



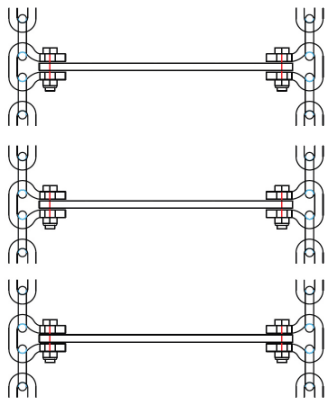
Mining Chain – Operation & Maintenance Information

Cobalt Round Link Mining Chain (RLC) is available in Through Hardened (TH) Carbon Steel or Case Hardened (CH) Alloy Steel. Both chains provide an excellent solution for the rigors of heavy-duty conveying systems. The Carbon or High Strength Alloy base material used to manufacture these links is strong & ductile to combat shock loads, and the surface is hardened to give excellent abrasion resistance.

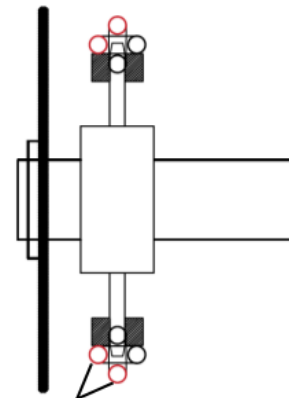
The TH product is recommended generally as an “all-rounder” having a hardness of HRC40, and the CH product is best suited to submerged systems and extremely abrasive environments having a hardness of HRC60.

CHAIN

- 1) The Round Link style of conveying chain is designed to operate in either direction, with accessories, but care **MUST** be taken to ensure that the link welds are all aligned the same way and correctly oriented for transitioning sprockets and mechanical connectors.



Typical Chain Layout



Link welds to outside of conveyor

- 2) When assembling or disassembling chains **NEVER** re-use fasteners.
- 3) Keep the chain properly “Tensioned” in use. Tensioning is defined as applying as much force to the take-up, as is necessary, to remove the slack from the system. Conveyor chain does not need to be “Pre-

tensioned” as this is not required for the proper operation. In fact, in many applications, some small amount of slack is desirable, as evident just behind the drive sprocket.

4) Regularly inspect the condition of the chain(s), paying attention to Shackles, Connectors and the all fasteners. Most RLC is dual strand, so specific attention must be placed on making sure that the strands are evenly worn and keeping the scrapers parallel. Sections or strands can be exchanged, side to side (Flipped), in order to even up any mismatch of the LH to the RH strands. This will enhance the operating life of the system.

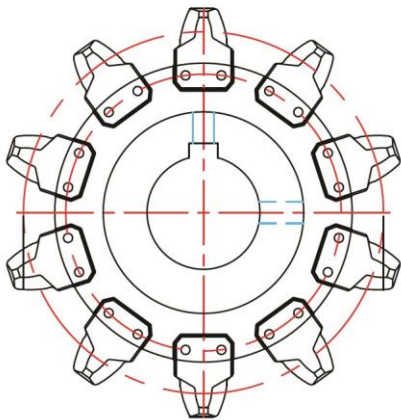
5) Straighten or replace bent and missing attachments/scrapers, as this will reduce stress on the chain system and may prevent chain damage or a conveyor plug condition.

6) Replace the RLC chain system before elongation reaches 5% of original length.

7) Cobalt RLC chain should require no lubrication in use.

8) On chains with the “Plug-in-Connector” (PIC), the integrity of the PIC’s and the Mechanical Strand Connectors should be checked regularly as part of the scheduled maintenance plan.

9) Mechanical Chain End connectors are not required with Shackle Systems. However, they can be useful for emergency breakdowns to quickly repair a strand or strands.



DRIVE SPROCKETS

1) Periodically inspect the drive sprockets, looking specifically for any evidence of excessive wear as this can damage the chain. Replace any worn sprocket segments and assembly bolts immediately.

2) Replace worn or missing sprocket cleaners, return rails, ramp rails and any “hold-down” rails.

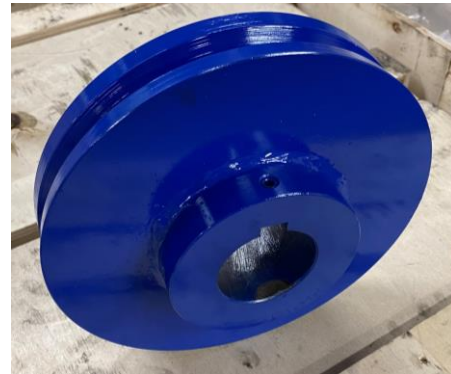
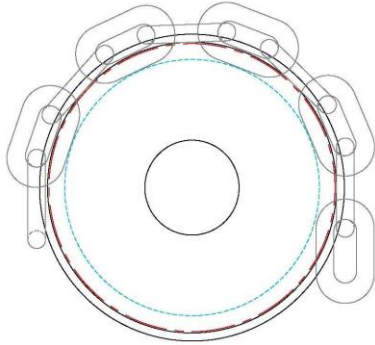
3) Sprockets can be replaceable tooth segment type. Be sure that during installation and start-up that the mounting bolts are re-torqued to the

appropriate setting and the hub cross bolts, if a split hub is utilized (applies to Idler also).

4) There are two styles of sprocket. Both are symmetrical pattern and can rotate in either direction.

6) Maintain the perpendicularity of drive and end shafts, as well as the alignment of all the sprockets and Scrapers.

7) Regularly inspect all shaft keys and re-torque hub setscrews, sprocket assembly bolts and hub cross bolts (split hub only).



TAKE-UP & IDLER SPROCKETS

1) Regularly inspect the condition of the trailer or take-up wheels. If significant wear is evident the wheel or the segments will need replacing. Worn segments can cause chain damage, and a worn wheel may result in chain run off or mis-tracking.

2) There are several styles of idler that may rotate in either direction. The toothed style gives a more positive location of the chain and has the benefit of replaceable tooth rim segments.

GENERAL

1) When working around machinery such as conveyors you **MUST** observe all LOTO procedures (Electrical Lock-Out/Tag-Out).

2) Cobalt recommends the installation of safety equipment such as a speed switch, a plug detector and a slack chain detector.

3) Do not “BUMP” a conveyor to clear a plugged condition.

4) The tensioning note does not apply to catenary or spring take-up systems

SPARE PARTS

The following minimum spare chain parts are recommended per conveyor:

Standard Single Style Chains

- 10% Complete chain assembly's
- 2/e Mechanical Chain End connectors.
- 1/e Sprocket and Idler segment assembly

Double Style Chains

Add to the above:

- 1 Sprocket and Idler segment assembly (these are "paired")

Please contact Cobalt Chains Inc. at any time should you have questions or concerns regarding your Cobalt Conveyor or Drive chain System.

After hours phone numbers are:

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