of Excavator in machining process. The objectives of this study are to analysing quality control aspect and human aspect on nonconformity problem, analysing human posture based on human capability and limitation (effect to human disorder and injured) and evaluating the relationship and potential causes of Quality control and Ergonomic that influenced on existing nonconformity problem. Quality control aspect will bring the assessment of nonconformity cause problem identification. By the Statistical process control on X and R chart that will focus on process stability analysis to reach specification on result. On the other hand human aspect will bring human working analysis assessment that based on human capability and limitation. Biomechanics analysis with mannequin pro software will discuss effect of working load and human body limitation to human disorder and injured.

Conclusions of this study are Energy expenditure analysis result very high total work load (769329.8092 Newton per day or 2927.0441 Newton per machining cycle). The high expenditure of energy (18.5924 Kcal / minute) classified as unduly heavy work that risk to occur the possible of fatigue quickly refer to human error and human body injured. Correlation of ergonomics and quality aspect on this case of study is situation of unergonomics of working environment cause high work load to body segment of operator in activity process its machinery and later then give the high expenditure energy. Fatigue and injured problems in some part of body had been occurred. Then become constraint to operator to done activities on quality control or quality operation like inspection and others, so some problems external influencing quality from process directing and influence the result from quality which in the end result the quality which is not expected.