



Assembler, Pre-engineered Metal Building

Rapids Code: 0877

O*Net/SOC Code 47-2221.00

Task Module
Bolting & Aligning
Teachers Edition

Revised November 2015



Task Module

Bolting & Aligning

Instructors Guide

Try to bring to class as many different sizes and grades of machine bolts as possible. Seeing how each bolt is marked to indicate grade and type is far better than studying a chart.

A mock-up helps to teach students how to tighten high strength bolts using turn of nut method. The same mock-up can be used to demonstrate calibrated wrench tightening.

For your student's reference, you should have additional copies of the Structural Bolting Handbook available from Steel Structures Technology Center, Inc. This authoritative manual contains detailed discussions of tightening bolts in various types of structural connections. This publication is available for ordering at www.steelstructures.com.

For your reference we have included instructor's notes for most pages of the PowerPoint presentation. In order to print the presentation with the notes, change the layout in print settings to Notes Pages. You should take a few minutes to review these items before class and use them at your own discretion.

For Bolt Marking Demo;

We have found that using the 1/2 inch size is most effective. Try and get a few A307 bolts that have proper marking, but look for some of the knockoffs that have no A307 on the head (only manufacturers marks). These are the type that are easily counterfeited.

Then get a few A325 and A490 bolts. Both of these will have the larger 7/8 inch head.

To mix things up try and get some A354 bolts with the 6 lines @ 60 degrees, these will have the smaller 3/4 inch head.

Note: You should allow for a 10 minute break halfway through the session.