



## Tensioning V-Belts

Calculate or measure the belt span length as shown in Figure 3. Calculate the required deflection by multiplying this number by 1/64. For example, if the belt span is 32 inches,  $32 \times 1/64 = 1/2$  inch deflection. Increase the belt tension by increasing the center distance (or adjusting the idler, if present). Apply the force listed in Table 2 to any one of the belts in the drive at the center of the belt span until the calculated deflection amount is reached. Drives with shock loading or other unusual conditions may require increased tension. Always check to be sure bearings can handle the loads. Excessively high or low tensions will affect belt life. Recheck belt tensions after jog start or 1-3 minutes of operation, and 8 hours, 24 hours, 100 hours, and periodically thereafter.

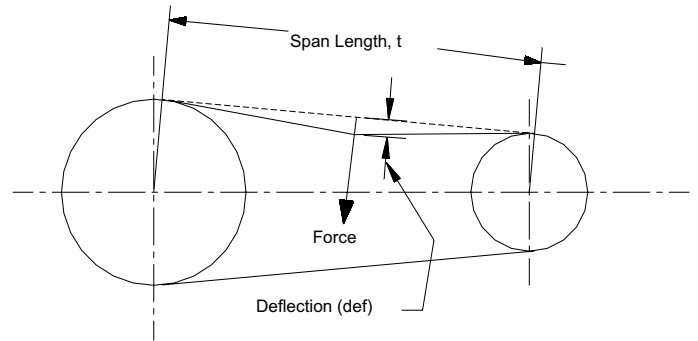
**TABLE 2**  
**SHEAVE DIAM - INCHES**  
**DEFLECTION FORCE - LBS.**

The values in Table 2 are general in nature providing deflection force to cover a wide range of drives. For precise deflection force refer to our EDGE online V-Belt Drive Selection Program.

Belt Cross Section	Smallest Sheave Diameter Range	RPM Range	Belt deflection force			
			Super Gripbelts and Unnotched Gripbands		Gripnotch Belts and Notched Gripbands	
			Used Belt	New Belt	Used Belt	New Belt
A - AX	3.0 - 3.6	1000 - 2500	3.7	5.5	4.1	6.1
		2501 - 4000	2.8	4.2	3.4	5.0
	3.8 - 4.8	1000 - 2500	4.5	6.8	5.0	7.4
		2501 - 4000	3.8	5.7	4.3	6.4
	5.0 - 7.0	1000 - 2500	5.4	8.0	5.7	8.4
		2501 - 4000	4.7	7.0	5.1	7.6
B - BX	3.4 - 4.2	860 - 2500	-	-	4.9	7.2
		2501 - 4000	-	-	4.2	6.2
	4.4 - 5.6	860 - 2500	5.3	7.9	7.1	10.5
		2501 - 4000	4.5	6.7	6.1	9.1
	5.8 - 8.6	860 - 2500	6.3	9.4	8.5	12.6
		2501 - 4000	6.0	8.9	7.3	10.9
C - CX	7.0 - 9.0	500 - 1740	11.5	17.0	14.7	21.8
		1741 - 3000	9.4	13.8	11.9	17.5
	9.5 - 16.0	500 - 1740	14.1	21.0	15.9	23.5
		1741 - 3000	12.5	18.5	14.6	21.6
D	12.0 - 16.0	200 - 850	24.9	37.0	-	-
		851 - 1500	21.2	31.3	-	-
	18.0 - 20.0	200 - 850	30.4	45.2	-	-
		851 - 1500	25.6	38.0	-	-
3V - 3VX	2.2 - 2.4	1000 - 2500	-	-	3.3	4.9
		2501 - 4000	-	-	2.9	4.3
	2.65 - 3.65	1000 - 2500	3.6	5.1	4.2	6.2
		2501 - 4000	3.0	4.4	3.8	5.6
	4.12 - 6.90	1000 - 2500	4.9	7.3	5.3	7.9
		2501 - 4000	4.4	6.6	4.9	7.3
5V - 5VX	4.4 - 6.7	500 - 1749	-	-	10.2	15.2
		1750 - 3000	-	-	8.8	13.2
		3001 - 4000	-	-	5.6	8.5
	7.1 - 10.9	500 - 1740	12.7	18.9	14.8	22.1
1741 - 3000		11.2	16.7	13.7	20.1	
	11.8 - 16.0	500 - 1740	15.5	23.4	17.1	25.5
		1741 - 3000	14.6	21.8	16.8	25.0
8V	12.5 - 17.0	200 - 850	33.0	49.3	-	-
		851 - 1500	26.8	39.9	-	-
	18.0 - 22.4	200 - 850	39.6	59.2	-	-
851 - 1500		35.3	52.7	-	-	

Belt Cross Section	Smallest Sheave Diameter Range	Belt deflection force	
		Super Gripbelts and Unnotched Gripbands	
		Used Belt	New Belt
3L	1.25 - 1.75	$\frac{3}{8}$	$\frac{5}{8}$
	2.00 - 2.25	$\frac{3}{4}$	$1 \frac{1}{4}$
	2.50 - 3.00	1	$1 \frac{1}{2}$
4L	2.10 - 2.80	$\frac{5}{8}$	1
	3.00 - 3.50	$1 \frac{5}{8}$	$2 \frac{1}{2}$
	3.70 - 5.00	2	3
5L	3.00 - 4.20	$1 \frac{1}{2}$	$2 \frac{5}{8}$
	4.50 - 5.20	$2 \frac{1}{2}$	$3 \frac{1}{2}$

Figure 4



**Note:** For gripbands (multiple or banded belts), the belt deflection force table 2 must be multiplied by the number of ribs in the gripband. Lay a narrow steel bar such as keystone across the gripband belt and apply the belt deflection force to the bar such that all the individual ribs are deflected evenly.

**General Notes**

Do not install new belts in worn sheave grooves. Such sheaves should be replaced with new ones to insure a proper fit of the belts in the grooves.

Keep belts clean. Do not use belt dressing.

When replacing belts on a drive, be sure to replace the entire set with a new set of matched belts. Keep extra belts stored in a cool, dark, dry place.

For additional assistance please contact  
Application Engineering at 1-800-626-2093.

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