

**FACULTY OF MECHANICAL
ENGINEERING MARA INSITUTE OF
TECHNOLOGY
SHAH ALAM , SELANGOR**

**COMPUTERISATION OF TROUBLE
SHOOTING IN WELDING**

BY:

AHMAD ASFANIZAM MOHAMAD

95631948

MOHD. TAUFIK YUSOF

94940347

ABSTRACT

The objective of this study is to generate a computer programme using “Q-BASIC” programming language in order to troubleshoot problems in welding. It is an information system to make our life easy without wasting our time to find the solution manually e.g. from handbooks, etc.

The success of this study has been a combination from Q-BASIC advice, experience, textbooks, articles, application of what we have studied, and expert advice. Three (3) major criteria, or factors have been identified in this study using Basic in developing the rules. These are types of welding and their problems, causes of problems and the prevention of the problems

CONTENTS

	Page
Acknowledgement	i
Notations	ii
List of figures	viii
List of tables	x
Abstract	xi
1.0 Introduction	1
1.1 Objective	2
2.0 Literature Review	3
2.1 What is welding ?	3
2.2 Some Welding Processes	4
2.2.1 SMAW	4
2.2.2 MIG	6
2.2.3 TIG	9
2.2.4 SAW	12
2.2.5 OAW	14
2.3 Discontinuities in welds	17
2.4 Defects in welds	27
2.4.1 What is a defect?	27

2.5 Trouble shooting in Welding	34
2.5.1 Definition of Trouble Shooting	34
2.5.2 Trouble Shooting Discontinuities and Defects in welding	34
2.6 Computer and Programming Languages	35
2.6.1 Computer Machine and Assembly Languages	35
2.6.2 Quick Basic Programming Languages	37
2.6.3 Microsoft Quick Basic Version 4.5	39
3.0 Equipment and Material	42
4.0 Programming Procedure	43
5.0 Samples of Programme Results	54
5.1 Samples of Main Menu	54
5.2 Samples of General Defects (SMAW)	55
5.3 Samples of output for Undercut in General Defects for SMAW	56
5.4 Samples of Specific Defects (SMAW)	57
5.5 Samples of output for Slag Inclusion in Specific Defects (SMAW)	58
5.6 Samples of Query	59
6.0 Discussions	61
6.1 Advantages	61
6.2 Disadvantages	62
6.3 Problem Encountered	63

7.0 Concluding Summary and Recommendation	64
7.1 General	64
7.2 Conclusion	65
7.3 Recommendation	65
References	
Figures	
Tables	
Appendices	