



INSPECTION / ALIGNMENT

FARO Laser Tracker Triples Productivity, Helps Create New Music Pavilion

PROBLEM:

Morley Machine Tool Alignment (MMTA) provides machine tool calibration and measurement services for various industries. A recent project for MMTA was for the new Sun Valley Music Pavilion in Sun Valley, Idaho, the new home of the Sun Valley Summer Symphony. This superstructure contains a 3,000-square foot concert stage and an amphitheater that seats an audience of 1,500. The structure's steel arch trusses and assemblies were fabricated by Jesse Engineering Co., of Tacoma, Washington. MMTA was contracted by Jesse Engineering to lay out feature locations on the massive steel framework.

Traditional measuring methods such as tape measures and plumb lines were not a preferred option for this job since the structure's framework had many complex curves with cross member supports joining at many different angles. MMTA knew they needed a tool that would allow them to accurately and efficiently measure the 3-D geometry.

SOLUTION:

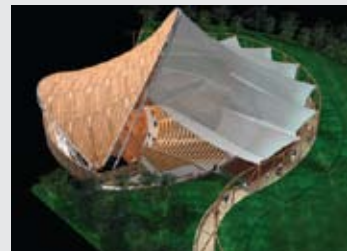
The fabrications for the pavilion consisted of four 10" diameter pipes (cords) that were joined together by a web of connecting pipes. These cords formed two giant steel arch trusses. The trusses were welded together and were ready for the placement of the supports that would connect the steel cables together for the canopy support. Since these supports were attached to the cords at an angle and were on a changing radius, it was very difficult to measure their position and angle for welding. The dimension at the base of the truss was approximately 136 feet and it was over 46 feet to the top of the arch – perfect for the FARO Laser Tracker's 230-foot range.

MMTA used their FARO Tracker to map out the placement of the connectors, all from only one position. The pipe bending and subsequent welding was amazingly close to the nominal values. While laying out the points for welding, MMTA was also able to demonstrate that the structure had been built to the drawing tolerances.

ROI:

The FARO Laser Tracker has provided MMTA with a tremendous time savings, not only on the Sun Valley project, but also on their various other jobs. They can now perform inspections in only a few hours and give their customer a detailed electronic data report. Prior to the Tracker, it would have taken many different measuring instruments and at least two days to perform the same tasks. Thanks to the Tracker, however, once they pinpoint the problem area, they can focus on the corrective action and dedicate their time to the repair or recalibration rather than searching for the problem.

MMTA has also seen an increase in the number of jobs they can perform. "It has tripled our measuring capabilities," said MMTA President Tony Morley. "We have been able to take on jobs that were not possible before using the FARO Laser Tracker."



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