

An Introduction to CNC Plasma Cutting

Section 1 – Background Information

I.	Introduction to this Manual.....	Page 1
II.	A Brief History of Manufacturing.....	Page 2
III.	A Brief History on CNC Machining	Page 14
IV.	The Design to Production Process	Page 16
V.	CAD, CAM, CIM and CNC	Page 17
VI.	Advantages of CNC Machining.....	Page 18
VII.	Understanding The Coordinate System	Page 19
VIII.	Absolute and Incremental Coordinates.....	Page 21
IX.	Understanding ISO Codes.....	Page 23
X.	Working with Programs and File Formats	Page 25
	Section 1 Test	Page 27

Section 2 – Introduction to Plasma Cutting

I.	Plasma Cutting Basics.....	Page 29
II.	Torch Consumables.....	Page 37
VI.	Selecting Stock.....	Page 41
VII.	Improving Cut Quality	Page 42
VIII.	Ventilation And Water Tables.....	Page 46
IX.	Safety	Page 47
	Section 2 Test	Page 52

Section 3 – Using the Techno CNC Plasma Cutter

I.	Activity 1 - Cutting a Simple Part.....	Page 54
II.	Activity 2 - Exploring the CNC Interface.....	Page 66
	Section 3 Test	Page 81

Section 4 – Introduction to CNC Programming

I.	Activity 3 - Using the Line Editor	Page 82
II.	Activity 4 - Cutting the NC Code Part.....	Page 86
	Section 4 Test	Page 90

Section 5 – Using a CAM Package to Create the NC Code

I.	Exploring The CAM Package	Page 92
II.	Activity 5 - Simple Toolpath - Lead-In/Out.....	Page 94
III.	Activity 6 - Controlling Cut Order and Direction.....	Page 112
IV.	Activity 7 - Changing Material Thickness.....	Page 131
	Section 5 Test	Page 138

Section 6 – Other Machining Concepts

I.	Activity 8 - Working with Text	Page 140
II.	Activity 9 - Importing Vector Art - Making the Coat Rack	Page 162
III.	Activity 10 - Nesting Parts - Making the Hooks.....	Page 181
	Section 6 Test	Page 194

Getting Started Working on Your Own	Page 195
Terminology	Page 197