

Okuma

Mechanical Maintenance Class

for

Lathes

Course Code : MA-101

Prerequisite : None

Credits : 0

Course length : 4.5 days

Class Size : 6 persons

COURSE OBJECTIVES - This course is designed for the Service person who has had only limited exposure to Okuma lathes or for those who are first-time CNC machine tool users. Although one week is too short to become completely familiar with the machine, we feel enough material can be covered to enable the student to reach these four main goals.

1. **LEARN** how the different systems of the machine function both individually and in relation to each other, and to become aware of the preventive maintenance required to keep the machine running in top condition.
2. **DIAGNOSE** problems using your own experience, the manuals provided with this course, your machine, and the machine's own self-checking capabilities.
3. **DISCUSS** problems and solutions by phone first with your distributor's service staff or after you have exhausted that source, then with OKUMA.
4. **PERFORM** simple repairs that can save expensive service calls and downtime.

Course emphasis is a blend of classroom instructional theory, time spent on the machine tool, and individually displayed skills.

Both actual demonstration and an exam measure comprehension of the topics.

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

MECHANICAL MAINTENANCE
MA 101 LATHE COURSE OUTLINE

MONDAY

1. Introduction and Formalities
2. Class Goals and Course Outline
3. Documentation Overview
4. Safety Precautions
5. Machine Installation
 - Oil Requirements
6. Power Requirements

7. LUNCH

8. Outline of Controls
9. Fundamental Machine Operation Procedure
 - MDI Operation
 - Spindle Rotation
 - User Stroke Limits
11. Alarms
12. Machine Leveling

TUESDAY

1. Troubleshooting (Lab)
2. Slideways (Classroom)
3. Lubrication Distribution
4. Hydraulic Power Supply
5. Hydraulic Chucking
6. Disk Break Replacement

7. **LUNCH**

8. Spindle Assembly Hands On
 - Spindle Runout Check
 - Spindle Bearing Temperature Check
 - Headstock Alignment
 - Troubleshooting Headstock Noise
 - Belt Tension Setting and Pulley Alignment
 - Hydraulic Cylinder Alignment

MECHANICAL MAINTENANCE
MA 101 LATHE COURSE OUTLINE CONTINUED

WEDNESDAY

1. Troubleshooting (Lab)
2. Turret
Operation
Alignments
Adjustments
Problems
3. ***Lunch***
4. Hands on turret in Lab
Disassembly & Assembly
Alignment

THURSDAY

1. Troubleshooting (Lab)
2. Ballscrew Alignment
3. Tailstock Alignment
4. Headstock Alignment
5. ***Lunch***
6. Gib Adjustments & Replacement
7. Inspection & Maintenance
8. Hand on in Lab

FRIDAY

Finish up any loose ends from earlier in the week