

## 3. Inspection and Maintenance

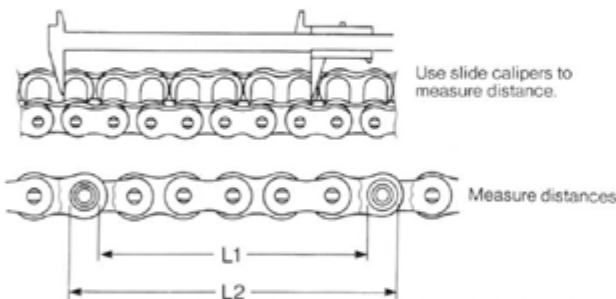
Inspection and maintenance are required to avoid trouble and keep power transmission ability.

### Inspection Items and measures to Trouble

Inspection Items	Measures to Troubles
Harmful flaw or rust	Harmful flaw or rust will reduce strength. Early replacement is recommended.
Slack of chain	Adjust shaft-to-shaft distance if slack is improper. If it is found, by measuring of elongation, that service life of chain is expired, change chain
Rotation of pin (incorrect caulking position)	Possible cause is overloading. Review operating conditions. Do not use a chain with a bent pin.
Uneven wear of roller	Possible cause is poor rotation of rollers. Find cause of trouble. Change chain.
Insufficient movement of chain	Review power transmission conditions and lubrication method.
Lubrication of chain	Lubricate by correct lubrication method.

### Elongation Measuring Method and Chain Replacement Timing

#### 1. Measuring Chain Elongation



- Measure distances L1 and L2 with chain lightly loaded.
- Measure distance over 6 to 10 links to reduce measuring errors.
- Elongation of chain is determined by the following equation.

$$\text{Chain length} = \frac{L1 + L2}{2}$$

$$\text{Reference chain length} = \text{Pitch} \times \text{Number of links measured}$$

$$\text{Elongation (\%)} = \frac{\text{Chain length} - \text{Reference chain length}}{\text{Reference length}} \times 100$$

**NOTE:** Service life of chains varies depending on number of sprocket teeth, lubrication, operating environment, and other conditions, even though they are the same dimensions and type.

#### 2. Chain Replacement Timing

Guideline for chain replacement, based on elongation of chain, is listed below.

Number of large sprocket teeth	Elongation (%)
60 or fewer	1.5
61 – 80	1.2
81 – 100	1.0
101 or more	0.8

- Listed data is applicable when take-up is possible, or when equipped with tensioner or idler.
- Shaft-to-shaft distance is fixed, guideline for elongation is 0.5% to 0.7%.
- When changing a chain, inspect sprockets. Worn-out sprocket will adversely affect chain, performance.

## CAUTIONS

1. Do not replace the damaged parts of a chain with new ones. In this case, change the whole chain. Also, do not install the used connecting link and parts to a new chain.
2. Do not adhere acid or alkaline liquid and highly volatile solvent to chain and sprockets, and do not use them for cleaning. If acid or alkaline liquid is accidentally adhered to chain, replace a chain with a new one. Adherence of acid or alkaline liquid will lead to brittle breakage. Use kerosene for cleaning. After cleaning, dry kerosene and apply lubricant sufficiently.