

**4.4.5 Double Roller Chain :**

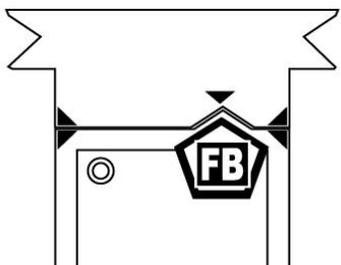
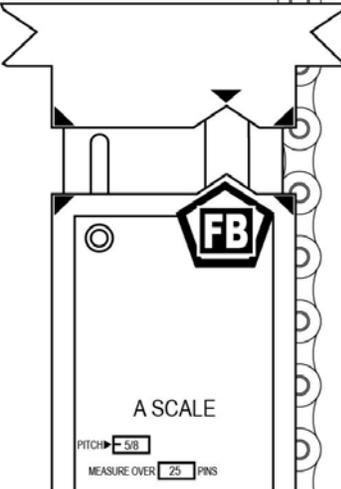
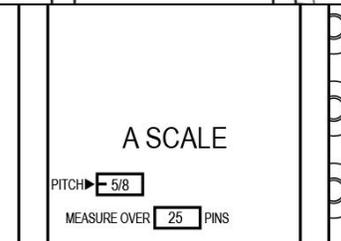
Over time chain elongates as it wears leading to a significant increase in actual pitch and potential chain failure. When the normal pitch length has extended by 2-3%, the fatigue life is reduced and the ultimate breaking strength is considerably lower. At 2% elongation a service technician must set a safe time limit for replacement. At 3% the chain must be replaced immediately.

Knight Global provides a Roller Chain Gauge with each roller chain hoist.

The roller chain should be checked at intervals depending on the service and load conditions. (Refer to section 4.3.)

**4.4.5.1 FB Chain Roller Chain Gauge Replacement Measurement**

Roller Chains should be cleaned for inspection, using any cleaning method that will not cause damage.

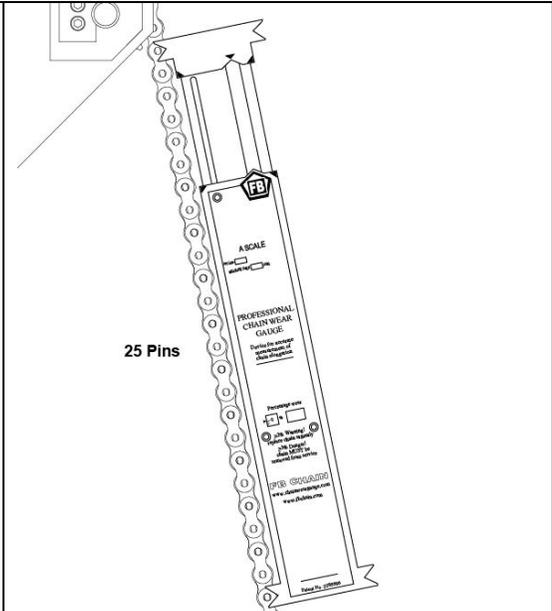
<p><b>1. Close gauge to confirm calibration.</b> Check the calibration by closing the slide fully and reading from the 'Percentage Wear' window. If the arrow moves into the +- zones, the gauge will not give an accurate measurement and should not be used. Similarly if the 'V' jaws are damaged the instrument may also not perform accurately.</p>	
<p><b>2. Identify the pitch</b> Align the red arrows within the center of the pins on ONE of the OUTER link plates. Depending on ease of access, one pair of arrows will be more suitable than the others. The normal pitch will appear in the 'Pitch' window. The number of pins (n) that the chain is to be measured over will appear in the 'Measure over pins' window.</p>	
<p><b>3. Select the Correct side of the gauge</b> Select the correct scale according to pitch size. Once the pitch is determined, the number of pins to measure is displayed. Knight's Roller Chain uses Scale Side A.</p> <p>Scale side "A" = 3/8", 1/2", 5/8", 3/4", 1", 1 1/4", 1 1/2", 2 1/2", and 3". Scale side "B" = 1 3/4" x 2"</p>	

Continued on next page

**4. Measure the Chain**

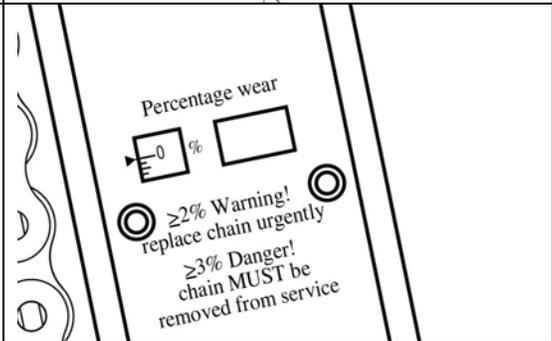
Chains should be cleaned and measured in its location while placed under approx. 1% of the minimum breaking load. If a set of check weights is not available, it is sufficient for chains to be tensioned by the weight of the carriage and lift assist.

Identify the section of the chain that regularly runs over the pulley as this part of the chain is most susceptible to wear. Measurements must then be made in at least 3 separate locations on this section. Place the 'V' jaw of the instrument over the first pin of the selected sections and then extend the slide until the other 'V' jaw reaches the final pin as previously determined in step 2.



**5. Read off the Percentage**

Check the 'Percentage Wear' windows. A percentage will appear on 0.25% (14%) increments. If the chain has elongated by 2% or more, the warning window will be filled with red and necessary action must be taken.



**4.4.5.2 Lubricating the Servo Arm Roller Chain**

After changing roller chain, before a test load is lifted and before the hoist is put into operation as well as during normal operation when no load is attached, the chain link contact areas must be lubricated with Demag gear grease, part no. 665 009 44.

The chain link contact areas must be re-lubricated appropriately – after being cleaned – at intervals depending on the service and load conditions. Knight recommends to lubricate roller chain every six weeks under normal service conditions.

Cut off the tip of the grease tube and insert the grease tube at the lubrication point. Insert grease into the chain guide by pressing the tube while you run the chain to its end positions to ensure complete and even lubrication of the chain.