

How to Identify Common Causes of Conveyor Belt Misalignment

A belt conveyor which is properly designed, constructed, erected, and maintained theoretically will consistently run true without concern for belt misalignment. However, properly aligned belts are normally the exception rather than the rule.

The following conveyor belt troubleshooting checklist is provided to assist you in your efforts to correct belt misalignment problems that invariably lead to premature failure of belting, idlers, and pulleys:

1.	Sunken or not level foundations	9.	Incorrect belt storage which has caused the belt to wrap or bow
2.	The driving and idler pulleys not normal to the conveyor centreline and not parallel with each other	10.	Belting of a different manufacture in the same length
3.	Conveyor rollers of various diameters installed; or seized or out of round rollers	11.	Poor workmanship with belt splicing / slitting / ends squaring. This includes localised edge repairs with associated tension differences
4.	Transverse forces applied to the belt by items such as over tight angled belt scrapers	12.	Transition idlers not installed or unevenly adjusted
5.	Material build up on the pulleys, belt or rollers	13.	Poor quality pulley manufacture with the diameter not symmetrical to the centreline of the belt. (Pulley faces may be worn.)
6.	Damaged, twisted and or missing conveyor idler frames	14.	Excessive tensioning of the belt preventing all of the idlers from helping to direct the belt
7.	Crosswinds	15.	Under tensioning of the belt which restricts the pulleys from controlling the belt. This also applies to all pulleys including take-ups
8.	Uneven placement of load on the belt or the belt being loaded off centre	16.	Uneven or mis-aligned pulley take-up carriage forces

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17.	Uneven skirting pressure	24.	The belt hotter on one side than the other, for example near a furnace; or one side of the belt running wet
18	Worn pulley faces, pulley lagging unevenly worn or pulley shaft locking elements worn	25.	Travelling trippers and shuttle not running true
19.	Trough and return idlers not installed at right angles to the axial centreline and therefore the belt not making proper contact with the rollers	26.	Mechanical fasteners not installed square
20	Trough idlers installed back the front with the lead roller not leading	27.	Extraneous articles fouling the conveyor belt.
21.	Offset trough idlers being used on reversing conveyors rather than in-line idlers being used	28.	The belt too stiff for the idler width or trough angle, therefore not allowing the idlers to direct the belt
22.	Out of round or seized rollers giving the belt contact forces asymmetric to the centreline	29.	Return idler spacing too great to direct the belt
23.	Poor belt quality with the weave / fabric asymmetric to the centreline	30.	Existing self-aligning idlers worn out, seized, or locked into position; installed incorrectly or in wrong location