

## CONVEYOR BELT SAFETY

### Conveyor Nip Points

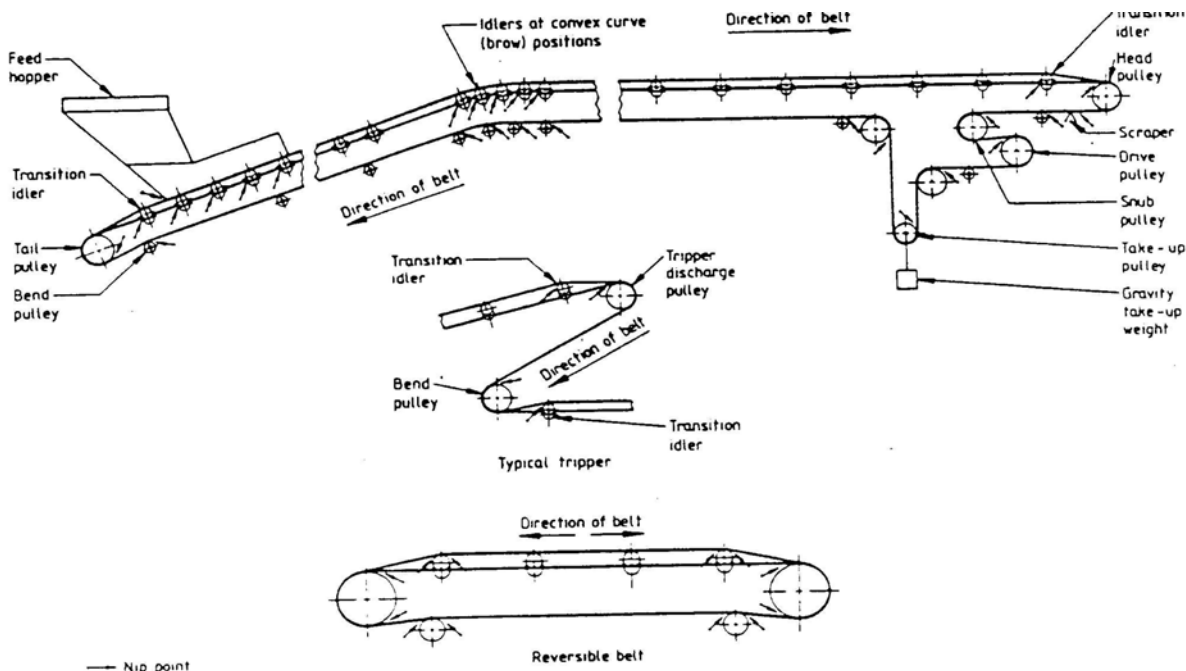
Any point on the conveyor where there is deflection and the **belt and pulley are moving in the same direction**, a point of entrapment exists. This point is known as an **in-running nip point**.

Any part of your body trapped at the in-running nip point will be drawn into the gap by the belt tension and crushed.

Conveyor **nip points** can be found at:

- Tail drum
- Head drum
- Conveyor tension loops
- Anywhere the conveyor changes direction at a pulley or roller

Typical conveyor layout, with in-running nip points shown by a small arrow.



Entrapment between the moving conveyor and the rotating pulley or drum will always result in an injury that can often be fatal.

To avoid injury:

- always lock off conveyors before removing guards
- always ensure conveyors cannot be restarted when guards are removed for maintenance
- if in doubt, ask before completing the work
- ensure contractors fully understand the lock-off procedure
- never remove guards to work on moving conveyors
- never rely on an emergency stop to ensure the conveyor cannot be restarted.



If you find defective or loose guards - **DON'T WALK BY** - if you can refit and secure the guards, then do so. If you can't, then make the site safe and report the defect to your Supervisor or Manager **IMMEDIATELY**.

A quarrying company was ordered to pay out over £69,000 in fines and costs after a court heard that one of its employees was killed after being dragged into a stone-crushing machine at its site.

On the day of the incident the operative was working alone on a conveyor that was used to feed rocks into a crushing machine. However while carrying out this work, he was dragged into the moving conveyor. He was pulled in between its tail drum – a roller that turns at the end of the conveyor – and a pile of rubble by the side of the conveyor and was killed instantly.

The court heard that the Health and Safety Executive's investigation into the incident revealed that the protective guards around the conveyor were badly designed and were not properly secured to prevent employees from coming into contact with the conveyor's moving parts. The investigation found that, at the time of the incident, a machine guard normally positioned near the tail drum had been moved to one side.

**Safety Management, November 2000 (extract only)**

**QUESTIONS – (there may be more than one correct answer)**

		<b>A</b>	<b>B</b>	<b>C</b>
<b>1</b>	Entrapment between the moving conveyor and the rotating pulley or drum will always result in an injury.	Yes – but never serious	No	Yes
<b>2</b>	Does the conveyor need to be locked off when removing guards?	Not always – depends what it's guarding	Not always – depends on the task	Yes - always
<b>3</b>	Can the trip wire/emergency stop be used to isolate the conveyor?	Yes – as long as a colleague is next to the isolator	No – mains isolation is always required	Yes – for quick tasks
<b>4</b>	Sometimes guards can be removed whilst the conveyor is running.	Yes – but only for lubrication	No – mains isolation is always required	Yes – if it's a quick task
<b>5</b>	What do you do if you see a defective guard?	Ignore it, it's a maintenance issue	Report it when you get a minute	Report it immediately to your supervisor or manager

**Names of those who attended this Toolbox Talk**

Name (Print)	Signature
Carried out by Name (Print):	Carried out by (Signature):
Unit:	Date: