

Siemens Gamesa - SG Training Web

SE-P-50412

GWO BTT Mechanical with SGTT Hand Tools & Bolt Tightening

Purpose

The overall purpose of the course is to give the Delegates the knowledge and skills to carry out basic mechanical tasks (supervised by an experienced technician), using safe working procedures and the correct PPE. This course provides practical training for the hand tools used in Siemens Gamesa. Through the use of different types of exercises performed individual and/or in small groups the ability to safely and competently inspect, prepare, use and maintain different types of tools are achieved. The course also provides practical training in bolt tightening and shimming techniques and tools specific to Siemens Gamesa. Through the use of different types of exercises performed individually and/or in small groups the ability to safely and competently perform torqueing and tensioning of bolts as well as shimming are achieved.

Who should attend?

The Basic Technical Training modules are targeted at candidates who have no previous experience of hydraulic, mechanical or electrical systems but may also be used to up skill candidates who have some knowledge but not of their application in wind turbines. Siemens Gamesa employees, customers and 3rd parties who perform tasks using manual and electrical hand tools and those seeking to supplement their base knowledge of bolt tightening, with the procedures and tools specific to Siemens Gamesa..

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Objectives

Upon completion of the course the participants are able to:

- (1) Explain the main components, mechanical systems and the basic operation of wind turbines
 - (2) Explain risks and hazards associated with mechanics
 - (3) Understand the principles of bolted and welded connections and their inspection
 - (4) Demonstrate practical skills to use manual tightening and measuring tools.
 - (5) Demonstrate the correct use of hydraulic torque and tensioning tools
 - (6) Explain the principles of a gearbox
 - (7) Explain the function of the brake systems and demonstrate how to inspect them
 - (8) Explain the function of the yaw system and explain how to inspect it
 - (9) Explain the function of the cooling system and demonstrate how to inspect it
 - (10) Explain the function of the lubrication system and demonstrate how to inspect it
 - (11) Understand how to identify the correct manual and electrical hand tools needed to perform a specific task
 - (12) Skilled in inspecting hand tools for damages and wear
 - (13) Know how to identify the correct tethering accessories for different types of hand tools and skilled in fitting them correctly
 - (14) Know how to identify the correct PPE to use when using different types of hand tools
 - (15) Know how to find documentation applicable to torqueing, tensioning and shimming
 - (16) Skilled in using torque wrenches correctly to tighten bolts
 - (17) Skilled in inspecting, assembling/dismantling and adjusting the hydraulic torque and tensioning tools
 - (18) Skilled in using hydraulic torque and tensioning tools correctly to tighten bolts using the two-stage bolt tightening procedure
 - (19) Skilled in inspecting, measuring and filling in checklist as part of shimming
 - (20) Know how to use shimming tools for filling air gaps by following the applicable procedure
- Upon successful completion of this course the participants have obtained the following competencies:
- "Knowledge and skills to carry out basic mechanical tasks (supervised by an experienced technician), using safe working procedures and the correct PPE.
 - "Identify and inspect the correct tools needed to perform tasks found in a Wind Turbine environment
 - "Securing the tools from being dropping through the use of tethering accessories
 - "Identifying and equipping the appropriate PPE when using manual and electrical hand tools
 - "Select technical manuals and documentation for bolt tightening and shimming tasks to be performed under supervision
 - "Safely operate specialized tools used for bolt tightening and shimming
 - "Suitably fill out appropriate checklists when working in the turbine

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Prerequisites

Course prerequisite is

All personnel participating in Basic Technical Training shall be medically fit and capable of fully participating. Training providers shall have a procedure that requires Delegates to sign a statement stating that they are medically fit to participate in the safety training and that they do not suffer from any medical illness or are under influence of any narcotic substance or alcohol.

The Annex 2: Medical Self-Assessment Form shall be used if no other equivalent procedure is in place. Delegates' signatures testifying to their medical fitness shall be collected prior to the start of the Basic Technical Training course.

Furthermore, Delegates shall have created a personal Delegate profile in WINDA and provide their own WINDA ID prior to completing the BTT training.

There are no prerequisites for this module but some sort of practical mechanical or electrical maintenance background would be useful.

Furthermore, personnel in the wind service industry must be able to read and write to a sufficient standard to be able to carry out instructions and complete the required documentation. It is an advantage if Delegates are able to read, speak and write English.

SE-P-50510 SGTT - General Technical Safety Awareness eLearning

SE-P-50550 SGTT - Hand Tool Training eLearning

SE-P-50510 SGTT - Bolt Tightening Training eLearning

Contents

Theory / Practice

60% / 40%

Notes

WINDA is Global Wind Organization's new online training records database.

As Training Providers are required to upload a training record to your WINDA profile, you must register with a Delegate profile in WINDA.

Go to <https://winda.globalwindsafety.org/> and click register - and get more information.

You must provide your WINDA ID to the Training Provider so they can upload your training records.

Validity

No Expiry

Export control

AL-Number: N

ECCN: EAR99