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NIBA–The Belting Association
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Tech Note
Technical Notes from the Technical Committee, NIBA – The Belting Association

#3 Conveyor Belt Tracking Guide

BASIC RULES

I. The **basic**, and **primary** rule of tracking a conveyor belt is simply "THE BELT MOVES TOWARD THAT END OF THE ROLL IT CONTACTS FIRST."

II. The conveyor structure must be "TRUE" (relative to center-line) and LEVEL (side to side).

III. All pulleys, snub rollers, carrying idlers, and return idlers must be SQUARE with the frame (perpendicular to belt center-line) and parallel to each other. Check by measuring diagonals - should be equal.

IV. BELT TENSION must be great enough:

A. To prevent slippage between the drive pulley and the belt, and

B. To force the belt to conform to the crown on the crowned pulleys, if they are used. Belt should not be over-tensioned. Consult your belt manufacturer.

V. CLEANLINESS is essential to good belt tracking. Foreign matter in essence creates a new roll or pulley face - adversely affecting tracking.

VI. The NORMAL SEQUENCE of training is to start with the return run, working toward the tail pulley; following with top run in the direction of belt travel. Start with the belt empty. After tracking is completed, run the belt with a full load and re-check tracking.

VII. TRACKING ADJUSTMENT is done while the belt is running and should be spread over some length of the conveyor preceding the region of trouble. Permit the belt to run for several minutes and at least three full belt revolutions after idler has been adjusted to determine if additional adjustment is required. If the belt has over-corrected, it should be restored by moving back the same idler, and not be shifting additional idlers or rollers.

VIII. "TRACKING EFFECTIVENESS" of a roll/crown is approximately proportional to the length of the unsupported span of belt approaching the roll up to a maximum of approximately 10'. If there is no such span, tracking effect of the roll is virtually non-existent. However, such a roll can induce camber into the belt as it leaves the roll.

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TROUBLESHOOTING "TRACKING"

1. ALL PORTIONS OF CONVEYOR BELT RUNNING TO ONE SIDE AT A GIVEN POINT ON STRUCTURE.

CAUSE	CORRECTION
One or more idlers immediately preceding trouble point not at right angles to the direction of belt travel.	Advance, in the direction of belt travel, the end of the idler to which the belt has shifted. Square idlers.
Conveyor frame or structure crooked.	Stretch string along edge to determine extent and make correction.
One or more idler stands not centered under belt.	Center them. Same as above.
Sticking idlers.	Clean and lubricate.
Belt runs off terminal pulley.	Check terminal pulley assignment. Check alignments of idlers approaching terminal pulley.
Build up of material on idlers.	Clean them. Install cleaning device.
Structure not level and belt tends to shift to low side.	Level structure.

2. PARTICULAR SECTION OF CONVEYOR BELT RUNS TO ONE SIDE AT ALL POINTS ON CONVEYOR.

CAUSE	CORRECTION
Belt not joined squarely.	Square ends/resplice.
Bowed belt.	Tension it or replace.

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3. CONVEYOR BELT RUNS TO ONE SIDE FOR LONG DISTANCE BED.

CAUSE	CORRECTION
Load being placed on belt off-center.	Adjust chute and loading conditions so as to place load in the center of belt.
Conveyor frame or structure crooked.	Straighten it.

4. BELT IS ERRATIC – DOES NOT FOLLOW A PATTERN.

CAUSE	CORRECTION
Belt too stiff to train.	Use self-aligning idlers. Increase tension/conforms to crowns. Use more flexible belt on replacement.
	Tilt troughing idlers forward, but not over 2 degrees. Use more troughable belt.
Combination of causes listed under Paragraphs 2 and 3.	Correct loading first. Other causes can then be identified and corrected.