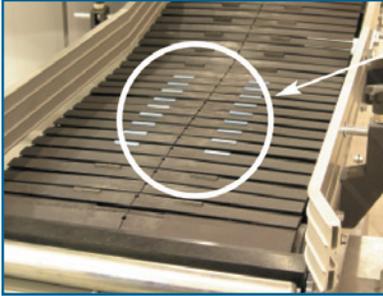


# Shortening the Spiral Chain.

It is important to keep the chain in tension at all times. Failure to do so will cause damage to slats and carriers. A chain tensioner is provided to take up the slack as the chain stretches, but the chain must be shortened when the chain stretches beyond the tensioner's capacity to compensate. The chain needs to be shortened when the tension bar is at or below 0 degrees (horizontal). This normally happens during the first 200 hours of operation and may be required several times during the first year of operation, depending on the length of chain, load weight and chain speed. Shortening of the chain can only take place at the in or outfeed sprockets and can be done most conveniently at the low level. The following outlines the procedure for the shortening the chain:



## Find Master Link

Locate master links by the blue friction insert. Several master links are provided in a row to make shortening fast and easy. Position slats with master links over the end sprocket. Remove transition roller and assembly.



## Remove slats

The slats are made in two parts. Use a screwdriver to separate slats. The slats will move sideways; one to the outside and the other to the inside. The carriers and connectors are now visible.



## Lock out / Tag Out (LOTO)

Follow established plant LOTO procedures for all energy sources to the spiral.

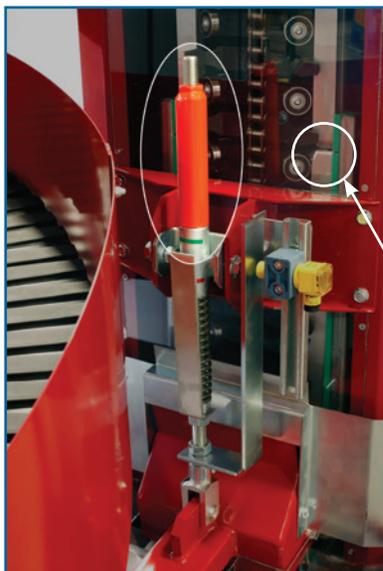
## Release Chain Tensioner

(spring tensioning systems) Loosen the two jam nuts below the spring and move them to the bottom of the rod. The chain tensioner can now move freely. (air cylinder tensioning systems) Reverse the porting of the air cylinder so that the air is applied to the exhaust port. When air is reapplied, the cylinder will lift the tensioning bar to achieve maximum chain slack.



## Remove Green Connector

Carriers with green connector have master links. Use a screwdriver to lift the green connector from the carrier. The carrier will now separate and can easily be removed. Some severe duty applications have "pinned" connectors. In these cases, the screw will need to be removed before the connector can be lifted.



## Install the tensioning tool.

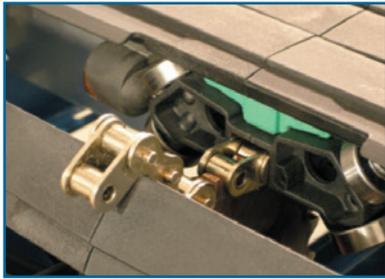
(spring tensioning systems) Screw the red chain shortening tool (shipping nut) onto the threads of the tensioning rod. As the tool is tightened on the threads, the tensioning bar begins to rise. The tool can only be tightened until the rails in the sliding profile touch the stationary rails in the return box. At this point, maximum slack has been introduced to the chain and the removal of a chain link can be accomplished easily.



## Remove Master Link

The master link is now visible. Push out the master link end plate with a screwdriver and remove master link.





### Remove Chain Link

Follow the same procedure to remove one or more pairs of carriers and corresponding chain links. If only one carrier can be removed, it must be a load carrier (with bearing). Two guide carriers can be side by side, but two load carriers (with bearing) can never run side by side.



### Reconnect chain

Pull chain end to end over the sprocket as indicated in picture.



### Secure master link

Put the master link back in place.



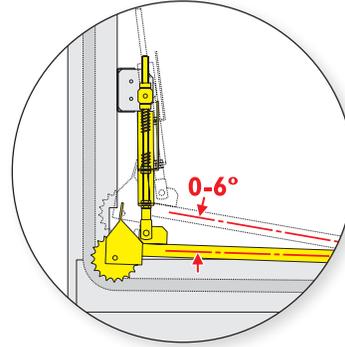
### Lock in carrier

Put the two carrier halves together over the chain and lock in place with green connector. Use a hammer to make sure the parts snap into a locked position. This can only take place over the sprocket. Reinstall screw if applicable.



### Reinstall slats

The slats slide in from each side. Make sure the lock tab at the end is not damaged and replace slat if necessary. The tab will assure that the slat is locked in place.

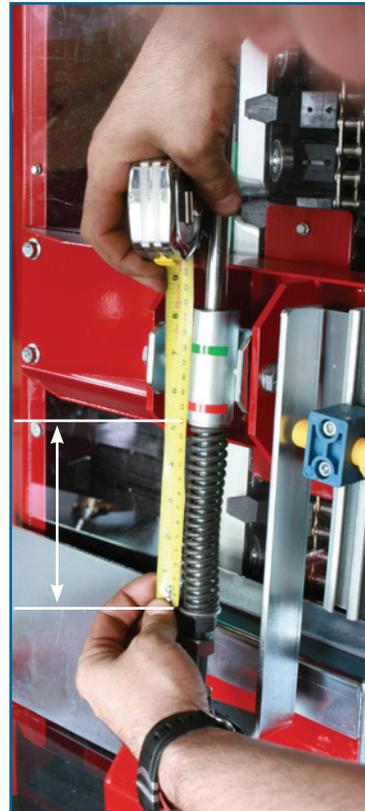


### Readjusting Chain Tensioning Device

The tensioner bar position must operate at an angle between 0° (horizontal) and 6°.

**For Air cylinder**, reinstall air porting to original position and set regulator to between 10 and 15 PSI

**For Spring Tensioning**, Remove tool.



The compressed spring should measure between 5 and 6-1/2 inches after adjustment.

The tensioner flag should operate between the green and red markers.

The slack chain proximity sensor should be adjusted so that the spiral shuts down if the tensioning bar falls below 0° (approximately 2" from the top of the flag to the bottom of the proximity sensor face).

