4.0 Trimming Procedure

Trimming is a process of equalizing the output from multiple individual load cells. If needed, load cell output can be individually trimmed with potentiometers.

If more than 5% of normal output needs to be trimmed to equalize output, check for other possible problems. When all errors except cell mismatch and cable extensions or reductions have been corrected, continue with the trimming.

4.1 Excitation Board Trimming (JB4ES and JB4EP)

Use the following steps to properly trim the JB4ES and JB4EP junction boxes.

1. Determine the number of load cells needed.
2. Remove the jumpers to enable trimming of each load cell in use.
3. Set all potentiometers fully clockwise to give maximum signal output from each load cell.

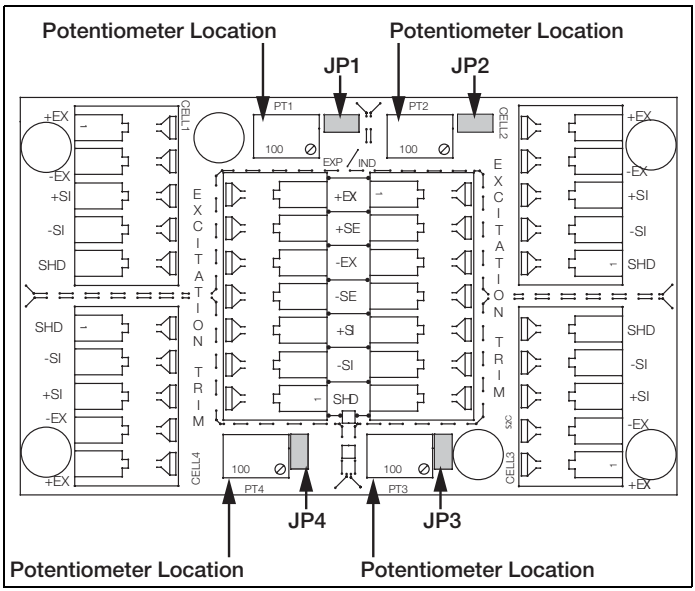

Figure 4-1. Excitation Main Board

4. Zero the indicator.
5. Place calibrated test weights over each load cell. The amount of test weights to be used depends on the scale configuration.

Note *Refer to Handbook 44 Field Manual, published by NIST (National Institute of Standards and Technology, for weight recommendations. For a four cell platform, it's 25% of scale capacity is recommended.*

6. Record the value displayed on the indicator once the test weight is placed on each corner, directly over the load cell. Do not allow the weight to overhang the sides.

7. Allow the scale to return to zero each time to check for friction or other mechanical problems.
8. Select the load cell with the lowest value as the reference load cell. This load cell will not be trimmed.
9. Place the same test load over one of the other load cells.
10. Use the corresponding potentiometer to trim the load cell equal to the reference load cell.
11. Repeat Step 9 and 10 until all remaining load cells have been trimmed.
12. Once trimming is complete, check all loads cells again for repeatability. If necessary, repeat steps 4 through 11.
13. Pull excess cable out of the enclosure.
14. Tighten the cord grip assemblies with a wrench. To be watertight, each cord grip must be tightened so the rubber sleeve begins to protrude from the hub.
15. Plug unused hubs to prevent moisture entry.
16. Place the supplied desiccant filter it in the junction box.
17. Replace the cover and tighten the screws in an alternating pattern to be certain the gasket is compressed equally in all locations.

Important

See the Electronic Replacement Parts and Components catalog to order extra hole plugs if needed for step 15.

Inspect the desiccant during normal service and change the desiccant as needed.

4.2 Signal Board Trimming Procedure (JB4SS and JB4SP)

Use the following steps to properly trim the JB4SS and JB4SP junction boxes.

1. Determine the number of load cells needed.
2. Ensure jumpers are in place to enable trimming the load cells. Remove jumpers for unused cells.
3. Set all potentiometers fully clockwise to give maximum signal output from each cell.

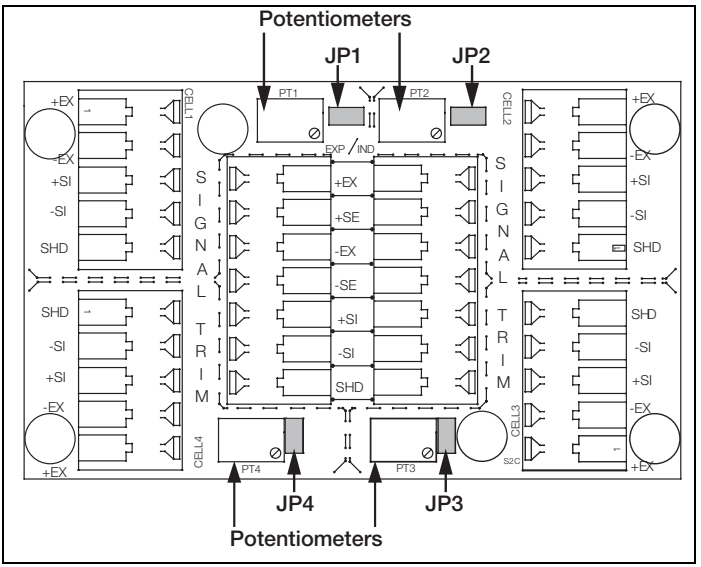

Figure 4-2. Signal Trim Main Board

4. Zero the indicator.
5. Place calibrated test weights over each load cell in turn. The amount of test weights to be used will depend on the scale configuration.

Note *Refer to Handbook 44 Field Manual, published by NIST (National Institute of Standards and Technology, for weight recommendations. For a four cell platform, it's 25% of scale capacity is recommended.*

6. Record the value displayed on the indicator once the test weight is placed on each corner, directly over the load cell. Do not allow the weight to overhang the sides.
7. Allow the scale to return to zero each time to check for friction or other mechanical problems.
8. Select the load cell which has the lowest value as the reference point. This cell will not be trimmed.
9. Place the same test load over one of the other load cells.
10. Use the corresponding potentiometer to trim the load cell equal to the reference load cell.

11. Repeat Step 9 and 10 until all remaining load cells have been trimmed.
12. Once trimming is complete, check all loads cells again for repeatability. If necessary, repeat steps 4 through 11.
13. Pull excess cable out of the enclosure.
14. Tighten the cord grip assemblies with a wrench. To be watertight, each cord grip must be tightened so the rubber sleeve begins to protrude from the hub.
15. Plug unused hubs to prevent moisture entry.
16. Place the supplied desiccant filter it in the junction box.
17. Replace the cover and tighten the screws in an alternating pattern to be certain the gasket is compressed equally in all locations.

Important

See the Electronic Replacement Parts and Components catalog to order extra hole plugs if needed for step 15.

Inspect the desiccant during normal service and change the desiccant as needed.