

Project:	FRB Cable Band Bolt Replacement	Job No:	60267976
Subject:	How to Use the Micrometers		
Prepared by:		Date:	18/07/2013
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Purpose

The purpose of this note is to provide a simple guide for the operation of the specific micrometers used in the 2012/2013 Forth Road Bridge Cable Band Bolt Replacement Project. It is aimed at those operating the micrometers to get an accurate and reliable reading should the same or similar equipment be used for future works.

Procedure

In order to get the correct extension applied into the bolts, the length will need to be measured several times as the target is reached and this should be read in the context of the overall method. See Technical Note *The Use of Micrometers* for the method used in the 2012/2013 Forth Road Bridge Cable Band Bolt Replacement project. Every measurement should follow this procedure:

1. Take the micrometer out of its box and leave it for 15 minutes to adjust to air temperature.
2. Check the micrometer calibration against the calibration rods and test technique to determine the pressure required to get the standard measurement.
3. Position the micrometer over the thread ends. Care should be taken to protect the micrometer from damage. This will require two operatives, one either side of the cable band to fit the stud ends into the machined recesses and one to operate.
4. Tighten the micrometer using the spindle with the correct technique as determined in step 2. It is not necessary to use the ratchet. Shaking the frame lightly will allow the studs to reliably settle into the ends. The procedure should be repeated until the same measurement is obtained 3 times.
5. Take a reading from the LCD display and record.
6. Carefully withdraw the micrometer and securely house back in its box in a safe place.



New bolt being measured