



GAC2100 HOT CORN CALIBRATION

This calibration was developed for the express intent and *only* purpose of providing a means of measuring grain taken from a dryer of not more than 150 Fahrenheit. When using the calibration constants below in a GAC2100 or GAC2000, grain measured "hot", straight from a grain dryer should read very nearly the same when remeasured at a room temperature state, provided the grain has been sealed in a jar or bag to prevent moisture loss.

NOTE: *This calibration should ONLY be used to measure "hot" grain and again to measure the same sample when cooled to room temperature. No guarantees are implied or expressed when using this calibration to predict the final moisture when corn is heated to remove excess moisture.*

HOT CORN CALIBRATION

8% to 20%

12 Dec 03

K1	0272
K2	3604
K3	1346
K4	2910
K5	2305
K6	2535
K7	2008
K8	0030
K9	1087

GAC2100

COLD CORN CALIBRATION

This calibration was developed for the express intent and *only* purpose of providing a means of measuring cold grain, such as corn which has been stored during the Winter months or harvested very late in the season, and brought into an elevator for test.

NOTE: *This calibration should ONLY be used to measure “cold” grain and again to measure the same sample when brought to room temperature. No guarantees are implied or expressed when using this calibration to predict the final moisture when corn has been frozen.*

COLD CORN CALIBRATION

8% to 25%

12 Dec 03

K1	0175
K2	0109
K3	1035
K4	0000
K5	2304
K6	2560
K7	2508
K8	0089
K9	1080

The purpose of the Hot and Cold Calibrations is to aid in moisture measurements where the sample has deviated from the parameters of normal “grain for trade” temperatures. They are usually applied when a process such as grain drying elevates the properties of the grain and then is cooled to a more normal temperature or in when grain is being loaded out of a cold bin in the winter and taken to a warmer environment. The above calibration aids in making sure the deviated temperature and the equilibrated temperature are more closely related. The special calibrations should be applied to address these extremes. The GAC2100 you are using may display an error such as the following. This is due to NTEP Certification guidelines that were put in place. These limits make sure the temperature compensation limits of the grain and the GAC2100 are not exceeded. The special calibrations on this document are not meant to be NTEP calibrations but are meant to better determine moisture at the temperature extremes.

The GAC2100 series instrument you are using to measure these extremes should have the output option parameters set to “YES” in “DISPLAY OUT-OF-LIMITS RESULT”. The procedure for that is at the end of this document.

Please note the explanations of the errors below:

- Error 8 - empty cell ambient temperature has exceeded its limit. Allow the GAC 2100b to reach normal operating temperature.
The GAC2100 unit will not measure grain if it thinks its machine temperature has exceeded 113° Fahrenheit. This can happen when grain saturates the temperature cell and the machine thinks it is too hot.
- Error 9 - The sample temperature exceeds its limit. Allow the sample to either cool down or warm up, then retry.
The GAC2100 unit will display this error when the temperature of the grain exceeds 122° Fahrenheit. If grain is ran that is in between the 113° Fahrenheit and the 122° Fahrenheit repeatedly it will heat up the cell until it displays Error 8.
- Error 10 - The difference in temperature between empty cell ambient and full cell condition exceeds its limits.
The GAC2100 unit temperature and the grain temperature must be 20° Celsius.

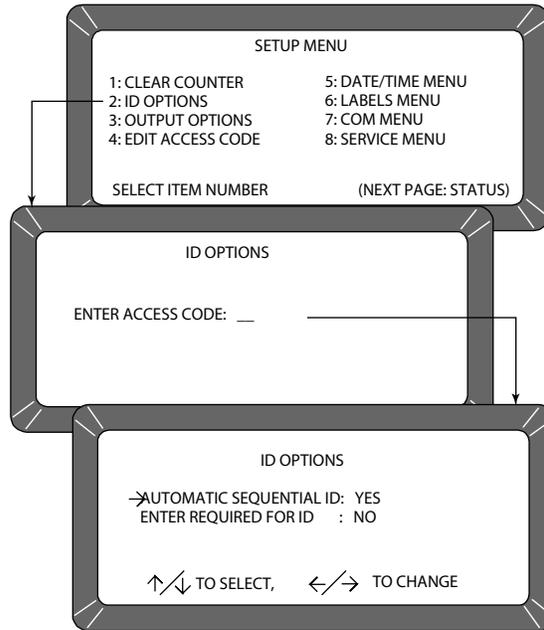
Change the appropriate conditions and retry.

For further detail call DICKEY-john Service
Department at 1-800-637-3302.



desire value. If both selections are set to NO, grain sample ID is optional by the operator for each test.

Figure 25
Selecting ID Options

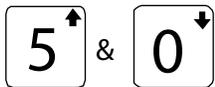


CONFIGURING OUTPUT OPTIONS (3 KEY)

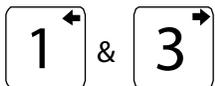
Output options configure information appearing on the display/printer for measured test results (refer to Figure 26). These selections are typically made once and not changed again, but may be altered as necessary. Selections are available only to authorized personnel through either the User ID Code from the computer site or as outlined below.

To change the output options:

1. From the **Setup** menu, select OUTPUT OPTIONS (3 key). A screen will appear displaying instructions on how to proceed.
2. If access is authorized, locate and select the small white push button under the sealed access panel at the rear of the unit. The panel is located in the lower left rear corner (viewed from rear) of the unit. The push button is on the circuit board assembly inside the cavity.
3. Verify each option and set as necessary. Three pages must be verified (refer to Figure 26). Use the **Up/Down Arrow** keys (0 or 5 keys) to select functions and the **Left/Right Arrow** keys (1 or 3 keys) to set each function to the appropriate setting. Options include:
 - **Display and Output Test Weight:** enables/disables (YES/NO) approximate grain test weight to display and print.
 - **Display and Output Temperature:** enables/disables (YES/NO) grain temperature display and print.
 - **Display Out-of-Limits Result:** error messages flash on the display each time tested grain parameters exceed the normal range of that



Up and Down keys



Left and Right keys



particular grain. If enabled, three standard parameters are displayed - moisture, grain temperature, and approximate grain test weight. Each measured parameter value appears next to its respective legend on the display. The display out-of-limit options selected below establish whether or not the enabled values appear on the display. Eight separate settings are available for suppressing the enabled grain parameters.

1. Yes - enabled readings display for all out-of-limit conditions.
 2. No - enabled readings do not display for any out-of-limit condition.
 3. M - enabled readings display is moisture is out-of-limits but do not display if either weight and/or temperature is out-of-limits.
 4. W - enabled readings display if weight is out-of-limits but do not display if either moisture and/or temperature is out-of-limits.
 5. T - enabled readings display if temperature is out-of-limits but do not display if either weight and/or moisture is out-of-limits.
 6. MW - enabled readings display is moisture and/or weight is out-of-limits but do not display if temperature is out of limits.
 7. MT - enabled readings display if moisture and/or temperature is out-of-limits but do not display if weight is out-of-limits.
 8. WT - enabled readings display if weight and/or temperature is out-of-limits but do not display if moisture is out of limits.
- **Output Out-of-Limits Result:** if enabled, three standard parameters are printed - moisture, grain temperature, and approximate grain test weight. Each moisture parameter value appears next to its respective legend on the printout. The output out-of-limit options selected establish whether or not the enabled values print. These choices are identical to the display out-of-limits conditions above and are selected in a similar fashion.
 - **Output Report Of All Errors:** enables all internal checked errors to print.
 - **Moisture Printout Resolution:** selects the resolution to either one tenth (0.1) percent or one hundredth (0.01) percent for moisture printout.
 - **Radix Point:** selects a decimal point (.) or comma (,) to display and printout.
 - **Temperature Format:** selects either degrees C ($^{\circ}$ C) or degrees F ($^{\circ}$ F) to display and print out for temperature.
 - **Weight Format:** selects either pounds per bushel (lb/bu) or kilograms per hectoliter (kg/hl) to display and printout.