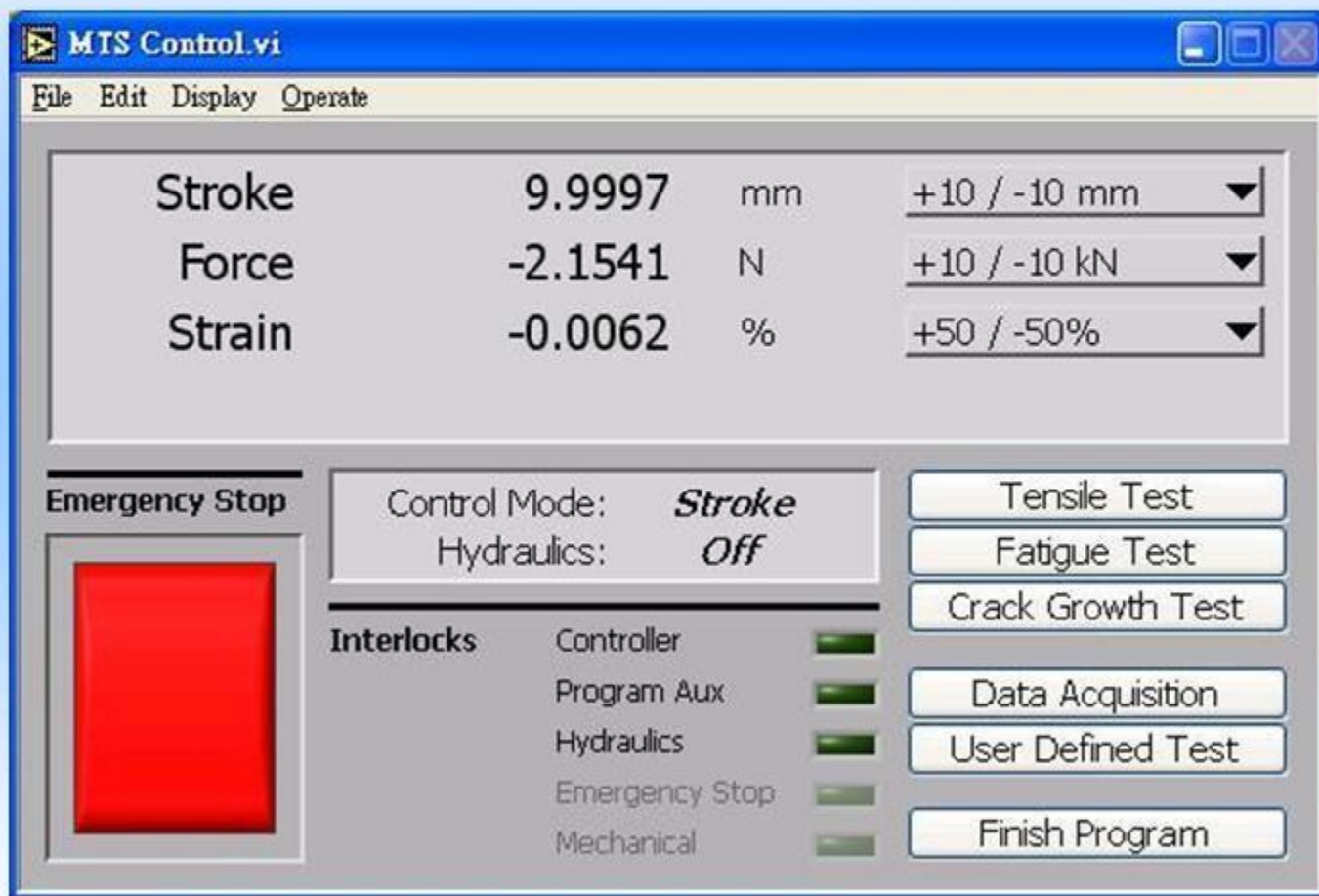


電腦設定與操作-開啟程式



電腦設定與操作-設定Cartridge

The screenshot displays the MTS Control.vi software interface. The main window has a menu bar with 'File', 'Edit', 'Display', and 'Operate'. The central area shows test parameters:

Stroke	9.9997	mm	+100 / -100 mm
Force	-2.1367	N	+50 / -50 mm
Strain	-0.0065	%	+20 / -20 mm
			✓ +10 / -10 mm
			+10 / -10 kN
			+50 / -50%

Below the parameters, there is an 'Emergency Stop' section with a large red button. To its right, the 'Control Mode' is set to 'Stroke' and 'Hydraulics' is set to 'Off'. An 'Interlocks' section shows the status of various components:

Controller	On
Program Aux	On
Hydraulics	On
Emergency Stop	Off
Mechanical	Off

On the right side, there are several test and control buttons: 'Tensile Test', 'Fatigue Test', 'Crack Growth Test', 'Data Acquisition', 'User Defined Test', and 'Finish Program'.

電腦設定與操作-執行拉伸實驗

The screenshot displays two overlapping software windows. The top window, titled 'MTS Control.vi', shows a table of test parameters:

Parameter	Value	Unit	Range
Stroke	49.9985	mm	+50 / -50 mm
Force	-1.8573	N	+10 / -10 kN
Strain	-0.0068	%	+50 / -50%

The bottom window, titled 'Tensile Test.vi', displays a checklist titled 'Checks Prior to Test':

1. The refrigeration system should be ACTIVE.
2. The 24 V power supply should be powered ON.
3. The program source indicator should be EXT.

Below the checklist, there is a red text instruction: 轉為外部控制(電腦控制)→enable+EXT. At the bottom of the window are three buttons: '<< Back', 'Next >>', and 'Quit'.

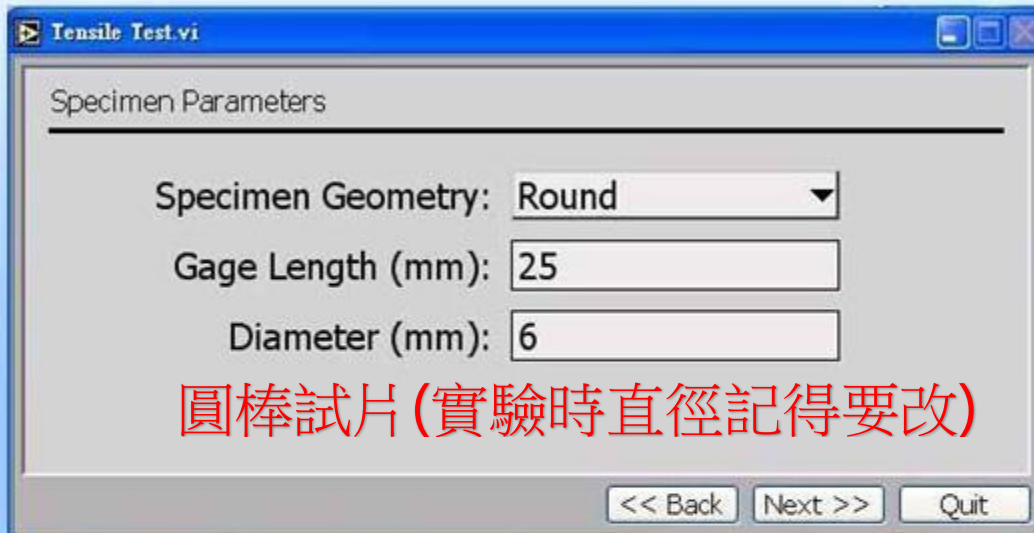
電腦設定與操作-輸入檔案名稱



電腦設定與操作-確定Cartridge範圍



電腦設定與操作-設定試片參數



Tensile Test.vi

Specimen Parameters

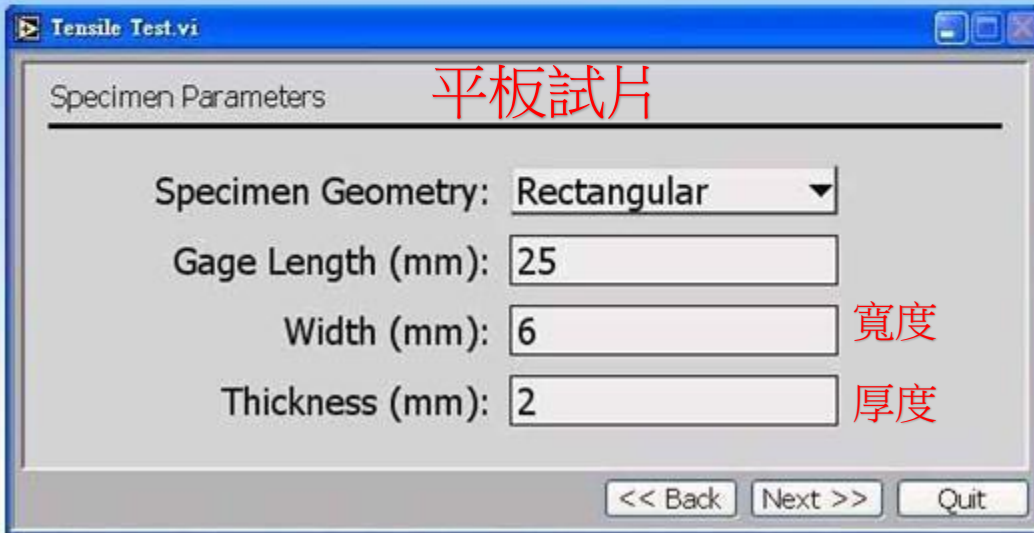
Specimen Geometry: Round

Gage Length (mm): 25

Diameter (mm): 6

<< Back Next >> Quit

圓棒試片(實驗時直徑記得要改)



Tensile Test.vi

Specimen Parameters

Specimen Geometry: Rectangular

Gage Length (mm): 25

Width (mm): 6

Thickness (mm): 2

<< Back Next >> Quit

平板試片

寬度

厚度

Gage length:

延伸計兩夾持端的間距

(目前實驗室用:25mm)

這個盡量不要動到

不確定會不會影響數據

電腦設定與操作-設定實驗參數

練習時初始速率為0.5

最終速率為5

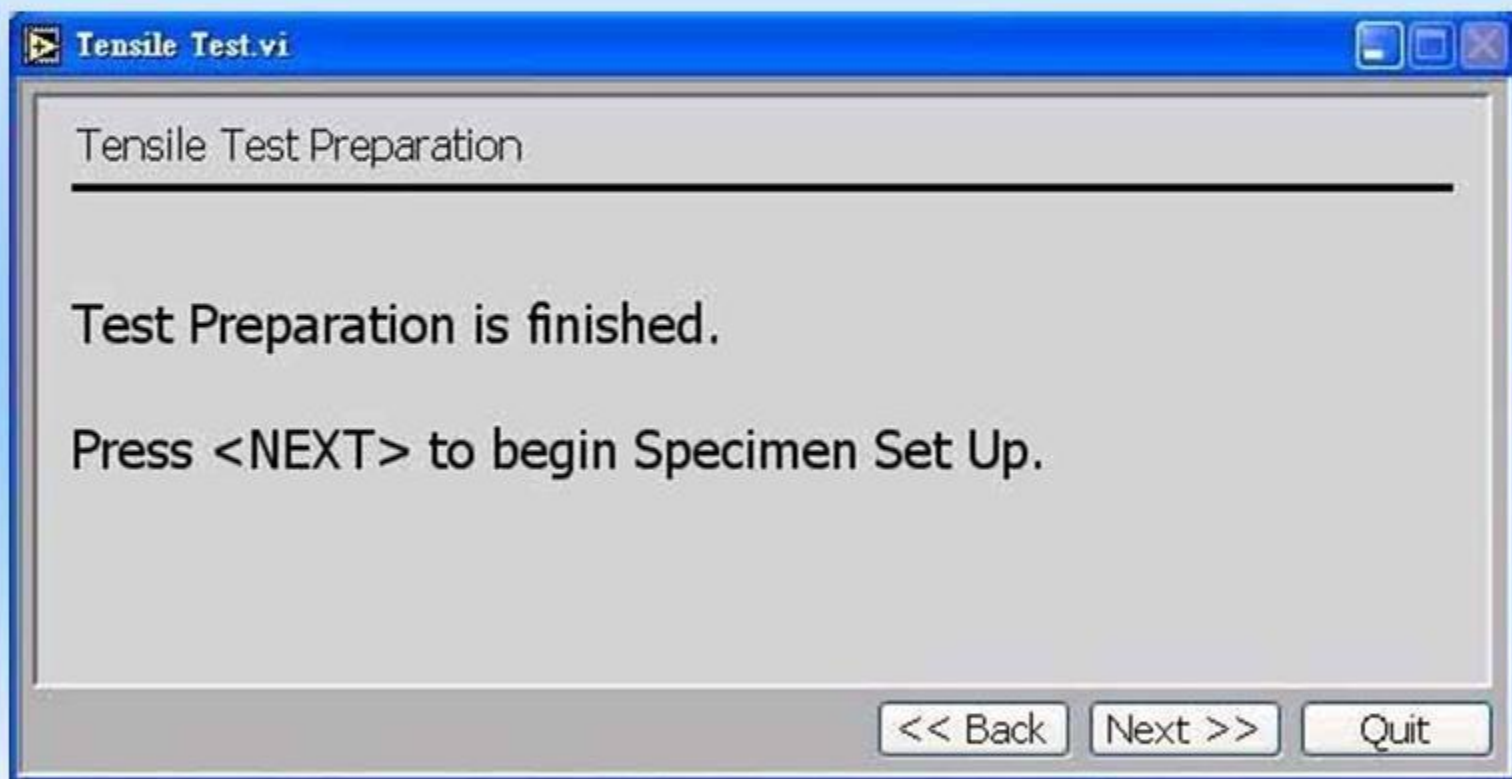
Tensile Test.vi

Control Parameters

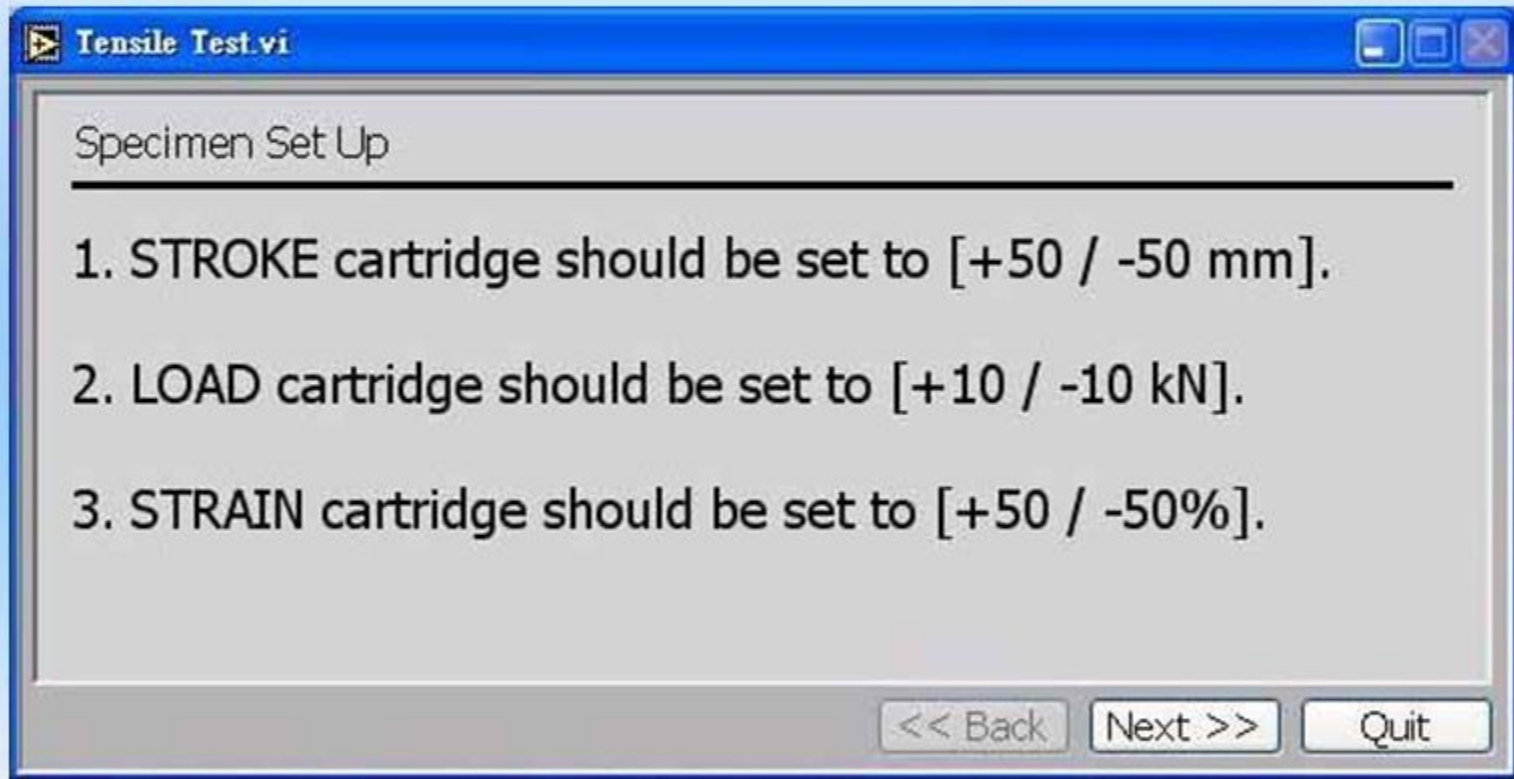
Initial Rate (mm/min):	<input type="text" value="0.2"/>	初始速率
Final Rate (mm/min):	<input type="text" value="2"/>	最終速率
Failure Load Drop (%):	<input type="text" value="95"/>	力降至最大應力的 5%時停機
Rate Switch Strain (%):	<input type="text" value="1"/>	當strain值達到 多少時切換速率

<< Back Next >> Quit

電腦設定與操作-執行實驗



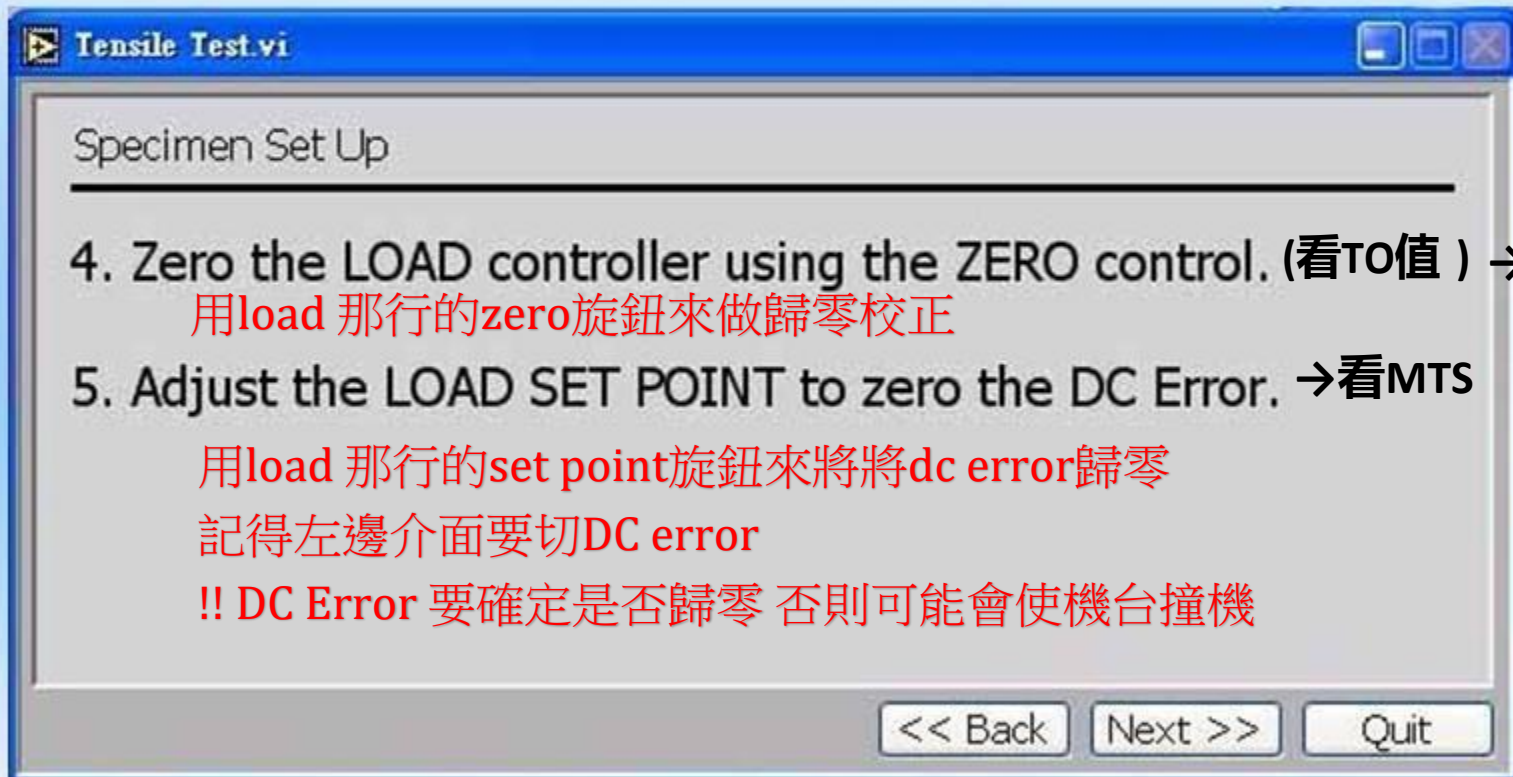
電腦設定與操作-再次確定Cartridge



[→ 切換Display 看數值是否正確]

電腦設定與操作-交叉歸零

只有DC Error和 load & stroke做轉換時看MTS



The screenshot shows a software window titled "Tensile Test.vi" with a "Specimen Set Up" section. It contains two numbered instructions:

4. Zero the LOAD controller using the ZERO control. (看TO值) →看螢幕
用load 那行的zero旋鈕來做歸零校正
5. Adjust the LOAD SET POINT to zero the DC Error. →看MTS
用load 那行的set point旋鈕來將將dc error歸零
記得左邊介面要切DC error
!! DC Error 要確定是否歸零 否則可能會使機台撞機

At the bottom of the window are three buttons: "<< Back", "Next >>", and "Quit".

電腦設定與操作-確定控制模式

MTS一律以力量控制開機

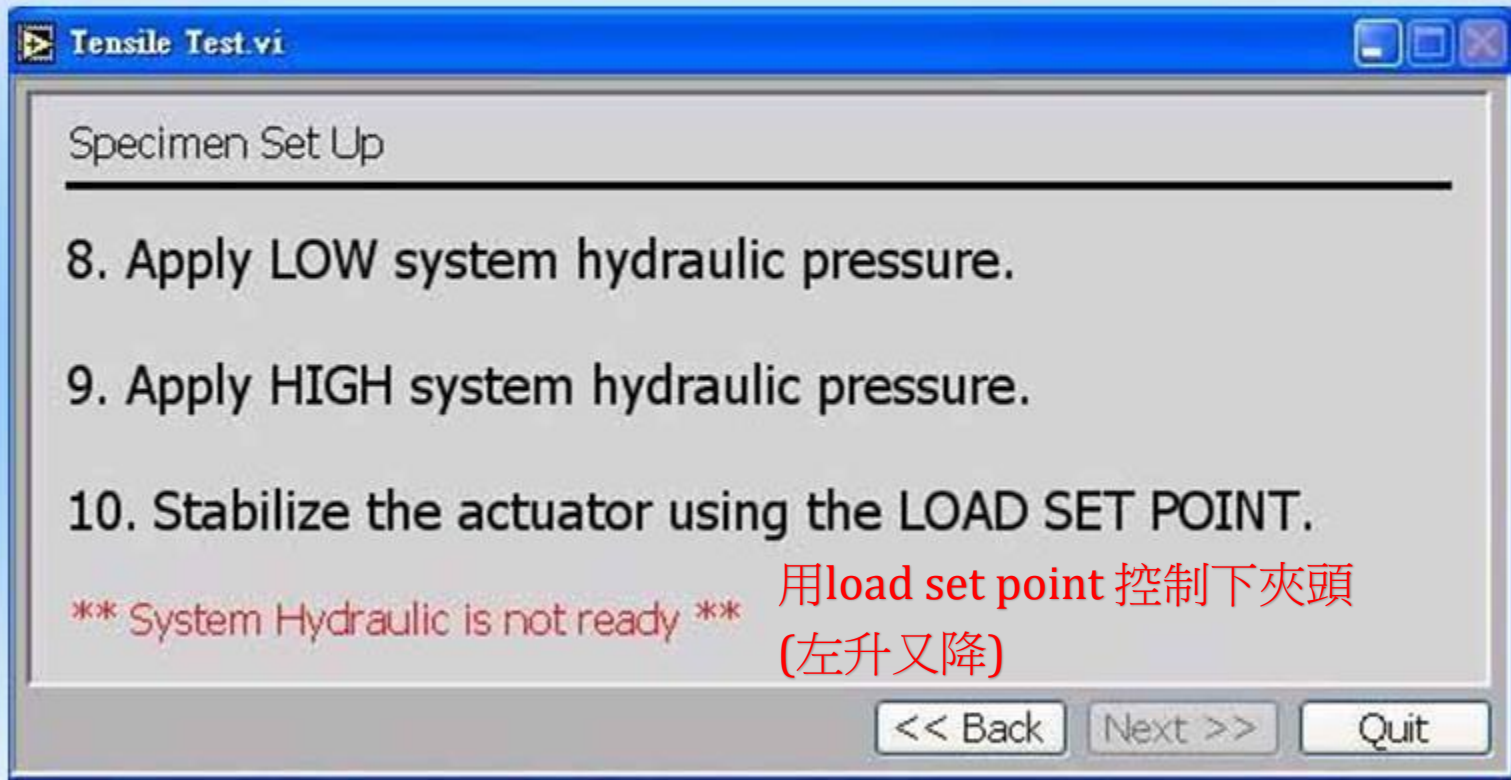


將左方介面調整為Auxiliary Input→percent

再來看load的值 (display) 然後看Stroke的值(記得也要display)

接著旋轉 stroke的 zero(粗調節輪)和set point(細調節輪)將stroke的percent調整成跟Load值相同 然後 enable+control到load 即可

電腦設定與操作-開油壓



一開始下夾頭要先讓它下降
(要夾試片且避免撞機和危險)

電腦設定與操作-架試片(1)



電腦設定與操作-架試片(2)



電腦設定與操作-架延伸計



電腦設定與操作-應變規歸零



電腦設定與操作-位移歸零



電腦設定與操作-轉換控制模式



Tensile Test Preparation

Specimen Set Up is finished. (●注意:調整電壓後再切換)

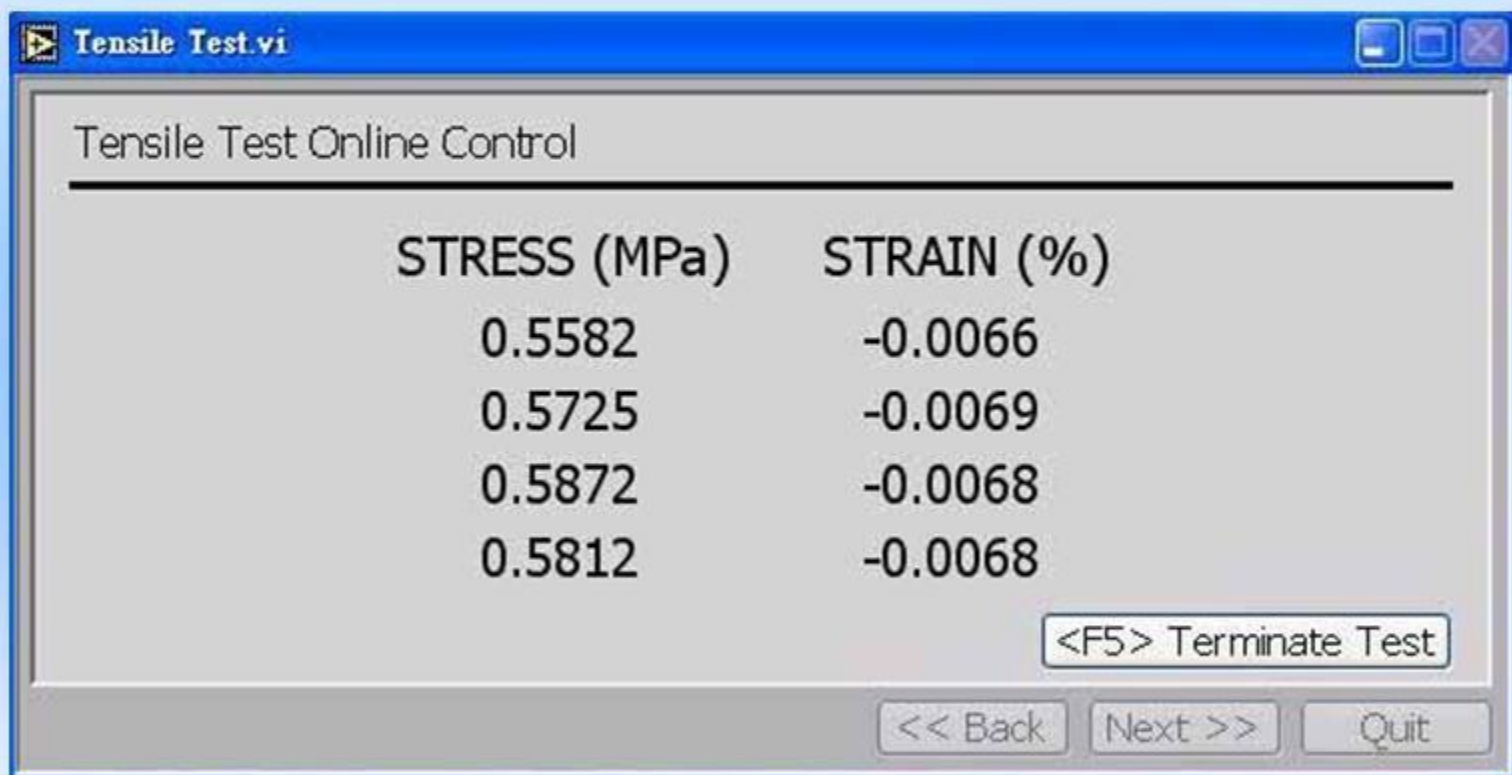
Please switch the controller to STROKE control.

Press <NEXT> to begin Test.

先看load的percent值 調整stroke的set point讓雙方值一樣
然後enable+control(stroke)
和第7步差不多

<< Back Next >> Quit

電腦設定與操作-開始實驗



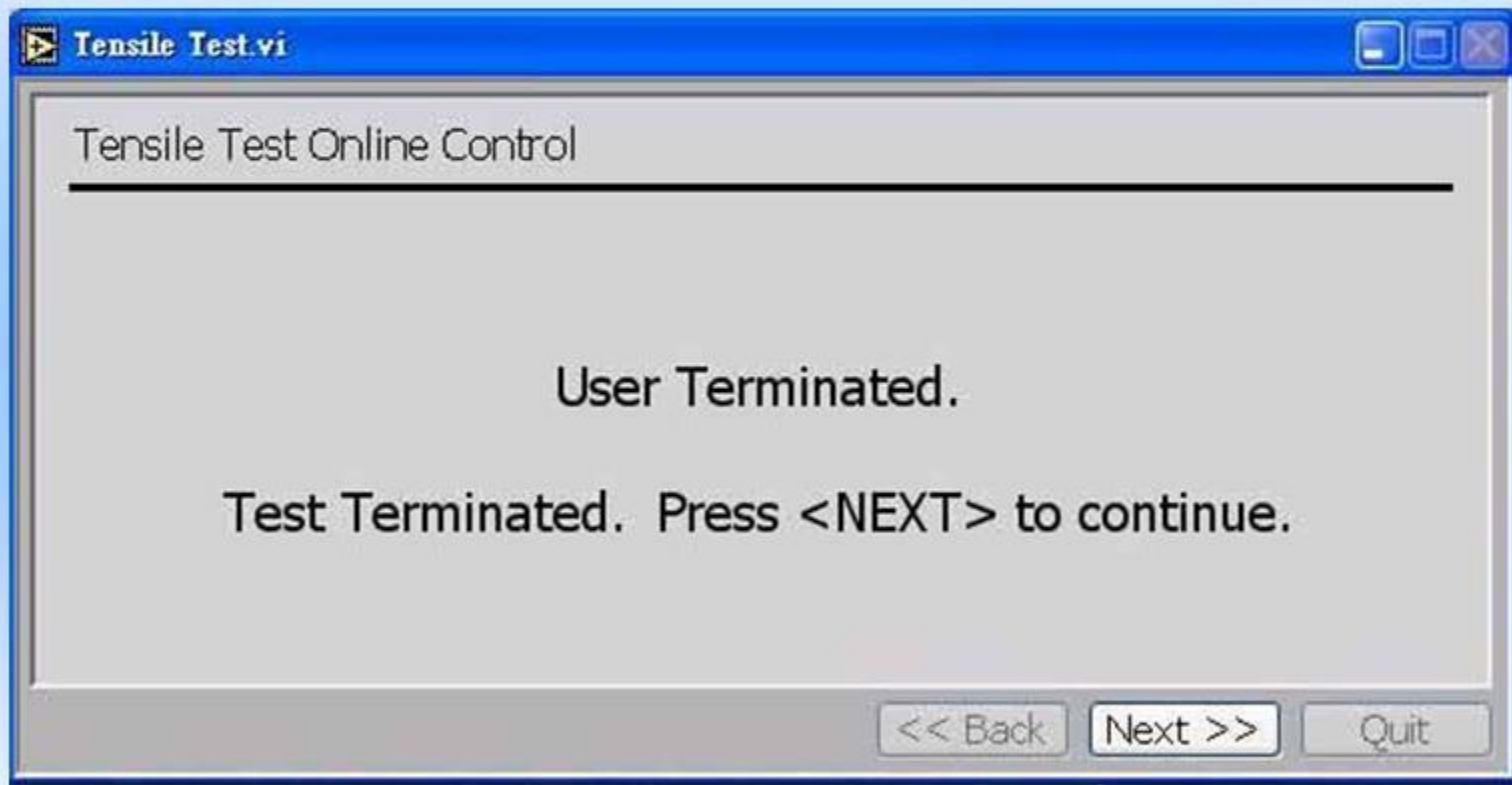
Tensile Test Online Control

STRESS (MPa)	STRAIN (%)
0.5582	-0.0066
0.5725	-0.0069
0.5872	-0.0068
0.5812	-0.0068

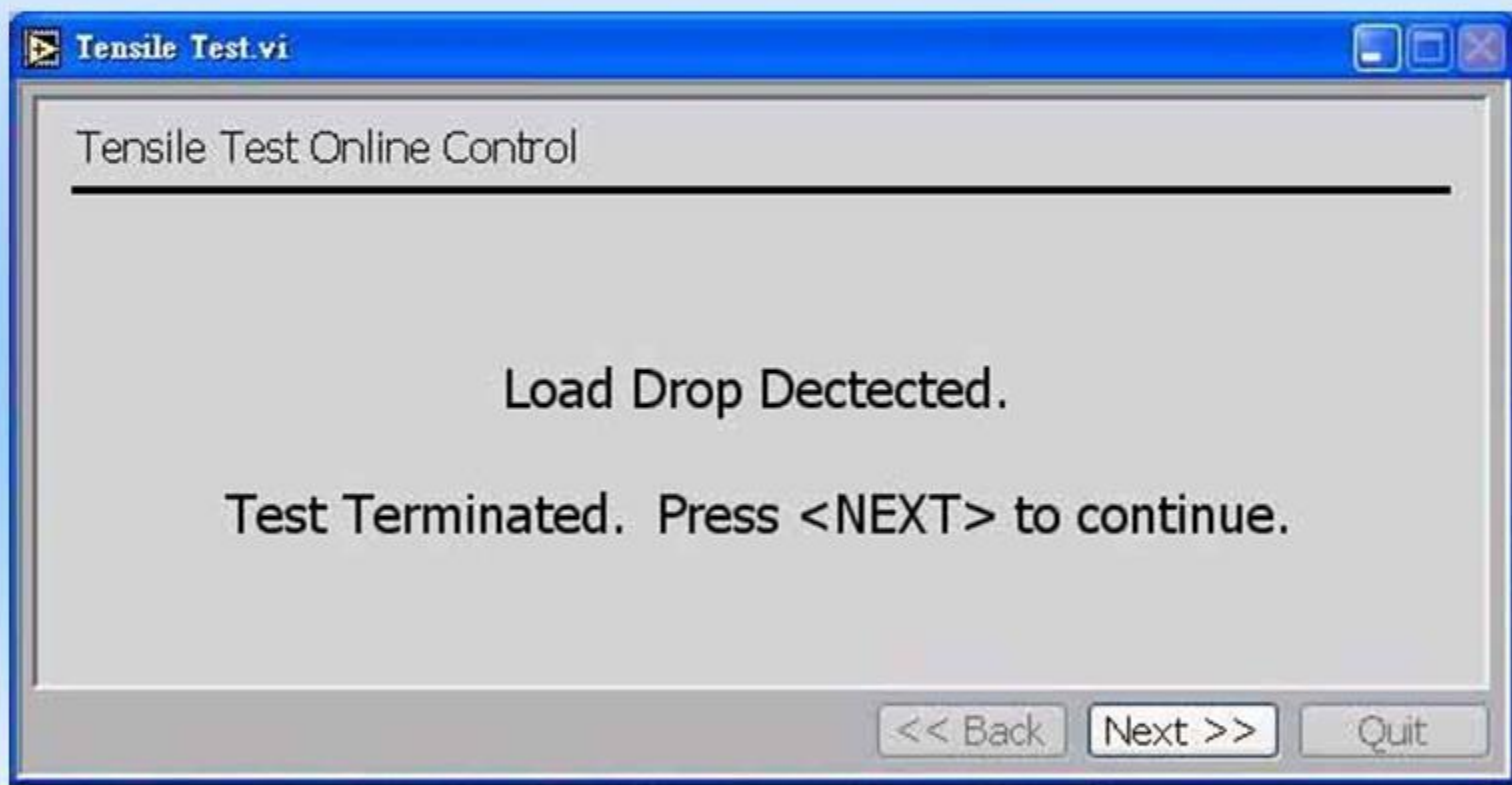
<F5> Terminate Test

<< Back Next >> Quit

電腦設定與操作-使用者終止



電腦設定與操作-實驗終止



電腦設定與操作-移除延伸計



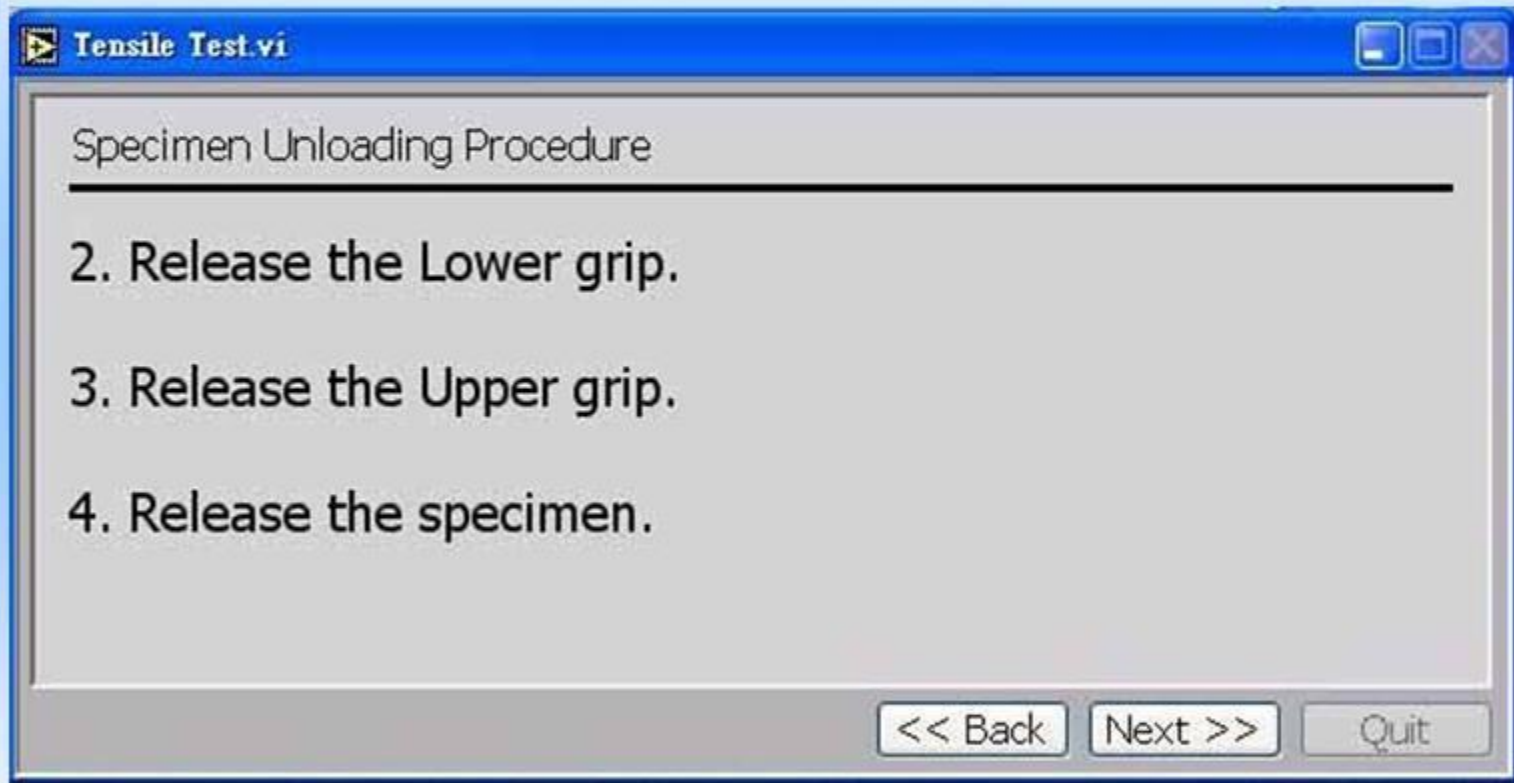
假如你提前終止或力太大 跳出錯誤

一樣percent 先用load 的set point去旋轉對 stroke的值

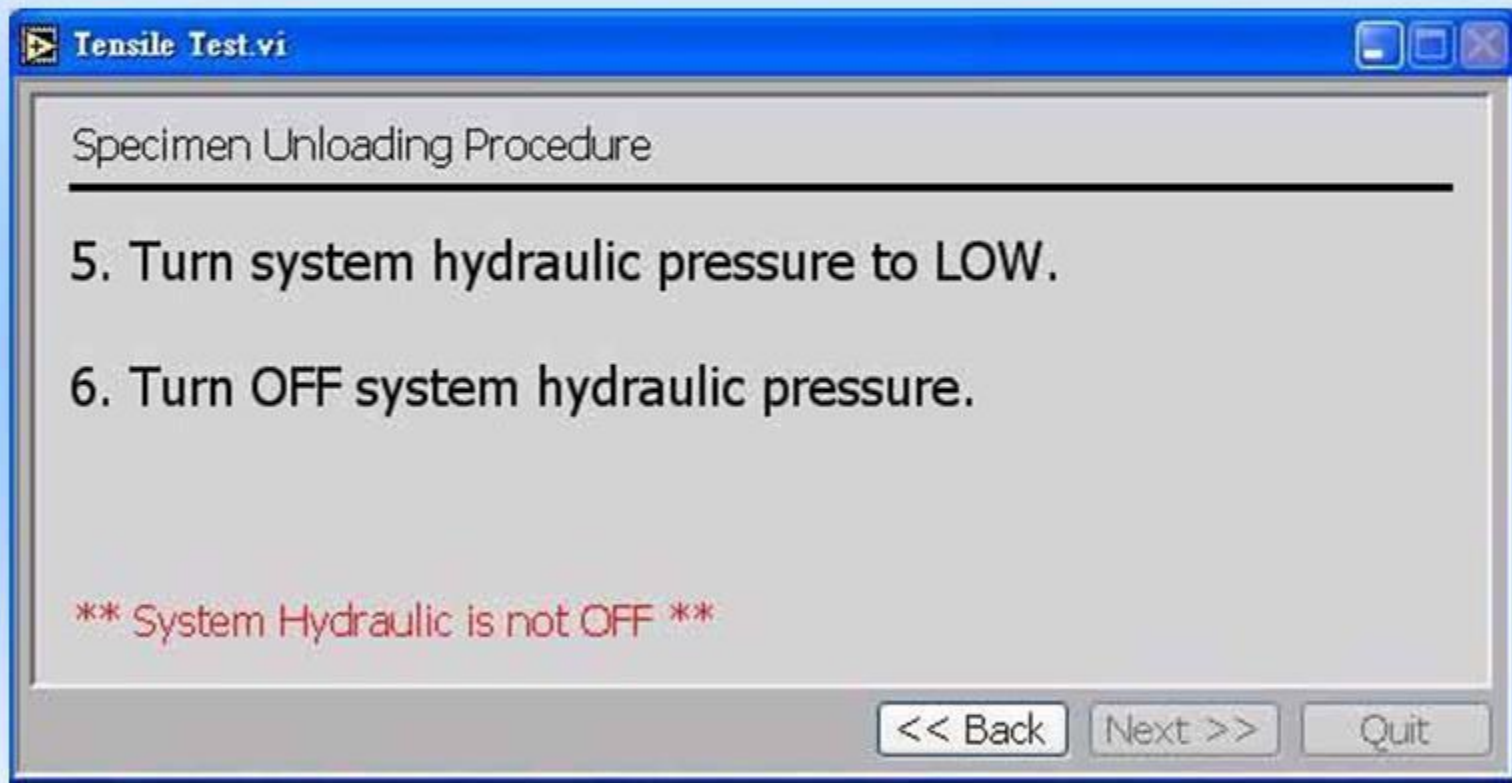
然後先將控制轉為load control

再用set point 去歸零力

電腦設定與操作-移除試片



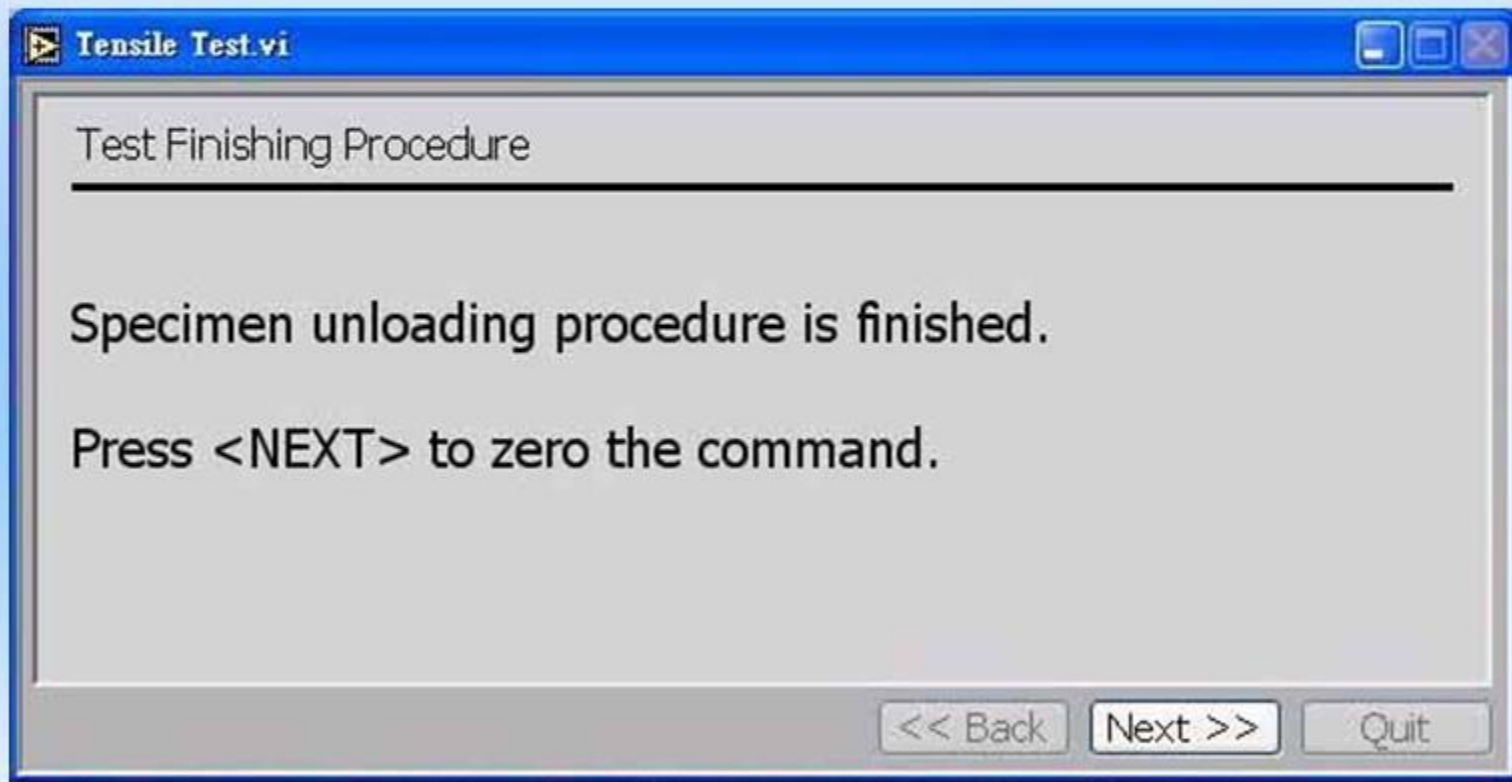
電腦設定與操作-關油壓



電腦設定與操作-確定設定值



電腦設定與操作-機台歸零



電腦設定與操作-歸零



電腦設定與操作-終止測試

