

# OTI

## Factory Training

for

### Basic Electrical Maintenance for Okuma Lathes, Machining Centers with the OSP E100 series control.

Course Code : EL 821

Prerequisite : Basic Electronics

Credits : 3.2 CEU

Course length : 4.5 days

Class Size : 6 persons

***COURSE OBJECTIVES* - Upon completion, the individual will be proficient in all basic skills necessary to troubleshoot an electrical side problem on any Okuma CNC machine tool with the OSP E100 control.**

**The course is designed to provide the information needed to diagnose any machine problem. The individual will be capable of diagnosing a problem and be able to communicate via the phone to Okuma service representatives if the need arises for further assistance.**

**Course emphasis is a blend of classroom instructional theory and “hands on” time spent on the machine tool.**

**Comprehension of the topics is measured by both actual demonstration and an exam.**

***COURSE REGISTRATION* - please contact Von Pickett at (803-981-7000) the Institute for Manufacturing Productivity to obtain program availability dates, or check our website <http://imp.okuma.com>**

**Basic Electrical Maintenance for Okuma  
Lathes, Machining Centers  
with the OSP E100 series control.**

## **Course Outline**

<b>MONDAY</b>	<b>SECTION</b>
<b>1. Instructor and Class Introductions</b>	
<b>2. Welcome to Okuma and Plant Tour</b>	
<b>3. Okuma History</b>	
<b>4. Terminology</b>	
<b>5. Safety</b>	<b>One</b>
<b>6. Okuma Documentation</b>	<b>Two</b>
<b>7. Machine Definition</b>	<b>Three</b>
<b>A) Introduction to CNC</b>	
<b>8. Machine Operation</b>	<b>Four</b>
<b>A) CNC Operation Panel and Functions.</b>	
<b>B) Machine operation panel and Functions.</b>	
<b>9. Schematics</b>	<b>Nine</b>
<b>A) How to Read Okuma Prints</b>	
<b>a) Symbols (old and new)</b>	
 <b>TUESDAY</b>	
<b>1. OSP E100 Construction</b>	<b>Five</b>
<b>A) Power Supplies</b>	
<b>B) Printed Circuit Board Functions</b>	

SECTION

TUESDAY Continued

- 1.OSP E100 Construction Five
  - C) Motion Control System
    - a)Axis Drives
    - b)Spindle Drives
  - D) Feedback Systems

WEDNESDAY

- 1.Diagnostics Six
  - A) Using Actual Position Pages
  - B) Using Block Data Pages
  - C) Using Check Data Pages
  - D) Alarms
- 2. Hands-On
  - A) Troubleshooting

THURSDAY

- 1.Parameters Seven
  - A) Setting Stroke End Limits
  - B) Setting Zero Offsets
- 2.Hands-On

FRIDAY

- 1.Software Eight
  - A) Data Management Card
  - B) Software Transfer Procedures
    - a) Backing up parameters
    - b) Initializing a B diskette
    - c) Loading software