

**Calibrating the
Aggregate Incline Beltscale**

Equipment: PM-96 control systems

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Additional none

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Reference:

Revision #: 2 (rlw)

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PURPOSE:

To provide a detailed, step by step, set of instructions for calibrating the aggregate belt scale with the PM-96 control system.

PROCEDURE:

1. Start conveyor to allow belt to warm up (30+ minutes).
2. Ensure belt speed (FPM) displayed on the thin blue line in the center of the screen is

THE BELTSCALE WILL REQUIRE (3) CALIBRATION POINTS – LOW, MID, HIGH

EXAMPLE: 500 TPH PLANT

LOW = 200

MID = 350

HIGH = 500

Calculate the number of bins and at what percentage will be required in order to achieve each production rate.

correct.

3. Zero belt - 3 or more times. If results are consistent, press **F11 (Exit)** and save changes.

Note: Don't stay in zero screen more that 30 seconds after completion of belt zero.

4. Press **F1 (belt zero)** to reenter the screen. write down the belt zero time. **Change this number to 10.** press **F11 (exit)** and save changes. Do not do another belt zero.
5. Press **F5 (Setup)**.
6. Press **F3 (Calibrate)**.
7. Press **F1 (Cal. Ing.)**
8. Ensure AGG is the ingredient, on the top right corner of the bottom half of the screen. And that the top of the screen reads calibrating the AGG Beltscale input. If not, place

cursor on ingredient, press **F12 (Select)**, place cursor on **AGG**, and press **F12 (Select)** again. This will select Aggregate as the material to be calibrated.

9. Press **F1 (Cal)**.
10. Press **F2 (Start/Stop Cal)**, to start calibrating.
11. Place cursor on **AGG** and type in 100 for AGG, under % D/A Output, and hit enter.
12. Place cursor on the desired feeders and type a percentage from 0 to 100, and hit enter. **0 = stopped 100 = wide open.**
13. Place Manual Backup Unit (MBU) rocker switch(s) to the “RUN” position. **Not START!**
14. Switch virgin bypass to “Bypass.”
15. Write down the tare weight of the truck and have it pull under the bypass chute.
16. Calculate at the given production rate how long it will take to fill the truck. **(8) Eight tons is the minimum, the larger the sample the better.**

Example:

350 tph divided by 60 = 5.833 tons per minute

8 divided by 5.833 = 1.37 minutes

17. Ensure feeders are full of material. **If using multiple bins, fill all bins with the same aggregate to reduce waste. Use a clean aggregate of moderate size if possible.**
18. Press **F1 (Start Cal)**.
19. Press **F9 (Yes)**, When asked “Zero accumulators first?” - this will zero the accumulator. Start the stop watch. At this time the feeders will automatically start.
20. Ensure all material is entering the truck. **All material that passes the weigh bridge must end up in the truck!**
21. When the calibration time has elapsed press **F2 (Stop Cal)**. Allow belt to empty out completely into the truck. **Remember, all the material on the belts, all the way back to the feeders, must go into the truck.**
22. Have truck pull onto the scale.
23. Press **F11 (exit)**. You are now at the “scratch pad.”
This is NOT the actual calibration table – just a place to work.
24. Place cursor on the top row and press **F3 (Update Data)**. At this time, the data from the calibration run is placed on the top line.
25. Calculate the net weight on the truck. **GROSS – TARE = NET**. Enter this value in the actual column and press **enter**.
26. At this time computer calculated a new scale factor and error rate. If the error rate is below .5 you may decide that the current calibration point is correct and doesn’t need updating. If so, repeat calibration run to verify consistency.
27. If the calibration run is out of tolerance, press **F5 (Cal Data)**. **This is the screen the PM-96 uses during production.**
28. Press **F1 (Update)**. The screen will switch back to the scratch pad. Place the cursor on the top row and press **F12 (Select)**.
29. The screen will switch back to the Cal Data table, with the updated calibration information from the last run.

30. Should you need to delete old calibration data, place cursor on the row you want to delete and press **F2 (delete)**.

IMPORTANT NOTE

IF YOU HAVE OLD CALIBRATION DATA WITH AN A/D VALUE THAT IS WITHIN $\pm 10\%$ OF THE NEW DATA, YOU WILL NEED TO DELETE IT. THE OLD DATA CAN CAUSE THE PM96 TO MAKE CALCULATION ERRORS.

31. Press **F11 (exit)**
32. Press **F9 (yes)** to save changes.
33. Press **F2 (start/stop cal)** and repeat calibration run to verify. Repeat steps 14 thru 31 as needed.
34. When all points (various tph) are calibrated, return to the **cal data table** and press **F3 (print)**. 3-hole punch and archive in a binder. **Keep this data!**
35. Press **F11 (exit)** / press **F11 (exit)** / press **F11 (exit)** / press **F9 (yes)** to save changes.
36. Return to belt zero screen. Enter correct belt zero time you wrote down during step 4.
37. Zero belt in accordance with step 3.