

Belt Tensioning

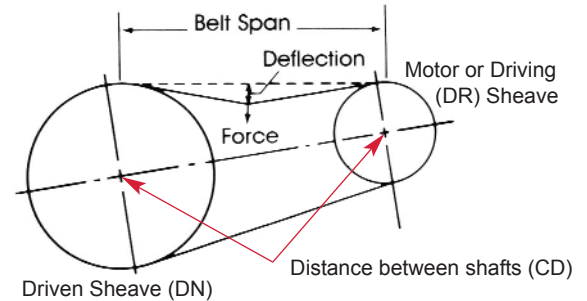
V-Belt tensioning adjustment should be made using a tension meter or gauge, using the following procedure - seat the belt into groove and adjust center distance to take up slack. Operate the belt under load and increase tension further until only a slight bow on the slack side of the belt is apparent. Stop the drive and, using the tension meter, measure the force necessary to depress the belt 1/64" for every inch of belt span.

$$\text{Tension} = 1/64 \times \text{belt span.}$$

V-Belt deflection forces may vary from the initial run in at belt installation.

Belt Length Formula

- Motor Sheave Diameter (DR) + Driven (DN) Sheave Diameter x 1.57
- Add (2x) Center Distance, between DR and DN shafts
- Equals the belt's Effective Length



Belt Wear/Failure Recognition



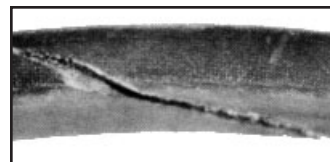
Exposure to Oil & Grease

Cause: Belt swelling, exterior softness and bottom envelope seam to open/split.
Remedy: Splash Guards, don't over-lubricate, clean belts/sheaves.



Weathering or "Crazing"

Cause: Belt drive elements, as well as aggravation by small sheaves.
Remedy: Check tension, provide drive protection and replace belt(s).



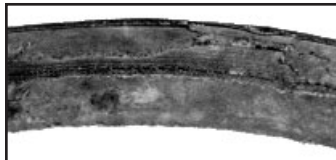
Cut Bottom & Sidewall

Cause: Belt being pinched over sheave during installation, as cut above indicates.
Remedy: Use proper length belts and tension properly when installing.



Severe Localized Wear

Cause: Spin burn caused by a frozen or locked drive sheave not able to turn freely.
Remedy: Determine that drive components turn freely and, if necessary, tighten belt.



Rough Sheave Sidewalls

Cause: Constant slippage due to belt being misaligned on worn sheaves.
Remedy: Use correct belt size. Align or replace sheaves.



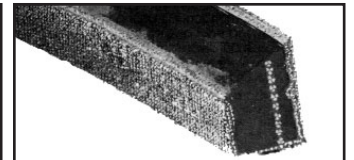
Broken Belt

Cause: Rough sheaves and dust build-up can both cause belt failure and severe envelope wear.
Remedy: Shield the drive.



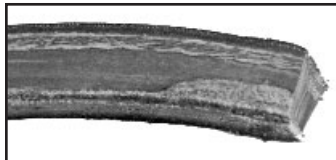
Snub Break

Cause: Cover wear indicates slippage and clean break reveals sudden snap due to non-proper drive tensioning.
Remedy: Maintain proper drive tension.



Abrasion

Cause: Sidewall wear a result of foreign material and rust in sheaves. Belt dropped to bottom of sheave groove.
Remedy: Dust guards to prevent abrasion.



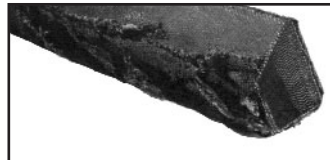
Worn Side Pattern

Cause: Worn or misaligned sheaves.
Remedy: Retension drive to stop slipping, realign sheaves (replace if needed), replace belt if incorrect size.



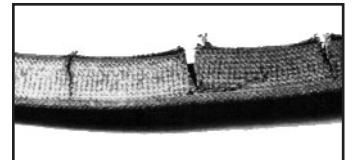
Oil Deterioration

Cause: Rubber softened by excessive oil exposure, causing deterioration.
Remedy: Splash guards to protect drive against oil.



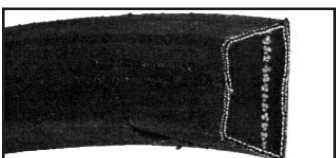
Cover Fabric Rupture

Cause: Fabric covering ruptured during installation due to belt being pinched over belt sheave.
Remedy: Proper installation of belts.



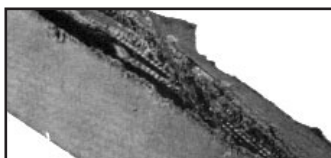
Base Cracking

Cause: Loose tensioning. Belt slippage causes heat build-up and gradual under-cord hardening.
Remedy: New belt. Proper tensioning.



Distorted Belt

Cause: Distortion caused by broken cords or adhesion breakdown.
Remedy: Avoid prying on belts. Check sheaves for recommended diameters.



Ply Separation

Cause: Split along pitch line indicating belt ran on too small diameter of sheave.
Remedy: Install a (x) cogged type belt.



Ruptured Belt

Cause: Ruptured cords in the plies, caused by high shock load on foreign object between belt and sheave groove.
Remedy: Check tension, shield drive.



Slip Burn

Cause: Belt slipping under starting or stalling load.
Remedy: Replace belt and tighten drives until slipping stops.