MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

Phone: +601116373203 | **Email:** info@mawaevents.net

ROTATING EQUIPMENT ALIGNMENT PRACTICE & ALIGNMENT TOOL

"Master Precision Alignment Techniques to Improve Equipment Reliability and Extend Asset Life"

Schedule

Date	Venue	Fees (Face-to-Face)
09 – 13 Feb 2026	Dubai, UAE	USD 3495 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

Introduction

Misalignment is a leading cause of premature failure in rotating machinery such as pumps, compressors, turbines, and motors. Precision alignment not only reduces vibration and bearing wear, but also minimizes energy consumption and operating costs.

This comprehensive course focuses on practical techniques and tools for aligning rotating equipment using both traditional and laser-based systems. Participants will develop hands-on skills in performing and verifying shaft and coupling alignments, correcting misalignment conditions, and applying field alignment strategies in accordance with industry best practices.

Objectives

By the end of this course, participants will be able to:

- Understand the types and effects of misalignment on rotating machinery
- Perform precision alignment using dial indicators and laser tools
- Apply soft foot correction, thermal growth considerations, and coupling alignment
- Use laser alignment systems with confidence and accuracy
- Interpret alignment results and take corrective actions to restore equipment reliability
- Integrate alignment into preventive and predictive maintenance programs

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Why Attend

- Gain hands-on experience with real alignment tools and simulations
- Prevent equipment failures caused by misalignment and vibration
- Reduce maintenance costs and downtime through accurate alignment
- Learn how to correct soft foot, angular, and parallel misalignment
- Strengthen field troubleshooting and condition monitoring skills

Target Audience

This program is designed for:

- Mechanical and rotating equipment engineers
- Maintenance technicians and supervisors
- Reliability and plant engineers
- Field service personnel and OEM representatives
- Technical staff responsible for rotating machinery alignment and repair

Individual Benefits

Key competencies that will be developed include:

- Proficiency in dial gauge and laser alignment techniques
- Ability to diagnose misalignment symptoms and machine vibration
- Competence in soft foot correction and thermal growth compensation
- Improved confidence in hands-on alignment activities
- Stronger technical communication with OEMs and service vendors

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Fewer machine failures caused by alignment issues
- Improved uptime and asset utilization
- Reduced vibration, bearing failures, and energy losses
- Enhanced maintenance quality and machine performance
- Cost savings through proactive maintenance practices

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings – Alignment theory, fault symptoms, and correction methods
- Case Studies – Equipment failures due to misalignment and soft foot
- Workshops – Dial indicator setup, laser tool operation, and alignment correction
- Peer Exchange – Group troubleshooting simulations and best practice sharing
- Tools – Alignment charts, setup templates, and inspection records

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Course Outline

DETAILED 5-DAY COURSE OUTLINE

Training Hours: 7:30 AM – 3:30 PM Daily Format: 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Introduction to Rotating Equipment and Misalignment Issues

- Module 1: Overview of Rotating Equipment (07:30 – 09:30) • Basic configurations of pumps, motors, compressors, and turbines • Critical rotating components and alignment-sensitive parts • Equipment reliability and common failure modes
- Module 2: Understanding Misalignment (09:45 – 11:15) • Types of misalignment: parallel (offset), angular, and combination • Effects on bearings, seals, couplings, and overall system integrity • Symptoms of misalignment and early failure detection
- Module 3: Alignment Terminology and Concepts (11:30 – 01:00) • Centerlines, offset, runout, dial reading interpretation • Coupling types and their impact on alignment
- Module 4: Workshop – Misalignment Diagnosis (02:00 – 03:30) • Analyzing machine vibration symptoms and case diagnosis

Day 2: Conventional Alignment Tools and Techniques

- Module 1: Dial Indicator Methods (07:30 – 09:30) • Rim and face vs. reverse dial techniques • Mounting, zeroing, and reading procedures • Calculating required corrections
- Module 2: Soft Foot Diagnosis and Correction (09:45 – 11:15) • Identifying soft foot types: parallel, angular, squishy • Correction methods and shim selection
- Module 3: Thermal Growth and Dynamic Factors (11:30 – 01:00) • Allowance for thermal expansion and hot alignment • Offset adjustments for dynamic running conditions
- Module 4: Hands-On – Dial Gauge Alignment Practice (02:00 – 03:30) • Live demo and participant alignment setup using dial indicators

Day 3: Laser Alignment Technology and Applications

- Module 1: Introduction to Laser Alignment Systems (07:30 – 09:30) • Principles of operation and advantages over traditional methods • Laser system components and mounting requirements
- Module 2: Alignment Measurement and Correction Using Lasers (09:45 – 11:15) • Setup, calibration, and display readings • Measuring horizontal and vertical offsets
- Module 3: Advanced Functions in Laser Tools (11:30 – 01:00) • Soft foot detection, live move, thermal targets, data recording • Interpreting tolerance results and printouts
- Module 4: Workshop – Laser Alignment Simulation (02:00 – 03:30) • Interactive group practice with laser alignment tools

Day 4: Coupling and Alignment Best Practices

- Module 1: Coupling Types and Alignment Considerations (07:30 – 09:30) • Flexible, rigid, grid, gear, and disc couplings • Coupling failure modes due to misalignment
- Module 2: Troubleshooting Persistent Misalignment (09:45 – 11:15) • Repeat failures, pipe strain, structural deflection • Base flatness and shaft runout checks
- Module 3: Recording and Reporting Alignment Results (11:30 – 01:00) • Alignment logs, tolerances, compliance with OEM specs • Creating baseline and historical records
- Module 4: Workshop – Alignment Problem Solving (02:00 – 03:30) • Group case: Identify and resolve persistent alignment fault

Day 5: Alignment Program Implementation and Field Strategy

- Module 1: Establishing an Alignment Program (07:30 – 09:30) • Incorporating alignment into PM and PdM programs • Setting frequency and criticality criteria
- Module 2: Alignment KPIs and Continuous Improvement (09:45 – 11:15) • Metrics: MTBF, vibration levels, failure reduction • Maintenance team alignment training

- Module 3: Final Review and Best Practices Checklist (11:30 – 01:00) • Comprehensive review of alignment theory and tools • Final quiz and knowledge consolidation
- Module 4: Course Wrap-up & Action Plan (02:00 – 03:30) • Participant presentations on alignment improvement initiatives • Final Q&A and course feedback

Certification

Participants will receive a Certificate of Completion in Rotating Equipment Alignment Practice, validating their practical expertise in alignment of rotating machines using dial and laser tools, along with diagnostic and troubleshooting capabilities.

Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
- **Industry-Leading Faculty:** Courses delivered by seasoned professionals with hands-on experience.
- **Practical Insights:** Learn to turn theory into actionable strategies for real-world business impact.
- **Client-Focused Solutions:** Customized programs designed to achieve your organisation’s unique goals.

In-House / Customized Training Interested in running this course for your team? Please contact us:	TEL: **+601116373203**	EMAIL: **info@mawaevents.net**

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