

**DESIGN AND FABRICATION OF MECHANIZED
WELDING TRACTION SYSTEM**

MUHAMAD HAIRI HAMID

(2004307367)

A thesis submitted in partial fulfillment of the requirement for award
of Bachelor Engineering (Hons) (Mechanical)

**Faculty of Mechanical Engineering
MARA University of Technology (UiTM)**

MAY 2010

ACKNOWLEDGEMENT

All praises only to ALLAH the Almighty upon the completion of this thesis. This thesis is especially dedicated for my beloved parent for their support and motivations. I also want to thank my supervisor, Mr. Ghalib Tham for all his guidance throughout this research. He had helped me a lot in understanding the details of design technology and always concern on my project progress.

Here, I am also indebt to my lovely wife and doughter for fully understanding, and to all my coleuge due to your support.

ABSTRACT

DESIGN AND FABRICATION OF A MECHANIZED WELDING TRACTION DEVICE

One of the methods to mechanize a welding production is to perform weld with the aid of a mechanized traction device. The traction device may either carry the welding torch or the workpiece and moving it at constant speed along a precise path. Some common applications are for submerged arc welding, mechanized GMAW, GTAW or FCAW. Besides welding there are many other applications of the traction device, particularly mechanized thermal cutting application and material handling of workpieces during production. The accuracy and sophistication of its control will improve the mechanization capability, thus will increase the cost of the machine.

In this project, a basic traction device has been built using components that were purchased from the hardware market. The design performance is suitable for a limited range of welding speed, traveling precisely along a given track and able to carry any welding torch plus the related consumable. The travel speed can be adjusted from 50 mm/min to 1200 mm/min and carry a load of 50 kg. The system has good safety features and adaptable to withstand general abuse in a workshop environment.

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