

# Package Leveling and Alignment

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## Course Number

10401

## Course Duration

5 days

## Audience

Intended for technicians who have little or no experience in package leveling and alignment of Solar turbo-machinery.

## Prerequisites

None

## Course Description

This course is a combination of instructor lecture and hands-on exercises that will teach the fundamental concepts of the use of precision measuring equipment, package leveling techniques, and machinery alignment. The course will focus on the sources of information and methods used by Solar to complete these tasks as part of package commissioning and routine maintenance activities. Although other methods of performing alignment checks will be briefly covered, the course material and practical exercises will concentrate on the primary method used by Solar – rim and face using dial indicators. Laser alignment techniques will also be discussed and practiced using the Rotalign Pro or Rotalign Ultra tools. The course is designed to be conducted at one of Solar's Global Training Centers.

A Pre-Test and Post-Test will be administered to measure student progress as a result of the course.

## Course Objectives

**On successful completion of this course the student will be able to:**

- Describe the use of precision measuring equipment during package leveling and alignment checks.
- Have the necessary knowledge and skills to complete the leveling of a Solar package as part of the package commissioning activities.
- Describe the basic principles of machinery alignment.
- Locate and be able to apply sources of alignment information found on a Solar project.
- Complete practical exercises on test-rigs (shaft alignment simulators) to gain familiarity with alignment procedures and equipment.
- Complete practical exercises on actual turbine packages to align engines and driven equipment to within Solar specifications.

## Course Topics

- Precision Measuring Equipment
- Package Leveling
- Principles Of Machinery Alignment
- Solar Alignment Information
- Solar Alignment Techniques
- Laser Alignment Techniques
- Simulator Exercises
- Package Alignment Exercises

## Reference Material

- Comprehensive Student Workbook
- Solar Project Mechanical Installation Drawings
- Package Leveling Engineering Specification
- Solar Alignment Spreadsheet

## Variations

An alternative to this 5-day Instructor-Led training course is a blended-learning solution. This comprises a series of eLearning modules that cover the theoretical aspects of the course, followed by a 3-day hands-on workshop conducted at a Solar Global Training Center.

The relevant course numbers for this option are as follows:

**50100** - Alignment Precision Measuring Equipment

**50101** - Principles of Machinery Alignment

**50102** - Solar Alignment Information

**50103** - Solar Alignment Techniques

**10419** - Alignment - Hands-On Workshop