

**Product Name :**  
Study Of A Pre Tensioned Bolt

**Product Code :**  
NLAB-TECHNICALAB30025



**Description :**

Study Of A Pre Tensioned Bolt

**Technical Specification :**

The apparatus allows the following experiments:

Deformations in a bolt after tightening with a spanner or with a torque wrench.

Effect of bolt pre-tensioning using a hydraulic loading system.

Effect of varying the loading position.

Effect of varying the materials on the loading torque.

Static analysis of sliding with friction on a helical screw contact surface or plane.

Simple loading and stresses on a plane section.

Mohr's Circles of stress, principal stresses and their directions.

Technical specifications

The pre-loaded bolt assembly is composed of :

A 16mm bolt on which are fixed three pairs of diametrically opposed 45° strain. These permit the measurement of extension and tension in the bolt.

A tubular component with 2 strain gauges mounted at 180° to measure the compression in the assembly at different heights.

A loading tube to apply bolt pre-load or to apply loading force at various positions along the bolted assembly.

A manually operated hydraulic pump.

A micrometer dial gauge to measure extensions over the complete assembly.

Nuts and washers of various materials.

Equipment Package :

Pre-loaded bolt assembly with hydraulic loading system and manual pump.

A set of washers.

Technical manual and teaching notes.

## Naugralabequipments

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