LGG INDUSTRIAL

LGG Industrial Provides On-site Gasket and Bolting Training Techniques, Including:

- Proper bolting techniques
- Pre-turnaround contractor training
- In-plant contractor training
- Plant engineering and maintenance training

FADU (Flange Assembly Demonstration Unit)

Our bolting training utilizes a FADU (Flange Assembly Demonstration Unit). This interactive training tool provides the maintenance, operations, and engineering personnel the ability to see the value of using a controlled bolting process in their plant, through a variety of modules that are listed below.

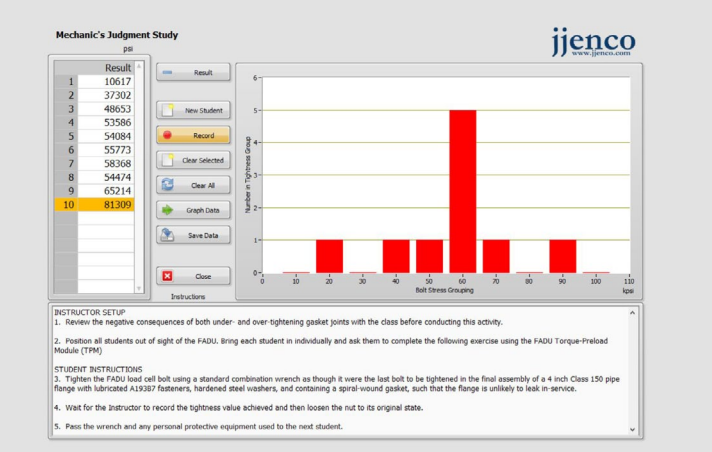
Training Modules

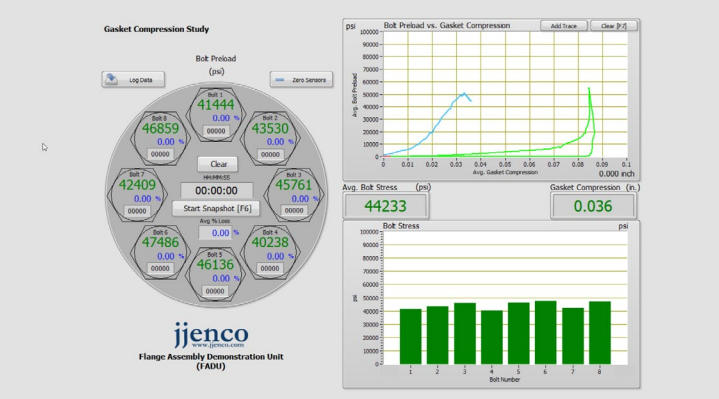
1. Mechanics Judgement

With this exercise, we show attendees the variability in stud load that is created by not using a controlled bolting program. Using a single stud with a load cell on the FADU unit (see photo), each attendee is given the opportunity to use their best judgement to achieve a common torque target.Once each participant has the opportunity to tighten the nut, the results are graphed to demonstrate the inherent scatter that results from hand tightening procedures.

2. Gasket Compression

The main purpose of this module is to show the importance of a star cross pattern, highlight crosstalk between the studs, and demonstrate how stud stress relates to torque. This module enables students to bolt up the flange using their plant specific torque and bolt up procedure. It clearly shows the variability of bolt load based on the amount of lubricant applied to a stud(s).





For more information or to schedule a training at your facility, contact your nearest LGG Industrial location.

3. Ring Joint Gasket Installation

With this exercise, we show the same information as item #2, but with a RTJ (Ring Type Joint) gasket, rather than a standard pipe flange gasket. You can run into the same types of variability as noted above.

4. Torque Preload

This module demonstrates the BIG difference that little differences can make. It demonstrates the importance of proper lubrication, nut up vs. nut down, washer vs. no washer. It can be used to compare lubricants, washer types, and differing types of torque wrenches.

5. Assembly Method Comparison

Students are invited to perform one or more assembly methods and explain their actions to the class as they proceed to compare and determine uniformity of the load, gasket compression and time to complete - with the goal being to achieve reliable sealing in the most efficient manner possible

6. Practical Skills Evaluation

Students seeking Certification are evaluated in a 12-step, pass/fail demonstration of their skill set. Competencies that are evaluated include inspection of the flange and gasket for damage, lubrication, stud and nut installation, torque wrench practices, tightening pattern, uniform stud stress, and developing the required gasket load. A documented, minimum score of 80% is required for Certification.