

Press Recorder Sample Calibration Procedure

Tools Required

- Dead weight calibrator or hydraulic pump and calibrated gag
- Calipers or gage block that is capable of measuring up to 8 inches

Theory of Calibration

The press recorder uses linear electronic transducers to make its readings. Two end points are calibrated and the calibration between these endpoints is checked at three additional points between the endpoints. The device will be calibrated over the entire range between the endpoints assuming all three points are within the specified limits. Each calibrated measurement requires one instrument that is traceable to NIST to verify the calibration. Using a single calibrated device simplifies the calibration process and reduces the errors introduced by readings from multiple devices.

Initial Setup

1. Run the Wheel Press Recorder/Universal Press Recorder program.
2. Log onto the system with a QA security level.
3. Press the Calibrate button on the Main Window.
4. Disconnect the pressure line from the ram of the press.
5. Connect a dead weight calibrator or a hydraulic pump in the line with the pressure transducer.

Pressure Calibration

1. Induce a known pressure around 10 tons.
2. Type the actual pressure into the box labeled "Low Pressure Reading" and press the **ENTER** key.
3. Induce a known pressure around 180 tons.
4. Type the actual pressure into the box labeled "High Pressure Reading" and press the **ENTER** key.
5. Induce the pressures in table 1 below and verify that the pressures displayed by the WPR/UPR are within 2% of the actual reading.
6. Repeat calibration up to three times if necessary.

Distance Calibration

1. Move the press ram back to the completely retracted position
2. Type 0 into the box labeled "Low Distance Reading" and press the **ENTER** key.
3. Extend the ram and measure the extension with calipers or another calibrated device.
4. Type the actual distance extended into the box labeled "High Distance Reading" and press the **ENTER** key.
5. Retract the ram completely once more.
6. Extend the ram to the distances shown in Table 2 below and verify that the distances displayed by the WPR/UPR are + 0.1 inches from the actual reading.
7. Repeat calibration up to three times if necessary.

Press Recorder Calibration Report

Table 1 - Pressure Sensor Verification

Actual Pressure Reading (tons)	WPR/UPR Pressure Reading (tons)	± 2%
15		
80		
160		

Table 2 - Distance Sensor Verification

Gage Block (inches)	WPR/UPR Distance Reading (inches)	Actual Relative Distance
None		
8		
4		
1		

Calibration Performed By: _____

Date: _____

Caliper ID: _____

Calibration Date: _____

Pressure Device ID: _____

Calibration Date: _____