# Installation/ Tensioning V-Drives



## Installing A Drive

Here are a few suggestions to keep in mind when installing the drive:

1. Use a matched set of belts.
2. Clean oil and grease from the sheaves; remove any rust or burrs from the sheave grooves.
3. Shorten the center distance of the drive until the belts can be put on the sheaves without forcing.
4. Make sure that the sheaves are correctly aligned, that the shafts are parallel, that there is clearance for the drive to run and that the bearings have oil.
5. Work belts around in the groove by hand, so that the slack of **all** belts is on the top, or slack of **all** belts is on the bottom.

LIKE THIS:
(all slack at top)

OR LIKE THIS:
(all slack at bottom)

DO NOT APPLY THIS WAY:
(with slack at top and bottom)

Do not apply with the slack of some belts on the bottom (see solid line) and the slack of others on the top (see dotted line). Since V-belts will not slide in the groove, belts thus applied will be injured when tightened for operation.

Now tension the drive until only a slight bow appears on the slack side of the belts when they are operating.

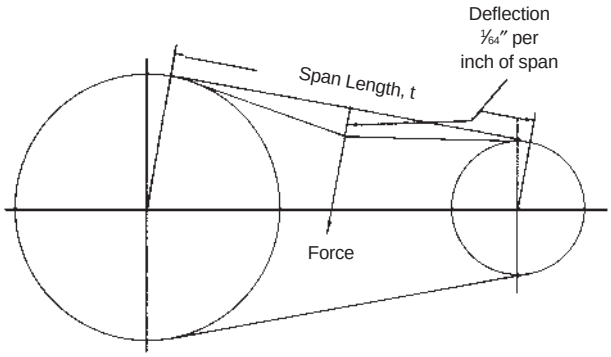
6. In a day or so, when the belts have had time to seat in the grooves, re-tension the belts.

All V-belt drives should be guarded in such a manner as to comply with the Williams-Steiger Occupational Safety and Health Act and with all state and local laws and the American National Standard Institute (ANSI) safety code.

## Tensioning The Drive

General Rules of Tensioning:

1. Ideal tension is the lowest tension at which the belt will not slip under peak load conditions.
2. Check tension frequently during the first 24-48 hours of run-in operation.
3. Overtensioning shortens belt and bearing life.
4. Keep belts free from foreign material which may cause slip.
5. Make V-drive inspection on a periodic basis. Tension when slipping.




## Test The Tension

If you want to check the tension in a conventional V-belt drive, use the procedure below:

1. Measure the span length, t.
2. At the center of the span (t) apply a force (perpendicular to the span) large enough to deflect the belt 1/64″ for every inch of span length. For example, the deflection of a 100 inch span would be 100/64 or 1 36/64 inches.
3. Compare the force you have applied with the values given in Table 12. If the force is between the values for normal tension, and 1½ times normal tension, the drive tension should be satisfactory. A force below the value for normal tension indicates an under-tensioned drive. If the force exceeds the value for 1½ times normal tension, the drive is tighter than it needs to be. A new drive can be tightened initially to two times normal tension to allow for the normal drop in tension during run in.

## Installation and Take-up Allowances

After calculating a center distance from a standard pitch length, make provision for adjusting the center distance as in Table 13, to allow for installation of the belts without injury, for tensioning, and for maintenance of proper tension throughout the life of the belt.