

# MEASURING ROLLER CHAIN LENGTH



Figure 1: Measuring 10 Pitch Section with a Caliper



Figure 2: Measuring 10 Pitches of 60-1 Chain with a Tape Measure

## INSTRUCTIONS

1. The measurement should contain equal number of roller links and pin links.
2. Measuring longer sections will give more realistic estimations.
3. Chain on equipment should be measured on the tension side.
4. Measurement is outside of pin to outside of pin.
5. Chain not on equipment requires the specified minimum measuring load.

*Note: In applications, the tape measure is the most common tool used to measure chain length. However, a caliper will be more accurate and should be used when possible.*

TABLE 1.  
MEASUREMENT SPECS NEEDED PER CHAIN SIZE

Chain Size	P = Pitch	PD = Pin Diameter	Minimum Measuring Load
	in.	in.	lb.
25	0.250	0.090	8
35	0.375	0.141	18
40	0.500	0.156	31
50	0.625	0.200	49
60	0.750	0.234	70
80	1.000	0.313	125
D16B	1.000	0.326	125
100	1.250	0.375	195
120	1.500	0.437	281
140	1.750	0.500	383
160	2.000	0.562	500
180	2.250	0.687	633
200	2.500	0.781	781
240	3.000	0.937	1,000
CA550	1.630	0.281	140
CA550HD	1.630	0.326	170
CA555	1.630	0.281	110
CA557	1.630	0.315	170
CA960	1.630	0.350	205
CA620	1.654	0.281	170
CA551X	1.630	0.437	240
C2040	1.000	0.156	31
C2050	1.250	0.200	49
C2060H	1.500	0.234	70
C2080H	2.000	0.313	125
C2100H	2.500	0.375	195
C2120H	3.000	0.437	281
C2140H	3.500	0.500	383
C2160H	4.000	0.562	500
81XKD / 81XHGD	2.609	0.437	240
3000HKD	3.000	0.750	700

## CHAIN % ELONGATION FORMULA

<b>P</b>	Pitch [inches]	Table 1
<b>NP</b>	Number of Pitches	# of Measured Pitches
<b>NL</b>	Nominal Length [inches]	NL = P * NP
<b>PD</b>	Pin Diameter [inches]	Table 1
<b>ML</b>	Measured Length [inches]	From Tape Measure or Caliper
<b>AML</b>	Adjusted Measured Length [inches]	AML = ML - PD

$$\% \text{ Elongation} = \frac{(AML - NL)}{NL} * 100$$

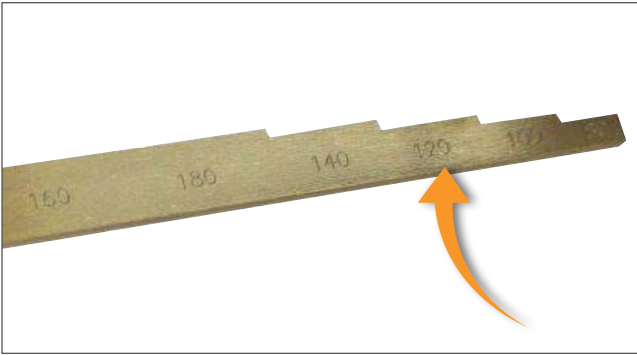
# EZ CHAIN WEAR GAUGE®

Check the life of your chain



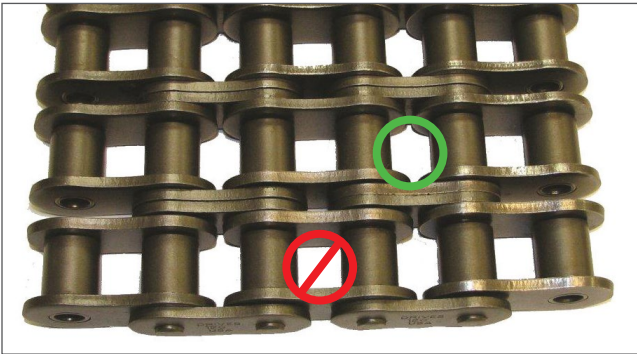
## STEP 1

Identify chain pitch size.



## STEP 2

Locate the corresponding step on the gauge.



## STEP 3

Check gauge for fit between any two roller links.  
(Perform with chain in tension.)



## STEP 4

If the gauge step fits through the checkpoint, the chain is worn out and needs to be replaced.

**Note:** Gauge should be in line, directly below any outside link plate.

