

Appendix “DD”

SCALE TESTING PROCEDURE STANDARD



Scale-Tech, Ltd.	
Title: Scale Test Procedure	Revision: 10/05.8
Form: STP	Revision Date: April 16 th 2015
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1. Establish gross capacity of scale
 - 1.1. Establish minimum graduation size
 - 1.2. Establish total number of divisions
 - 1.2.1. Establish classification per HB 44
 - 1.2.2. Record Temperature on Temperature line on (TR203 rev 12/11.7) as per HB44 tolerance.
 - 1.2.3. If 17025 testing is required the check box will be automatically checked by Scale-Tech database.
 - 1.3. Applications

A.S.T.M. E 617 TABLE X2.1 Applications		
CLASS	TYPE	APPLICATION
0	I	PRIMARY LABORATORY REFERENCE STANDARDS
0	I	REFERENCE STANDARDS USED FOR CALIBRATING CLASS 1 WEIGHTS
0	I	REFERENCE STANDARDS USED FOR CALIBRATING CLASS 2 WEIGHTS
1	I	REFERENCE STANDARDS USED FOR CALIBRATING CLASS 3 WEIGHTS
1	II	BUILT IN WEIGHTS FOR HIGH QUALITY ANALYTICAL BALANCES
1	I OR II	WEIGHTS FOR CLASS II BALANCE CALIBRATION, LAB ANALYTICAL WORK
1,2	I OR II	STANDARDS USED FOR CALIBRATING CLASS 4 WEIGHTS
3	I OR II	STANDARDS USED FOR CALIBRATING CLASS 5 WEIGHTS
4	I OR II	STANDARDS USED FOR CALIBRATING CLASS 6 WEIGHTS
4,5,6	I OR II	WEIGHTS USED WITH CLASS III, IIIL, IIIL SCALES/BALANCES
5,6	I OR II	STUDENT LABORATORY USE
7	I OR II	ROUGH WEIGHING OPERATIONS IN PHYSICAL AND CHEMICAL LABS
O.I.M.L. R 111		
F1,E2		WEIGHTS INTENDED TO BE USED WITH WEIGHING INSTRUMENTS ACCURACY CLASS I
F2		WEIGHTS INTENDED TO BE USED FOR INTENDED TO BE USED FOR IMPORTANT COMMERCIAL TRANSACTIONS (I.e. GOLD, PRECIOUS STONES) ACCURACY CLASS II DEVICES
M1		WEIGHTS USED WITH WEIGHING INSTRUMENTS OF ACCURACY CLASS II
M2		WEIGHTS USED IN NORMAL COMMERCIAL INSTRUMENTS OF CLASS III
M3		WEIGHTS USED ON WEIGHING INSTRUMENTS OF CLASS III AND IIIL

CLASS I DEVICES TO BE TESTED WITH CLASS I WEIGHTS.

CLASS II DEVICES TO BE TESTED WITH CLASS II WEIGHTS. CLASS I WEIGHTS CAN ALSO BE USED.

CLASS III, IIIL, IIIL, DEVICES TO BE TESTED WITH CLASS F WEIGHTS, CLASS I & II WEIGHTS CAN ALSO BE USED.

- 1.4. Establish section/shift capacity of scale (where Applicable.)
2. Test #1 as found, prior to any adjustment, Verify and record Zero reading
 - 2.1. Standard deviation of customer's equipment to be tested no less than once a year. Standard deviation test to be performed on units not marked by manufacturer. Standard deviation to be performed on any system that has not been classified as a weighing system by manufacturer. I.e. Base and indicator, conversion, etc. See N.I.S.T. IR 6919 & TN 1297 4.6
NOTE: CLIENT MUST NOTIFY SCALE-TECH, IN WRITING IF STANDARD DEVIATION IS REQUIRED. CLIENT MUST NOTIFY SCALE-TECH, IN WRITING OR VERBALLY IF REPORTED UNCERTAINTY IS NOT REQUIRED. SEE APP "GG" UR 10-5
 - 2.2. Using the correct amount of test weights, perform the section/shift test and record the results (where applicable).
 - 2.2.1. List the serial numbers of all test weights used. Test weight serial numbers to be placed in corresponding serial numbers used line on the test report
 - 2.3. With all weights removed, record ZERO reading
 - 2.4. Perform the increasing load test as close to the scale capacity as it is practical. Record the test readings.
NOTE: Test to capacity when customer requests it. All other tests to be in compliance with N.I.S.T. HB 44 Table #4.
 - 2.5. Perform the decreasing load test. Record the test readings
 - 2.6. With all weights removed, record ZERO reading
3. Compare test results to requirements set forth in Handbook 44 to determine the accuracy of the scale tested.
 - 3.1. If this scale meets the requirements set forth in Handbook 44, this scale is sealed and passes. Test#2 is not performed and left blank
 - 3.2. Proceed to step 5.
4. If this scale does not meet the requirements set forth in Handbook 44, this scale is not sealed
 - 4.1. Make any necessary adjustments to calibration to correct the out of tolerance condition from Test #1.
 - 4.2. Perform Test #2, after adjustment. Check zero readings
 - 4.2.1. Using the correct amount of test weights, perform the section/shift test and record the results (where applicable).
 - 4.2.2. Remove all test weights and record ZERO reading
 - 4.2.2.1. If ZERO reading is off, repeat steps 4.2 and 4.2.2
 - 4.2.2.2. If scale fails test, remove for repair. See NOTE #1
 - 4.3. Check ZERO reading and record
 - 4.3.1. Apply test weights for the increasing load test and record the readings
 - 4.3.1.1. If scale fails test, remove for repair. See NOTE #1
 - 4.3.1.2. If scale passes test, move on to decreasing load test
 - 4.3.2. Perform the decreasing load test and record the readings
 - 4.3.2.1. If the scale fails the decreasing load test, remove for repair. See NOTE #1
 - 4.3.2.2. If scale passes decreasing load test, check and record zero
 - 4.3.2.3. If zero repeats, this scale is Sealed and Passes
 - 4.3.2.4. If scale does not repeat, this scale is Not Sealed and is failed and must be removed for Repair. See NOTE #1
5. Make out and sign ISO/QS calibration report. Including marking of appropriate TEST #1 AND TEST #2 boxes.

If unit has Passed Test #1, as found, prior to adjustment the report will be as follows:

- ❖ TEST #1 SEALED / CALIBRATED / PASSED BOX WILL BE MARKED.
- ❖ TEST #1 NO ADJUSTMENTS MADE BOX WILL BE MARKED.
- ❖ TEST #2 NO BOXES WILL BE MARKED.
- ❖ IF THE UNIT IS TO BE REMOVED FROM CALIBRATION LIST THE REMOVE UNIT FROM LIST BOX WILL BE MARKED.
- ❖ IF THE UNIT WAS NOT FOUND DURING SCHEDULED INSPECTION THE MISSING / NOT FOUND BOX WILL BE MARKED.
- ❖ UNCERTAINTY OF MEASUREMENT WILL BE IGNORED IN THE DECIDING OF PASS OR FAIL OF THE UNIT.

If unit has Failed Test #1, and Passed Test #2, after Adjustments have been made, the report will be as follows:

- ❖ TEST #1 NOT SEALED / NOT CALIBRATED / FAILED BOX WILL BE MARKED.
- ❖ TEST #2 SEALED / CALIBRATED / PASSED BOX WILL BE MARKED.
- ❖ IF THE UNIT IS TO BE REMOVED FROM CALIBRATION LIST THE REMOVE UNIT FROM LIST BOX WILL BE MARKED.
- ❖ IF THE UNIT WAS NOT FOUND DURING SCHEDULED INSPECTION THE MISSING / NOT FOUND BOX WILL BE MARKED.
- ❖ UNCERTAINTY OF MEASUREMENT WILL BE IGNORED IN THE DECIDING OF PASS OR FAIL OF THE UNIT.

5.1. Sign and date (Calibrated/Not Calibrated) sticker

Customer to sign all test reports when job is complete. Unless otherwise notified by the customer.

NOTE #1: IF UNIT DOES NOT PASS APPLICABLE TOLERANCES AFTER ADJUSTMENTS HAVE BEEN MADE AND TEST #2 HAS BEEN PERFORMED.

THE TEST REPORT WILL BE MARKED AS “NOT SEALED/NOT CALIBRATED/FAIL” AND “REMOVED FOR REPAIR”. THE UNIT WILL HAVE THE “NOT CALIBRATED” STICKER APPLIED TO THE UNIT.

- ❖ TEST #1 NOT SEALED / NOT CALIBRATED / FAILED BOX WILL BE MARKED.
- ❖ TEST #2 NOT SEALED / NOT CALIBRATED / FAILED BOX WILL BE MARKED.
- ❖ TEST #2 REMOVE FOR REPAIR BOX WILL BE MARKED.

TECHNICIAN WILL COMMENT ON ERRORS OR CONDITION ON THE REMARKS PORTION OF THE TEST REPORT.

CUSTOMER WILL BE NOTIFIED OF ANY AND ALL UNITS THAT HAVE NOT BEEN SEALED OR HAVE FAILED. THE TECHNICIAN WILL NOTIFY THE APPROPRIATE MANAGER AT SCALE-TECH, LTD. FOR FOLLOW UP CORRECTIVE ACTION.

Appendix “DD” Continued.....

SCALE TESTING PROCEDURE ELECTRONIC



Scale-Tech, Ltd.	
Title: Scale Test Procedure Using Ereport form on computer	Revision: 5/1.2
Form: ESTP	Revision Date: 5-19-2015
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- 1.0 Load USB drive at the office prior to leaving for job
 - 1.1 Double click shortcut on desktop
 - 1.2 Enter initials and supplied password
 - 1.3 Click OK
- 2.0 Form EreportSearchPopUp. Enter Sales Order Number and verify information is correct
 - 2.1 Sales order number
 - 2.2 Company Name
 - 2.3 Date Entered
 - 2.4 Date Complete
 - 2.5 Brief Description
 - 2.6 Number of Reports
 - 2.7 Click Ok
- 3.0 Establish gross capacity of scale
 - 3.1 Establish minimum graduation size
 - 3.2 Establish total number of divisions
 - 3.3 Establish classification per HB 44
 - 3.4 Input Temperature on Temperature line on (Ereport Form) as per HB44 tolerance.
 - 3.5 If 17025 testing is required the check box will be automatically checked by Scale-Tech database.
 - 3.6 Verify last inspection and next inspection is correct on form. Make any changes necessary. Date is formatted as follows mm/dd/yy.
- 4.0 Applications

A.S.T.M. E 617 TABLE X2.1 Applications		
CLASS	TYPE	APPLICATION
0	I	PRIMARY LABORATORY REFERENCE STANDARDS
0	I	REFERENCE STANDARDS USED FOR CALIBRATING CLASS 1 WEIGHTS
0	I	REFERENCE STANDARDS USED FOR CALIBRATING CLASS 2 WEIGHTS
1	I	REFERENCE STANDARDS USED FOR CALIBRATING CLASS 3 WEIGHTS
1	II	BUILT IN WEIGHTS FOR HIGH QUALITY ANALYTICAL BALANCES
1	I OR II	WEIGHTS FOR CLASS II BALANCE CALIBRATION, LAB ANALYTICAL WORK
1,2	I OR II	STANDARDS USED FOR CALIBRATING CLASS 4 WEIGHTS
3	I OR II	STANDARDS USED FOR CALIBRATING CLASS 5 WEIGHTS
4	I OR II	STANDARDS USED FOR CALIBRATING CLASS 6 WEIGHTS
4,5,6	I OR II	WEIGHTS USED WITH CLASS III, IIIL, IIIL SCALES/BALANCES
5,6	I OR II	STUDENT LABORATORY USE
7	I OR II	ROUGH WEIGHING OPERATIONS IN PHYSICAL AND CHEMICAL LABS
O.I.M.L. R 111		
F1,E2		WEIGHTS INTENDED TO BE USED WITH WEIGHING INSTRUMENTS ACCURACY CLASS I

F2		WEIGHTS INTENDED TO BE USED FOR INTENDED TO BE USED FOR IMPORTANT COMMERCIAL TRANSACTIONS (I.e. GOLD, PRECIOUS STONES) ACCURACY CLASS II DEVICES
M1		WEIGHTS USED WITH WEIGHING INSTRUMENTS OF ACCURACY CLASS II
M2		WEIGHTS USED IN NORMAL COMMERCIAL INSTRUMENTS OF CLASS III
M3		WEIGHTS USED ON WEIGHING INSTRUMENTS OF CLASS III AND IIII

- 5.0 Establish section/shift capacity of scale (where Applicable.)
- 5.1 Test #1 as found, prior to any adjustment, Verify and input Zero reading
 - 5.2 Standard deviation of customer's equipment to be tested no less than once a year. Standard deviation test to be performed on units not marked by manufacturer. Standard deviation to be performed on any system that has not been classified as a weighing system by manufacturer. I.e. Base and indicator, conversion, etc. See N.I.S.T. IR 6919 & TN 1297 4.6
 - 5.3 Using the correct amount of test weights, perform the section/shift test and input the results (where applicable).
 - 5.4 List the serial numbers of all test weights used. Test weight serial numbers to be placed in corresponding serial numbers used line on the Ereport form
 - 5.5 With all weights removed, input ZERO reading
 - 5.6 Perform the increasing load test as close to the scale capacity as it is practical. Input the test readings.

NOTE: Test to capacity when customer requests it. All other tests to be in compliance with N.I.S.T. HB 44 Table #4.

- 5.7 Perform the decreasing load test. Input the test readings
- 5.8 With all weights removed, input ZERO reading
- 5.9 Compare test results to requirements set forth in Handbook 44 to determine the accuracy of the scale tested.
- 5.10 If this scale meets the requirements set forth in Handbook 44, this scale is sealed and passes. Test#2 is not performed and left blank
- 5.11 Proceed to step 7.0
- 6.0 If this scale does not meet the requirements set forth in Handbook 44, this scale is not sealed
 - 6.1 Make any necessary adjustments to calibration to correct the out of tolerance condition from Test #1
 - 6.2 Perform Test #2, after adjustment. Check zero readings
 - 6.3 Using the correct amount of test weights, perform the section/shift test and input the results (where applicable).
 - 6.4 Remove all test weights and input ZERO reading
 - 6.5 If ZERO reading is off, repeat steps 6.1 thru 6.4
 - 6.6 If scale fails test, remove for repair. See NOTE #1
- 7.0 Check ZERO reading and input on form
 - 7.1 Apply test weights for the increasing load test and input the readings
 - 7.2 If scale fails test, remove for repair. See NOTE #1
 - 7.3 If scale passes test, move on to decreasing load test(Step 8)
- 8.0 Perform the decreasing load test and input the readings
 - 8.1 If the scale fails the decreasing load test, remove for repair. See NOTE #1
 - 8.2 If scale passes decreasing load test, check and input zero
 - 8.3 If zero repeats, this scale is Sealed and Passes
 - 8.4 If scale does not repeat, this scale is Not Sealed and is failed and must be removed for Repair. See NOTE #1
- 9.0 Completely fill out Ereport form leaving no blank areas, including checking of appropriate TEST #1 and TEST #2 boxes.

If unit has Passed Test #1, as found, prior to adjustment the report will be as follows.
 TEST #1 SEALED / CALIBRATED / PASSED BOX WILL BE CHECKED BY CLICKING ON BOX.
 TEST #1 NO ADJUSTMENTS MADE BOX WILL BE CHECKED BY CLICKING ON BOX.
 TEST #2 NO BOXES WILL BE CHECKED.
 IF THE UNIT IS TO BE REMOVED FROM CALIBRATION LIST THE REMOVE UNIT FROM LIST BOX WILL BE CHECKED BY CLICKING ON BOX.
 IF THE UNIT WAS NOT FOUND DURING SCHEDULED INSPECTION THE MISSING / NOT FOUND BOX WILL BE CHECKED BY CLICKING ON BOX.
 UNCERTAINTY OF MEASUREMENT WILL BE IGNORED IN THE DECIDING OF PASS OR FAIL OF THE UNIT.
 If unit has Failed Test #1, and Passed Test #2, after Adjustments have been made, the report will be as follows
 TEST #1 NOT SEALED / NOT CALIBRATED / FAILED BOX WILL BE CHECKED BY CLICKING ON BOX.
 TEST #2 SEALED / CALIBRATED / PASSED BOX WILL BE MARKED.
 IF THE UNIT IS TO BE REMOVED FROM CALIBRATION LIST THE REMOVE UNIT FROM LIST BOX WILL BE CHECKED BY CLICKING ON BOX.
 IF THE UNIT WAS NOT FOUND DURING SCHEDULED INSPECTION THE MISSING / NOT FOUND BOX WILL BE CHECKED BY CLICKING ON BOX.

9.1 Sign and date (Calibrated/Not Calibrated) sticker











Customer to sign associated work order when job is complete. Electronic reports do not require signature

NOTE #1: IF UNIT DOES NOT PASS APPLICABLE TOLERANCES AFTER ADJUSTMENTS HAVE BEEN MADE AND TEST #2 HAS BEEN PERFORMED. THE TEST REPORT WILL BE MARKED AS “NOT SEALED/NOT CALIBRATED/FAIL” AND “REMOVED FOR REPAIR”. THE UNIT WILL HAVE THE “NOT CALIBRATED” STICKER APPLIED TO THE UNIT.

- ❖ TEST #1 NOT SEALED / NOT CALIBRATED / FAILED BOX WILL BE CHECKED BY CLICKING ON BOX.
- ❖ TEST #2 NOT SEALED / NOT CALIBRATED / FAILED BOX WILL BE CHECKED BY CLICKING ON BOX.
- ❖ TEST #2 REMOVE FOR REPAIR BOX WILL BE CHECKED BY CLICKING ON BOX.

TECHNICIAN WILL COMMENT ON ERRORS OR CONDITION ON THE REMARKS PORTION OF THE EREPORT FORM.

CUSTOMER WILL BE NOTIFIED OF ANY AND ALL UNITS THAT HAVE NOT BEEN SEALED OR HAVE FAILED. THE TECHNICIAN WILL NOTIFY THE APPROPRIATE MANAGER AT SCALE-TECH, LTD. FOR FOLLOW UP CORRECTIVE ACTION.

	View test weight serial numbers
	View all reports and prepare them for printing
	This button will auto complete test #1 with zero errors
	This button will auto complete test #2 with zero errors
	This button will allow you to scale view or edit scale information
	This button will open the report you are working on
	This button will remove any form filtering and reset form to first scale
	View scale history
	Open reports by a specified date range
	View only completed reports



Refresh form data



Erase remarks field

10.0 Completing final report

10.1 Click view complete report button

10.2 Pay attention to any error messages that may appear

10.2.1 Correct any errors and repeat step 10.1

10.3 All reports will load on USB drive as a .PDF format with the correct file name.

10.4 The file should save in the following format (File Name)

10.4.1 Customer Name_Sales Order Number_Date(mm-dd-yyyy) {Example: Scale Tech_8574_5-1-2014}

10.4.2 Revised report example {Example: Scale Tech_8574_5-1-2014(REVISED 5-2-2014)}

10.5 Report is now saved on USB drive

11.0 View PDF report once loaded and check for any errors

12.0 Customer can either copy files from USB drive or have them emailed to them

13.0 USB drive information must be updated to Scale Tech, Ltd. Data base prior to using USB drive for another day

14.0 It is the technician responsibility to report any issues before reports are sent to customer