

**TECHNIQUES IN MAKING MASTER MODEL FOR SPIN CASTING  
TECHNOLOGY**

**THESIS**

Submitted as Partial Fulfill of the Requirements  
to Obtain the Bachelor of International  
Industrial Engineering Degree



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YOGYAKARTA  
2009

**STATEMENT OF WORK'S ORIGINALITY**

I honestly declare that this thesis which I wrote does not contain the works or parts of the works of other people, except those cited in the quotations and bibliography, as a scientific paper should

Yogyakarta, June, 2009

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**A BACHELOR OF  
INTERNATIONAL INDUSTRIAL ENGINEERING THESIS  
On**

**TECHNIQUES IN MAKING MASTER MODEL FOR SPIN  
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**Dedicated for:**

**My parents**

**MY siblings**

**Myself**



Enfin, je peux finir mon rapport

## FOREWORD

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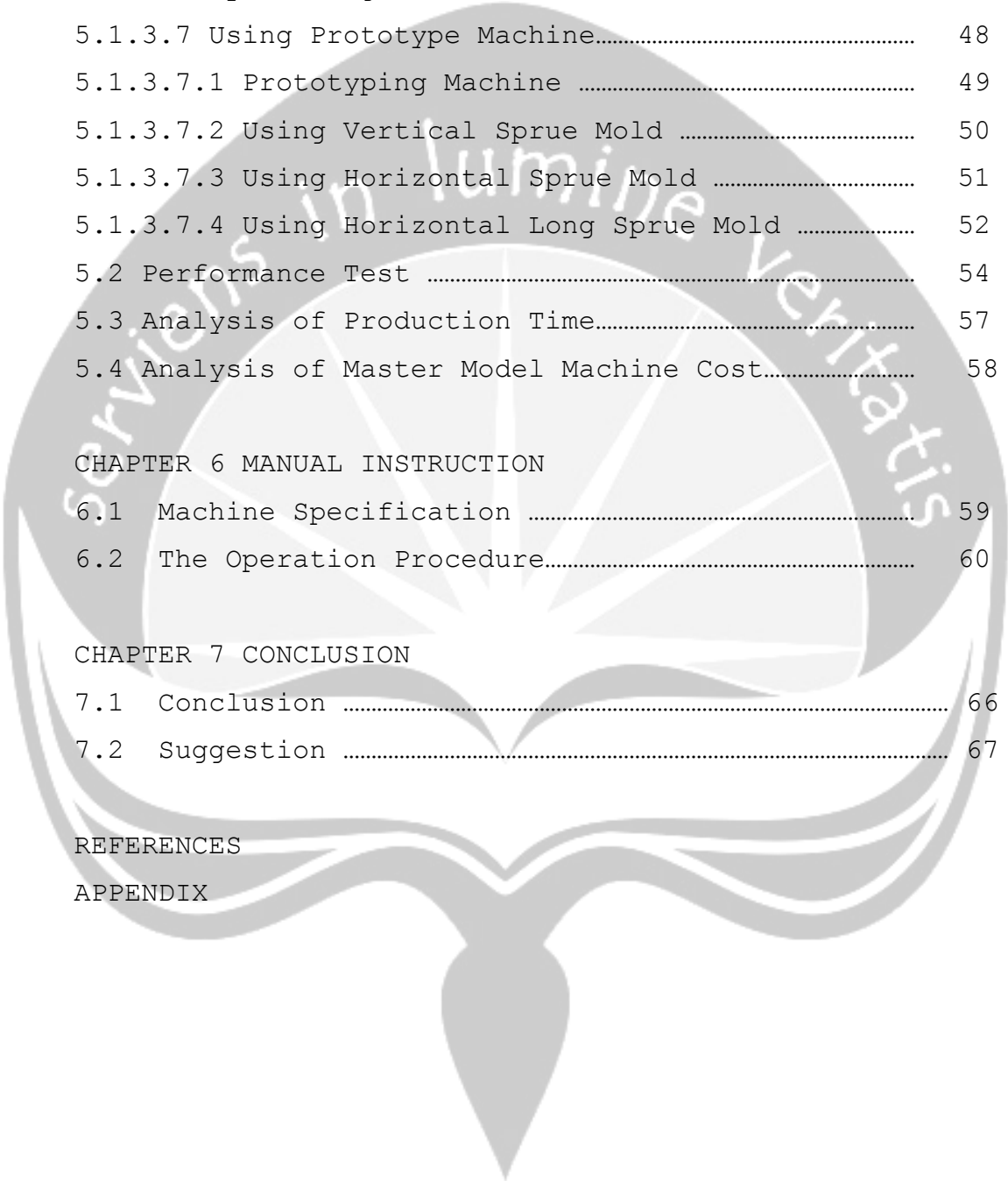
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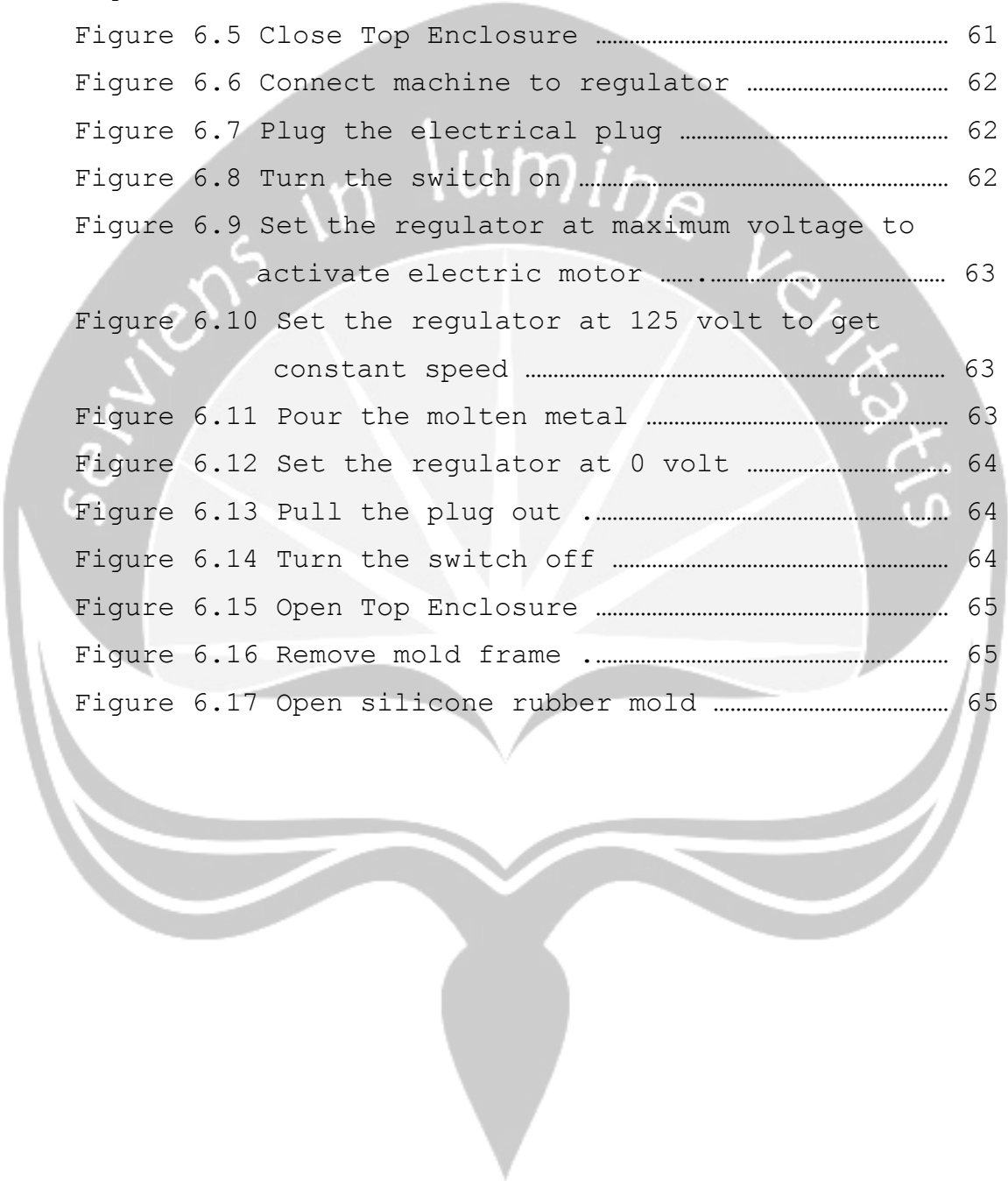


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Master Model Machine

Master Model Machine Component

Process Decision Program Chart



## ABSTRACT

A master model is required before a product is actually processed in a machine. One technique to produce this master model is using Roland MDX 40 machine which is already used in ADTC. However, duplicating master model by using this machine is not recommended because : (1) Producing a master model using a Roland MDX 40 machine consumes a long time (depend on product complexity) due to metal material used for producing the master model is a heat resistant material, hence requires more time to shape; (2) Roland MDX 40 machine are high costly to use. The time consumption in the process of making the master model would burden the cost of electricity and replacing the cutter all the time when it is not sharp anymore; (3) A Roland MDX 40 machine also requires a machine operator to always stand by to frequently giving the machine and cutter oil lubricant during the process.

This research use PDPC (Process Decision Program Chart) to depict all of the techniques that did in ordering to obtain the best technique in making master model. Fishbone diagram used to analyze the problems that occur on every technique. Arrow diagram used to detect the sequence of production process and obtain production time.

By the end of the research, A prototype machine was built to produce a master model of UAJY keychain. This machine operates at 1400 rpm, with power of 187,5 watt, price of IDR 4.500.000,00 and machine cost per hour is IDR 1.650,00.