

## GWO BTT Mechanical Module

<b>Duration</b>	2 days
<b>Target group</b>	The Basic Mechanical Training modules are targeted at candidates who have no previous experience of mechanical systems but may also be used to up skill candidates who have some knowledge but not of their application in wind turbines.
<b>Prerequisites</b>	<p>All personnel participating in Basic Mechanical Training shall be medically fit and capable of fully participating.</p> <p>Furthermore, Delegates shall have created a personal Delegate profile in WINDA and provide their own WINDA ID prior to completing the BTT training.</p> <p>Valid GWO WINDA ID:  <a href="https://winda.globalwindsafety.org/">https://winda.globalwindsafety.org/</a></p> <p>There are no prerequisites for this module but some sort of practical mechanical or electrical maintenance background would be useful.</p> <p>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.</p>
<b>Objective</b>	<p>The aim of this BTT Mechanical Module 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.</p> <p>The BTT Mechanical Module shall ensure Delegates are able to:</p> <ol style="list-style-type: none"> <li>(1) Explain the main components, mechanical systems and the basic operation of wind turbines</li> <li>(2) Explain risks and hazards associated with mechanics</li> <li>(3) Understand the principles of bolted and welded connections and their inspection</li> <li>(4) Demonstrate practical skills to use manual tightening and measuring tools.</li> <li>(5) Demonstrate the correct use of hydraulic torque and tensioning tools</li> <li>(6) Explain the principles of a gearbox</li> <li>(7) Explain the function of the brake systems and demonstrate how to inspect them</li> <li>(8) Explain the function of the yaw system and explain how to inspect it</li> <li>(9) Explain the function of the cooling system and demonstrate how to inspect it</li> <li>(10) Explain the function of the lubrication system and demonstrate how to inspect i</li> </ol>
<b>Contents</b>	<ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Mechanical Introduction</li> </ol>

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3. Mechanical Safety
  4. The principles of bolted and welded connections
  5. Use of manual tightening and measuring tools
  6. Hydraulic Torque and Tension
  7. Gearbox
  8. Braking system
  9. Yaw System
  10. Colling system
  11. Lubrication System
  12. Summary and Theoretical Test
  13. Evaluation
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**Exam**

At least 70% of the questions in the written test must be answered correctly in order to pass the test.