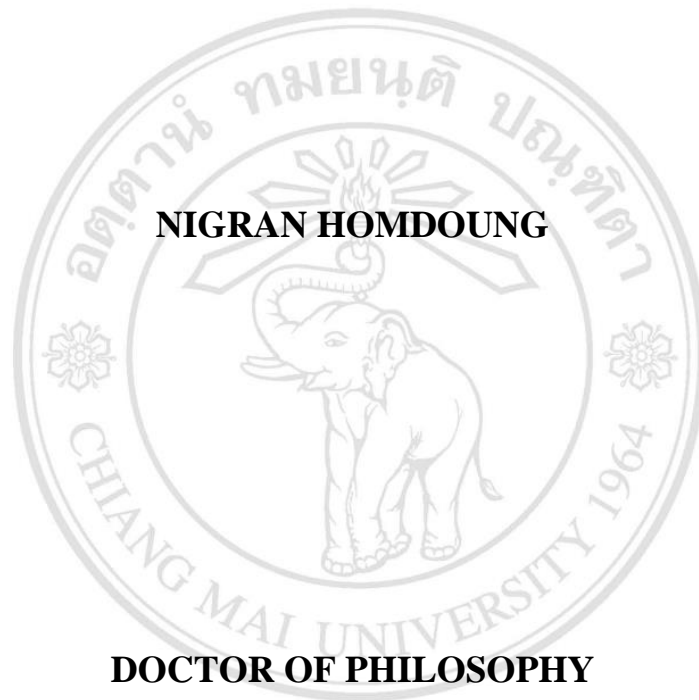


**MODIFICATION AND PERFORMANCE ANALYSIS
OF SMALL AGRICULTURAL ENGINES FUELED
WITH PRODUCER GAS**

NIGRAN HOMDOUNG



DOCTOR OF PHILOSOPHY

IN MECHANICAL ENGINEERING

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**GRADUATE SCHOOL
CHIANG MAI UNIVERSITY
FEBRUARY 2015**

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**A THESIS SUBMITTED TO CHIANG MAI UNIVERSITY IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY
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THIS THESIS HAS BEEN APPROVED TO BE A PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
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5 February 2015

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To
My beloved parents, all the members of my family, and past and present teacher and friends



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