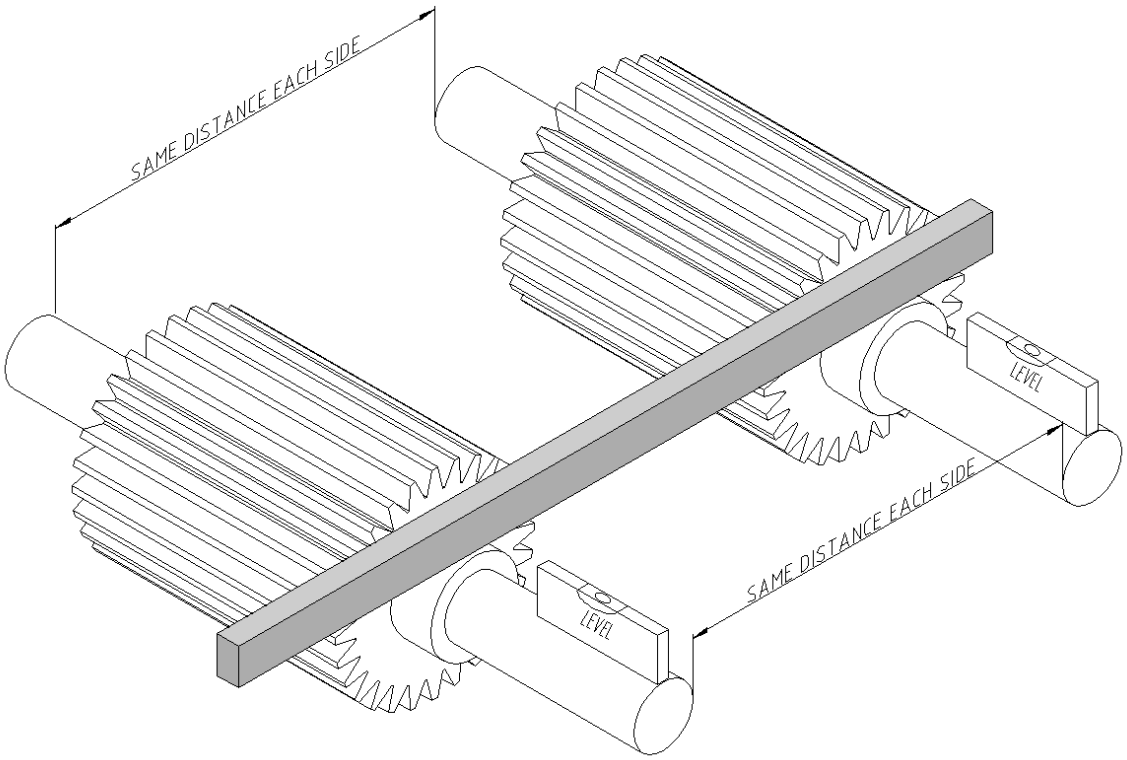
Installation

Levelling and Alignment

All components should be level and properly aligned, to give maximum Chain and Sprocket life.
Both Drive and Driven Sprockets should be aligned so that they are parallel to both the Conveyor and to each other.
First align the Sprockets individually at both ends of the Conveyor using a sprit level to make sure the sprocket is positioned square on both the top face and side faces.
Then using a laser, align both Drive and Driven Sprockets to make sure there is no misalignment on the Conveyor.

NOTE: Sprocket misalignment is a major cause of Chain and Sprocket failure.



Wear Plates

Inverted tooth Conveyor Chain normally runs on hardened steel wear plates under the full width and length of the Conveyor Chain. It is important to use the correct type of wear plate. Wear plates which are too soft will wear quickly and if the plates are too hard they will cause excess wear to the bottom of the Chain.

“Pennine” recommend a steel plate of about 40 Rockwell C.

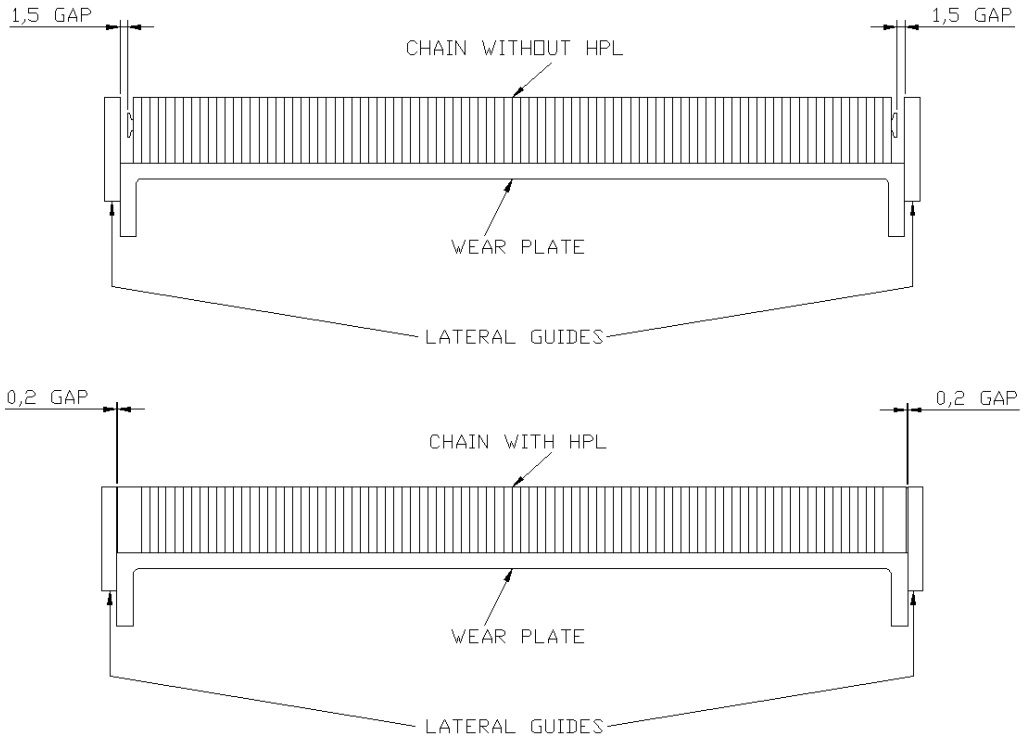
If more than one plate is used, the joint area should be at an angle to give constant support to the belt. There should be no sharp edges or steps at any point on the surface of the wear plates.

It is very important to periodically check the condition of the wear plate due to the fact that excessive wear or grooving in the plates can cause the chain to wear rapidly and cause problems with bottle stability.

Adjusting Side Guide Plates

Positioning and setting of the guide plates is very important. The guide plates should not interfere or restrict the free movement of the Chain. The guides should be straight and run parallel to the Sprockets and a small gap of about 1mm to 2mm each side should be allowed. This gap can be reduced if using “Pennine” Premium DHPL Chain.

A new chain should always run for a number of cycles to confirm smooth operation and any readjustment of the side guides undertaken if required, before production starts.



Chain Connection

When connecting the 2 ends of the Chain it is important that the lacing is correct and that all Chains should line up perfectly.

We do not recommend connecting different manufacturers Chain or old and new sections of Chain, due to possible problems with elongation or pin design. It is also important to make sure the riveting of the pinhead is correct.

The riveting needs to be large enough to secure the Chain but must not protrude out beyond the level of the other factory-machined heads.

“Pennine” do not advise welding of pinheads as this can cause problems with the running of the Chain.

“Pennine” produce a Chain-connecting block which will assist in connecting of our chain and save considerable down time.

Chain Tensioning

This is very important and another area of rapid Chain failure. “Pennine” Premium Chain is a positive drive Chain therefore, unlike wire belt, cannot slip back. Over tensioning will considerably reduce Chain life.

The chain should be tensioned only to take out the slack on the top running section. I.E. The surface carrying the bottles or containers. The Chain can sag a little on the return.

Although development has been done to considerably reduce chain elongation, all Chains in time will elongate therefore it may be necessary to remove sections of Chain throughout its life.

When a Chain has elongated by 3 to 4%, “Pennine” recommend replacement.

Chain Lubrication

“Pennine” do no recommend routine lubrication of the Chain, the use of lubricants can cause excessive build up of debris (oil, glass particles and dirt etc) this can then interfere with the running of the Chain and increase chain wear and reduce container stability.

If lubricants must be used, they should be able to withstand the high operating temperature.

Chain Maintenance

As with all mechanical moving parts, maintenance is very important to give good and long life. Lack of maintenance can considerably reduce Chain and Sprocket life and cost your Company time and money.

Sprocket Inspection

Sprockets should be inspected regularly for accumulation and build up of debris between teeth or in the guide grooves if using Centre Guide Chains.
Sprockets should be cleaned, if required, using a scrapper tool and wire brush. You should also inspect for worn or damaged teeth, if major damage has occrued, or the teeth are badly worn, the Sprockets should be changed as soon as possible. Although it is not always necessary to change the Sprockets consider the condition of Sprockets before installing a new Chain. Damaged or unclean Sprockets can cause rapid damage to a new chain.

Consider the cost of a new Chain against the price of new Sprockets.

Visual inspection of Chain

From time to time you should visually inspect the full length of the Chain looking for the following areas of concern.

1. Pin head wear (If not using “Pennine” DHPL chains)
2. Wear to the height of the chain links.
3. Broken or cracked pins or links, which are evidence of Chain impacting at some point on the Conveyor.
4. General build up of debris (dirt) in the Chain, which may prevent smooth operation.

Re – tensioning of Chains

Throughout the life of a Chain it will be necessary to remove sections of the Chain and re-tension as required due to wear on the joints and components.

Do not over tension this will increase chain loading, increase wear and reduce chain life.

Once a Chain has elongated by 3 to 4% from its original length it should be replaced.

Preserving a Chain when the Conveyor is stopped for longer periods of time.

If the Conveyor Chain is stopped for long periods of time and allowed to cool (over a few hours), light oil should be sprayed on to the Chain to prevent rust and carbon build up. It is also advisable to run the Chain every few hours and re-apply the light oil if required.
If, however, the Machine is stopped for over 24 hours, it is advisable to remove the Chain completely and submerge the Chain in a mixture of oil and paraffin. This will penetrate inside the Chain and help to preserve it for future use.

If you have any questions on Installation or Maintenance of “Pennine” Premium Conveyor Chain Please contact our Office directly.