

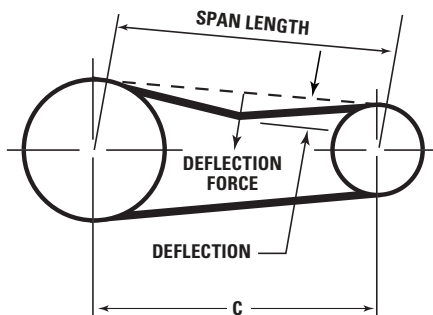
Belt Tensioning Tips and Tools

Proper belt tensioning is one of the most important factors for satisfactory operation and long service life for any belt drive. An under-tensioned v-belt will slip, generate heat and cause rapid belt and sheave wear. Low tension on a synchronous belt allows the belt teeth to ride up on the sprocket teeth. This creates stress on the teeth, eventually tearing them loose. The drive can also jump teeth which leads to premature belt failure. Too much tension can result in excessive stress on the belts, bearings, and shafts. Always use a belt tensioning tool to determine proper tension. Timken Belts offers four devices to assure proper tensioning.

Spring-Loaded Tensiometer

The force required to deflect a given span length by a given amount is related to the tension in the belt. The spring loaded tensiometer measures the force required to deflect the belt a specified distance at the center of its span. Tensiometers are available in single, double or triple stem configurations. They can be used on v-belts, banded belts or synchronous belts.

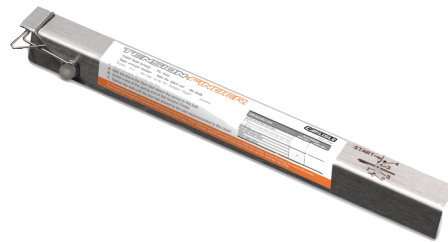
- Single Stem Tensiometer – Part # 102761
 - Up to 30 lbs. deflection force
- Double Stem Tensiometer – Part # 105575
 - Up to 60 lbs. deflection force
- Triple Stem Tensiometer – Part # 105576
 - Up to 90 lbs. deflection force



Tension-Finder® Tensioning Device

The Tension-Finder device is a simple, easy and accurate tool to assure proper tensioning of individual v-belts or banded belts. The Tension-Finder is designed for use with Carlisle belts by Timken. Do NOT use on belts with aramid, glass or carbon fiber cord.

- Tension-Finder – Part # 108039-A



Frequency-Finder™

The Frequency-Finder™ measures the natural frequency of vibration in the belt span. It allows simple, fast and reliable tensioning on virtually any type of belt.

- Frequency-Finder – Part # 109061



Big Shot Tensioning Device

Big Shot is a quick, easy and accurate device for tensioning new classical and wedge v-belts or bands. It's half the size of the Tension-Finder tensioning tool and designed for use on drives with span lengths of 6 -12 inches. Do not use on belts with aramid, glass or carbon fiber cord.

- Big Shot – Part # 109081



Drive Engineer

Tensioning information is included in our drive design and analysis web app. Drive Engineer helps users increase drive efficiency, drive life and overall knowledge of belt drives.

www.driveengineer.com



More Tips:

- Along with proper tensioning, alignment is critical to satisfactory belt life and performance. Poor alignment makes accurate tensioning more difficult. Use Laser-Align™ (Part # 109083) for fast, easy and accurate alignment.

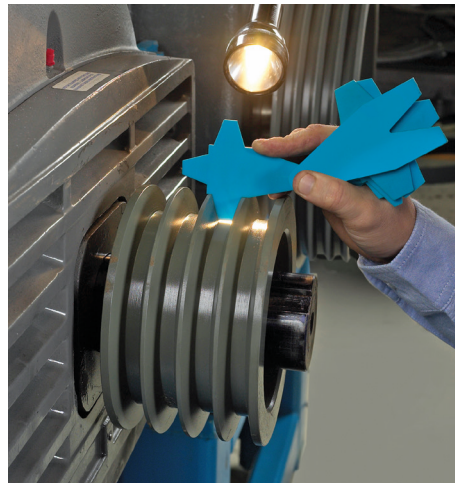


- When installing new belts, re-tension after 24 hours of operation.
 - V-belts can lose tension within the first 24 hours
 - Belts relax after seating fully into the pulleys. Checking them after 24 hours can often expose installation issues that were not obvious after they were first installed.

- Sheave condition is also vital to v-belt life and performance
- Never install new belts without a thorough inspection of the sheaves
- Look for worn groove sidewalls, shiny sheave groove bottom, wobbling sheaves and damaged sheaves – replace if necessary
- Use the sheave gauge to accurately check grooves for wear
 - Sheave Gauges – Part # 102495

- Wear should not exceed 1/32" for individual v-belt drives and 1/64" for banded belt drives
- Instruction sheets for each tensioning tool can be downloaded at: www.carlislebelts.com/media/downloads

Properly aligned and tensioned drives save money by increasing belt life, reducing wear and vibration and increasing energy savings.



- A flashlight held behind the gauge when placed in the groove, will help you observe the amount of wear

TIMKEN

The Timken team applies their know-how to improve the reliability and performance of machinery in diverse markets worldwide. The company designs, makes and markets high-performance mechanical components, including bearings, belts, gears, chain, couplings and related mechanical power transmission products and services.

www.timkenbelts.com