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This document shows calibration instructions extracted from Manuals we have on file that may not necessarily match your current model.

For your reference only.

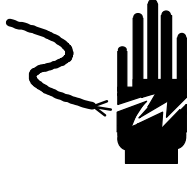

IWSystems provides repair services to instruments and load cells

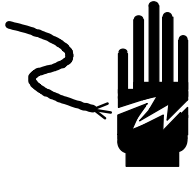

On site calibrations

For additional information please contact us.

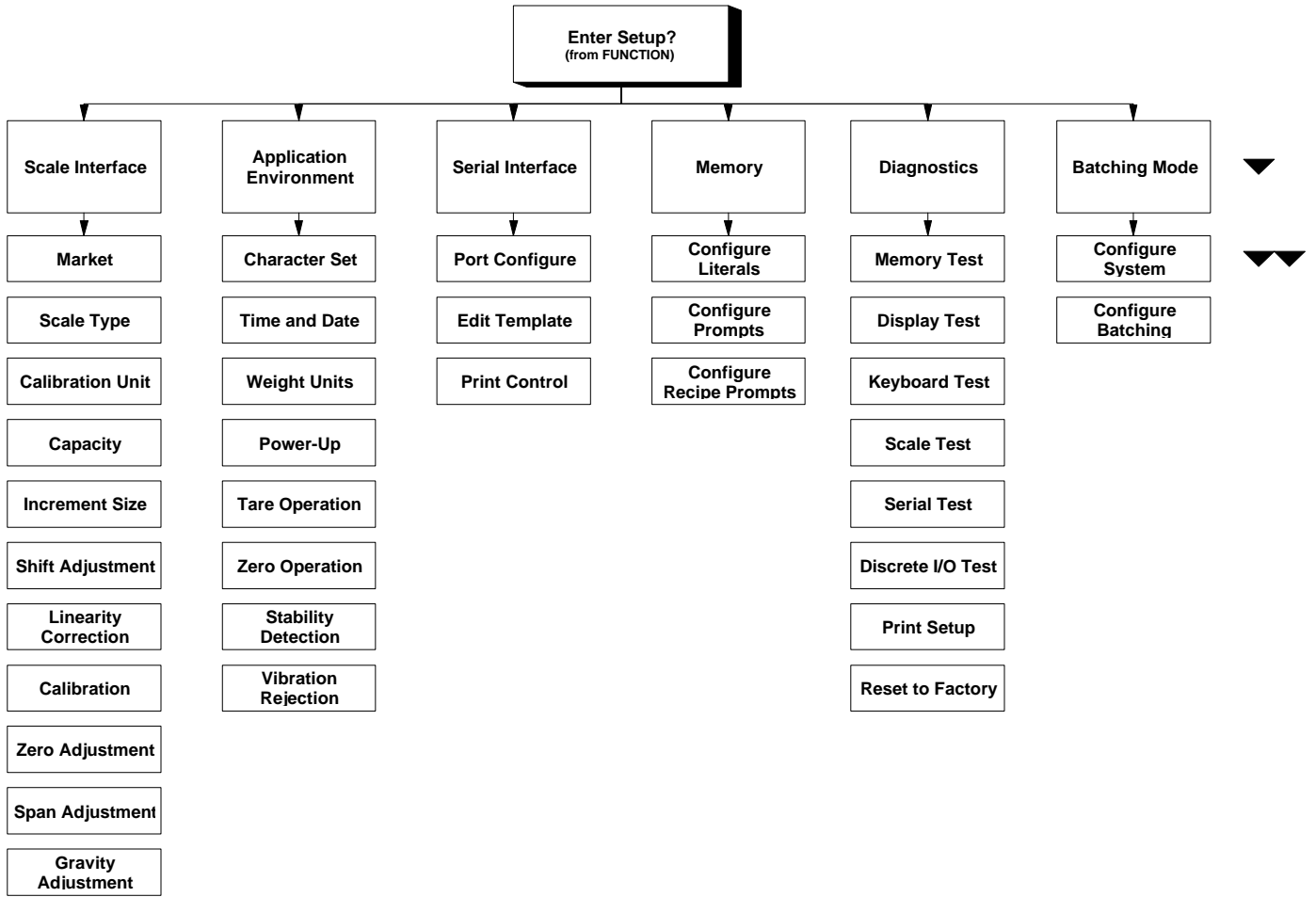
3

Programming and Calibration

	 WARNING
	ONLY PERMIT QUALIFIED PERSONNEL TO SERVICE THIS EQUIPMENT. EXERCISE CARE WHEN MAKING CHECKS, TESTS AND ADJUSTMENTS THAT MUST BE MADE WITH POWER ON. FAILING TO OBSERVE THESE PRECAUTIONS CAN RESULT IN BODILY HARM.

	 WARNING
	ONLY PERMIT QUALIFIED PERSONNEL TO PROGRAM METTLER TOLEDO EQUIPMENT. EXERCISE CARE WHEN CREATING PROGRAMS OR MAKING PROGRAM CHANGES WHEN OUTPUTS ARE CONNECTED TO EXTERNAL EQUIPMENT. FAILURE TO OBSERVE THESE PRECAUTIONS CAN RESULT IN BODILY HARM AND/OR PROPERTY DAMAGE.

The setup parameters are divided into six program blocks as shown on the next page. Each is divided into sub-blocks in which you select and configure individual operating parameters.

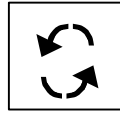


General Information

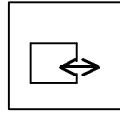
Keystroke Functions



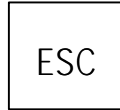
Numeric Keys input numeric entries such as threshold values and scale capacity. These keys are also used for alphanumeric entries.



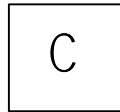
SELECT scrolls forward through a list of choices. Programming items appear in the display area. **The SELECT pushbutton performs the same function.**



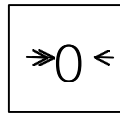
ENTER completes a response. Press **ENTER** after you have used the numeric keys to input data or the **SELECT** key to display an option. **The same function is performed by the START/CONTINUE pushbutton.**



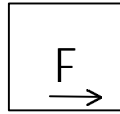
ESCAPE exits the current location, and the parameters previously configured are saved. Each time you press **ESCAPE**, you go back to the previous setup level.



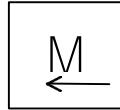
CLEAR clears the current entry and allows you to key the response again.



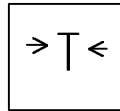
ZERO allows you to back up in the current program block and return to the previous step if you are in the first two setup levels.



FUNCTION moves the cursor one character to the right, allowing you to change one character in a text string without clearing and reentering the string.



MEMORY moves the cursor one character to the left, allowing you to change one character in a text string without clearing and reentering the string.



TARE

Program Block Access

To set program block parameters, you must enter the setup mode.

1. Press the **FUNCTION** key.
2. Press **SELECT** until the prompt **Setup?** is displayed, then press **ENTER**. If the **Setup?** prompt is not displayed, try the following:
 - Remove AC power.
 - Turn SW1-1 (on the Controller PCB) to the ON position
 - Power the controller and repeat steps 1 and 2.

- At the **Pass?** prompt, enter your password. The first program block, Scale Interface (Scale I/F), should be displayed. Press **ENTER** to open this block or **SELECT** to choose another block.

Navigation

Press **SELECT** or **ZERO** to scroll through the program blocks. When the desired block is displayed, press **ENTER** to open it.

Program blocks contain sub-blocks that handle specific functions. **SELECT** and **ENTER** toggle and confirm parameter option selection. After you configure one sub-block, the LYNXBATCH controller proceeds to the next. When you finish the last sub-block, the LYNXBATCH controller proceeds to the next program block. Press **ESCAPE** any time to exit.

Note: Cursors under the display indicate position within a program block.

Arrows	Block Position
1 Arrow ▼	You are in setup mode top level
2 Arrows ▼▼	You are in a program block
3 Arrows ▼▼▼	You are in a sub-block
4 Arrows ▼▼▼▼	You are configuring an element within a sub-block

Exit Setup Mode

Reset to Factory returns **all setup parameters** to their original settings. You cannot reset a single value or specify only a few of the sub-block values.

To return to normal operation, press **ESCAPE** until **Exit?** is displayed. Press **ENTER** to confirm. The LYNXBATCH controller may go through the power-up sequence before returning to normal operation. To protect the setup parameters from being changed by an operator, turn SW1-1 to OFF. If the legal-for-trade switch (SW1-2) is ON, the LYNXBATCH controller prompts **SW1-1 ON?** when exiting setup as a reminder to turn SW1-1 OFF for legal-for-trade applications.


Reset to Factory

See Appendix 7 for default values.

The *Diagnostics and Maintenance* block has a Master Reset option that lets you reset **all parameters in all blocks**. To reset the program block parameters:

- Press **ENTER** at the **Factory Reset** prompt.
- At the **Sure?** prompt, select Y(es) or N(o) to continue with the reset operation, then press **ENTER**. The controller responds with the prompts **Reset Recipes?**, **Reset Materials?**, and **Reset Calibration?**
- At each prompt, press **SELECT** to display Y(es) or N(o) to include or exclude the recipe list, material list, and calibration parameters. The message **Resetting** is displayed while the parameters are reset. The LYNXBATCH controller goes through its power-up sequence and returns to normal operating mode.

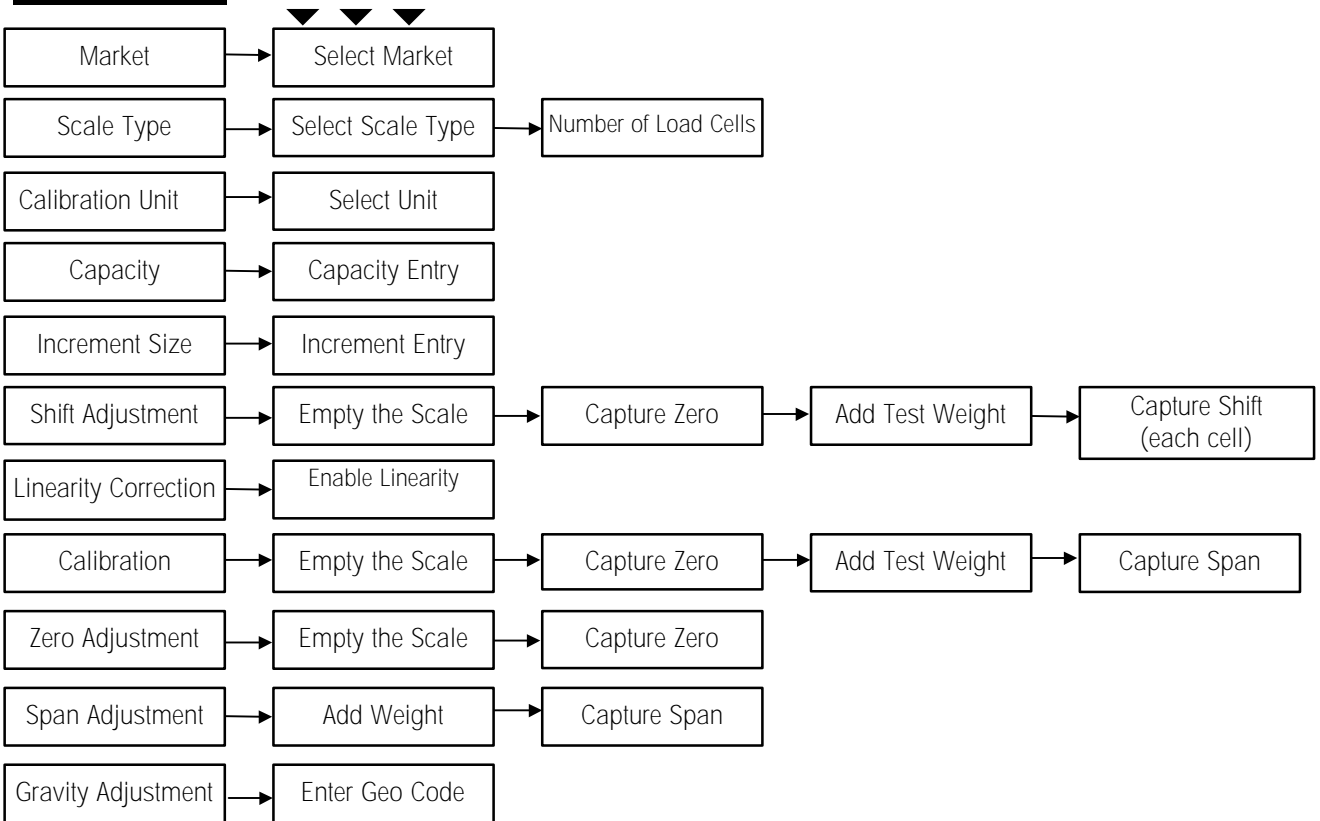
The **Pass?** prompt appears only if you have previously enabled password protection.

	<h3>CAUTION</h3>
<p>USE CAUTION WHEN RESETTING THE CALIBRATION VALUES. ALL CALIBRATION VALUES AND BATCHING DATA WILL BE LOST AND MUST BE RE-ENTERED.</p>	

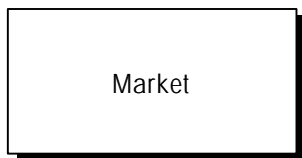
Scale Interface Program Block



The Scale Interface program block (Scale I/F) lets you select the type of scale, set up features that affect weighing capabilities, and calibrate the scale. Press ENTER at the Scale I/F prompt to access the program block.



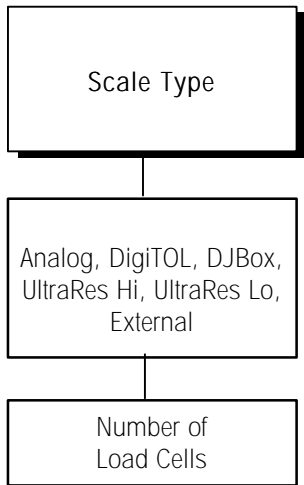
Market Sub-block



The Market sub-block lets you select a country or market area and limit parameters that affect legal-for-trade programming options.

1. Press ENTER at the Market prompt.
2. Press SELECT until the desired market area is displayed, then press ENTER. Market areas include:
 - USA — United States
 - EC — European Community
 - Aus — Australia
 - Can — Canada
3. The LYNXBATCH controller automatically continues to the next sub-block. Or, you can press ESCAPE twice to exit the setup mode.

Scale Type Sub-block



The Scale Type sub-block lets you select the type of scale that will be used.

1. Press **ENTER** at the **Scale Type** prompt.
2. Press **SELECT** until the desired scale type is displayed, then press **ENTER**. Scale types include:
 - Analog
 - DigiTOL (bench or portable – xx96, xx97*)
 - DJBox (Enhanced DigiTOL J-Box)*
 - UltraResHi (UBs, xx97**)
 - UltraResLo (UBs, xx97**)

*If DigiTOL J-Box is Selected

At the **Cells?** prompt, press **SELECT** to choose the number of load cells connected to the DigiTOL J-Box (2-4). Press **ENTER**.

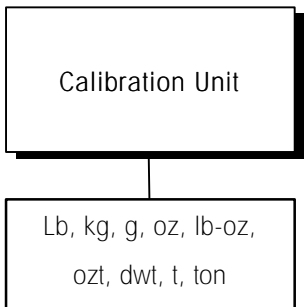
If the scale type is changed, the LYNXBATCH controller displays the message **PleaseWait** as it exits setup mode and goes through the power-up sequence. You must reenter setup mode to continue configuring the program blocks.

3. Continue to the next sub-block or exit the setup mode.

*Produced prior to 5/98

**Produced after 4/98

Calibration Unit Sub-block



This sub-block lets you enter the units of measure to use when calibrating the scale and setting capacity and increment size. **If you change the calibration unit, you must recalibrate the scale.**

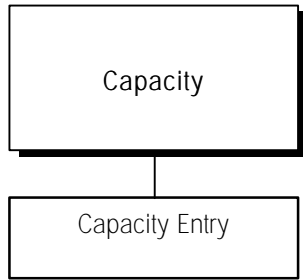
1. Press **ENTER** at the **Calib Unit** prompt.
2. At the **Unit?** prompt, press **SELECT** until the desired calibration unit is displayed, then press **ENTER**. Calibration units include:

Pounds (lb)	Kilograms (kg)	Pound/Ounces (lb-oz)
Ounces (oz)	Avoirdupois Tons (ton)	Pennyweight (dwt)
Grams (g)	Metric Tons (t)	Troy Ounces (ozt)

If Pounds/Ounces (lb-oz) is selected, the capacity and increment sizes entered in sub-blocks 4 and 5 must be ounce values. For example, to calibrate a 100 lb capacity scale with 0.5 ounce increments, enter 1600 for capacity and 0.5 for increment size. The LYNXBATCH controller always uses the primary (calibration) unit when in batching mode.

3. Continue to the next sub-block or press **ESCAPE** to exit the setup mode.

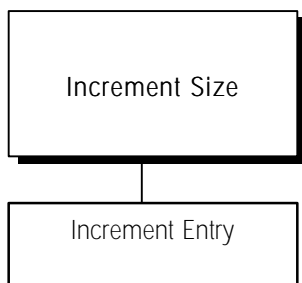
Capacity Sub-block



This sub-block lets you enter the maximum scale capacity. During operation, the weight display will indicate **OVER RANGE** at 5 increments above this weight.

1. Press **ENTER** at the **Capacity** prompt. The LYNXBATCH controller displays the current scale capacity in the calibration units selected in the previous sub-block.
2. Key the desired scale capacity using the numeric keys.
3. Press **ENTER** to set the capacity.
4. Continue to the next sub-block or exit the setup mode.

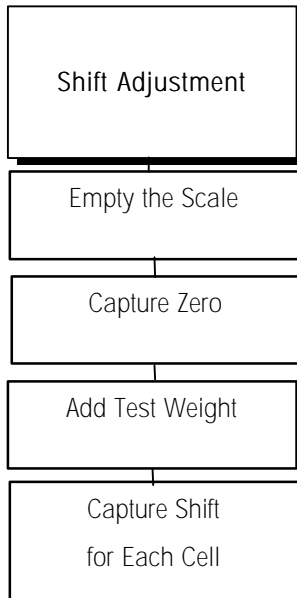
Increment Size Sub-block



This sub-block lets you specify increment size, which is the smallest change in weight value the LYNXBATCH controller can display. For example, if the increment size is specified as 0.1, then starting at 0.0 on the scale, adding an increasing load will cause the controller to display 0.1, 0.2, 0.3 and so on. Increment size also determines the smallest increment size for entering target weights and setpoints.

1. Press **ENTER** at the **Increment** prompt. The LYNXBATCH controller displays the current increment size.
2. Key the desired increment value, then press **ENTER** to set the increment.
3. Continue to the next sub-block or exit the setup mode.

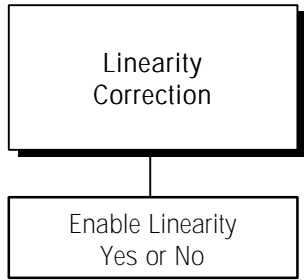
Shift Adjustment Sub-block



The Shift Adjustment prompt appears only if you selected **DigiTOL J-Box** as the scale type. When using a **DigiTOL J-Box**, each load cell's output must be adjusted so that it is equal to that of the other cells. Cell adjustment is done by applying weight to each cell in sequence as prompted.

1. Press **ENTER** at the **Shift Adj** prompt.
2. At **EmptyScale**, remove all weight from the platform then press **ENTER**. The display reads **Cal Zero** as the controller captures zero.
3. At the **Load On N** prompt, place a test weight equaling approximately 50% of the scale's capacity on the platform. The LYNXBATCH controller automatically shift adjusts the scale for the current load cell as the display reads **Cap Cell N**.
4. Repeat steps 2 and 3 for each load cell connected to the **DigiTOL J-Box**.
5. When all load cells are shift adjusted, the controller indicates **Shift Done**. Continue to the next sub-block or exit the setup mode.

Linearity Correction Sub-block

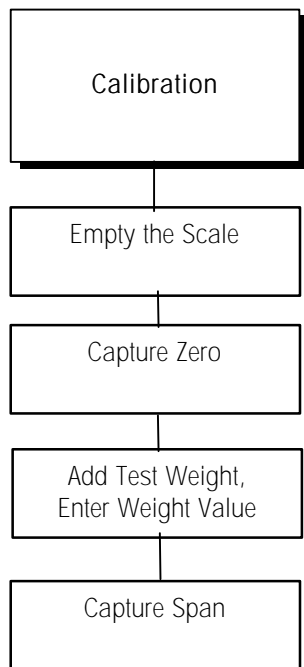


Linearity correction compensates for the non-linear performance of a load cell or weighing system. The LYNXBATCH controller must be calibrated or recalibrated **after** you enable linearity correction.

1. Press **ENTER** at the **Linearity** prompt to open the sub-block.
2. Select **Y(es)** to enable or **N(o)** to disable linearity correction.
3. Continue to the next sub-block or exit the setup mode.

Note: If linearity correction is enabled, you cannot do a span adjustment.

Calibration Sub-block



Calibration involves emptying the scale, placing a known test weight on the empty platform, and allowing the LYNXBATCH controller to capture values for zero and span. You can calibrate a scale with or without linearity correction.

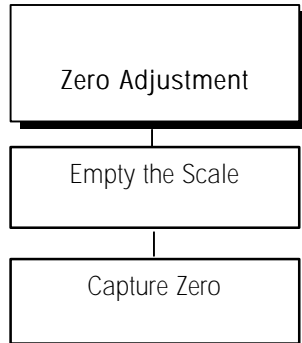
Without Linearity Correction

1. Press **ENTER** at the Calibrate prompt.
1. At the **Empty Scale** prompt, remove all weight from the platform and press **ENTER**. The controller captures zero while the display reads **Cal Zero**. The cursor moves across the display, indicating the operation is in progress.
2. At the **Add Weight** prompt, place a weight equaling the scale's capacity (Mettler Toledo recommends 60% to 100%) on the platform. Press **ENTER**. A calibration error may result if insufficient weight is used.
3. Key in the weight added. Press **ENTER**. The LYNXBATCH controller captures span while the display reads **Cal Span**. A cursor moves across the bottom of the display, indicating the operation is in progress.
4. The display indicates **Calib Done**, then continues to the next sub-block.

With Linearity Correction Enabled

1. Press **ENTER** at the Calibrate prompt.
2. At the **Empty Scale** prompt, remove all weight from the platform and press **ENTER**. The LYNXBATCH controller captures zero while the display reads **Cal Zero**. The cursor moves across the display, indicating the operation is in progress.
3. At the **Add Mid Wt** prompt, place weight on the platform equaling between 35% and 65% of the scale's capacity. Press **ENTER**.
4. Key in the weight added. Press **ENTER**. The controller captures mid-scale while the display reads **Cal Mid**. The cursor moves across the display, indicating the operation is in progress.
5. At the **Add Full Wt** prompt, place weight on the platform equaling at least 90% of scale capacity or as much as is practical. Press **ENTER**.
6. Enter the weight, then press **ENTER**. The controller captures full scale while the display reads **Cal Full**. The cursor moves across the lower display, indicating the operation is in progress.
7. The controller indicates **Cal Done**, then continues to the next sub-block.

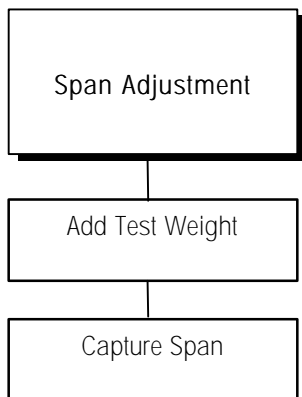
Zero Adjustment Sub-block



The Zero value is the LYNXBATCH controller's reference for when the scale platform is empty. The Zero Adjustment sub-block lets you re-establish this value to compensate for any change since the last calibration. The scale must be empty before resetting the zero value.

1. Press **ENTER** at the **Zero Adj.** prompt.
2. At the **Empty Scale** prompt, remove all weight from the platform. Press **ENTER**. The LYNXBATCH controller captures zero while the display reads **Cal Zero**. The cursor moves across the display, indicating the operation is in progress.
3. The display indicates **Zero Done**, then continues to the next sub-block.

Span Adjustment Sub-block

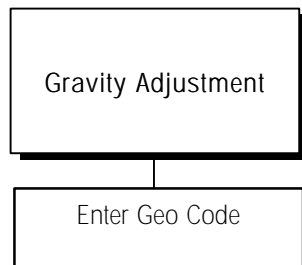


Span Adjustment lets you make minor span adjustments without recalibrating.

1. Press **ENTER** at the **Span Adj.** prompt.
2. At the **Add Weight** prompt, place a test weight on the platform.
3. Key in the weight placed on the platform in step 2, then press **ENTER**. The display reads **Cal Span** while the controller captures the new span. The cursor moves across the display, indicating the operation is in progress .

Note: The display indicates **Span Done**, then continues to the next sub-block. If linearity correction is enabled, you cannot do a span adjustment.

Gravity Adjustment Sub-block



When a scale is calibrated in one location then moved to another, the Geo Code can compensate for differences in the acceleration of gravity due to latitude and elevation. Values from 00 to 31 are accepted. The default is 16 (U.S.).

1. Press **ENTER** at the **Gravity** prompt to open the sub-block. The display reads **GeoVal?** and shows the current adjustment value.
2. Press **ENTER** to accept the current Geo Code or enter a new code. See Appendix 5 for a list of Geo Codes.
3. Continue to the next program block, or exit the setup mode.