# Fastening Technology & Bolted Joint Design

**Engineering Seminar Training & Consulting** 

We bring our services to:

YOUR LOCATION
YOUR TEAM
YOUR TECHNICAL ISSUES
WE CAN HELP!

Presented by Seminars For Engineers in Association with Clemson Edupro Inc.

This is a fast paced course taught by an instructor who is a true expert in the field. There is good balance between general best practices and analytical methods...

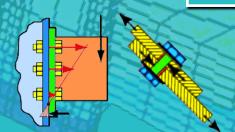
George Dailey

Siemens

The seminar exposed our engineers to new ways of thinking about bolted joints. The methods presented went beyond textbook examples and had proven, real life applications for ensuring the integrity and longevity of bolted joints. Everything from valuable insights into the forces acting on bolted joints to how to design for optimal clamping load to complex joint calculations were all presented using clear and straight forward methodologies.

—Jerry Stepp

Wabtec Passenger Trans





## **TRAINING**

#### **About The Seminar**

This two-day seminar was developed to give engineers and other technical personnel up-todate specifications and a better understanding of the complexity of mechanical joining with fasteners. Insufficient guidelines and outdated information are not adequately equipping engineers for real life design challenges. This can lead to catastrophic failures or costly overdesigns. The Federal regulation (Fastener Quality Act) on these often safety-critical design elements has caused a renewed focus on the proper use of fasteners. This seminar incorporates the most recent techniques and guidelines from both international and domestic engineering societies and research groups allowing the participant to immediately apply this knowledge.

### **Topics of Focus**

- Corrosion & Protected
- Fastener Manufacturing
- Joint Design
- · Locking Method
- · Quality Control

- Safety Factors
- Screw Threads
- Standards & Specifications
- Tightening Strategies

### **Training Benefits**

- Bring your entire engineering team together for a joint learning experience
- Save on time and travel expenditures associated with attending off-site meetings
- Customize course content to address your critical issues and training needs
- Conduct intensive Q & A sessions with experts in addition to course instruction
- World class training materials make permanent reference tools

## **CONSULTING**

#### **Cases Solved**

**DEVELOPED A MONITORING SYSTEM** for critical joints requiring continuous load control in service.

**ANALYZED & CORRECTED** large size bolt tightening problems by specifying tool type load assembly procedure

RECOMMENDED A DIFFERENT JOINT GEOMETRY, thus lowering additional forces in the threaded fastener which eliminated fatigue failures

LOWERED THE ACTUAL IN PLACE COST by introducing fastener types with thread forming and locking capabilities

IMPROVED ERGONOMIC ASSEMBLY CONDITIONS by changing to drive systems requiring minimal axial tool forces

ASSISTED IN COST SAVING PART-SIMPLIFICATION PROGRAMS by making better use of international (also corporate) standards

INTRODUCED AND TRAINED DESIGN ENGINEERS in using software programs for joint calculations

# **Consulting Benefits**

- Choose from options that include classroom training, focused consulting, or both for one set cost
- Leverage the knowledge and experience of the field's premier expert
- Address urgent issues specific to your processes and equipment
- Evaluate long neglected or nagging problems previously too costly and time consuming to do
- Review and improve design methodologies and best practices
- · Learn practical problem solving techniques