

Procedure for using the Carlisle V-Belt Tensiometer

1. Measure the span length of the drive. (See Figure 1). Set the large "O" ring at 1/64" for each inch of belt span. For example, set the large "O" ring 1/4" for a span length of 16", at 1/2" for a span length of 32", at 1" for a span length of 64" etc.
2. Set the small "O" ring at zero and press down the Carlisle Tensiometer at the center of the belt span (See Figure 2).
 - a. On a single belt drive, depress the Tensiometer until the large "O" ring is even with the bottom of a straight edge placed on the outside rims of the two sheaves.
 - b. On a multiple belt drive, depress the Tensiometer until the large "O" ring is even with the top of the next belt. Measure each belt in the drive. and take the average reading of all belt tensions.
3. Remove the Tensiometer, and observe that the small "O" ring has moved from its original setting at zero to the number of pounds required to deflect the belt.
4. Check this reading against the value of Pmin and Pmax calculated using the table of Average Tensioning values (see table 1)

$$t = \sqrt{C^2 - \left(\frac{D-d}{2}\right)^2} \quad h = \frac{t}{64}$$

Where:

- t = Span length, inches
- C = Center distance, inches
- D = Larger sheave diameter
- d = Smaller sheave diameter, inches

*Deflection height h = 1/64 per inch of span

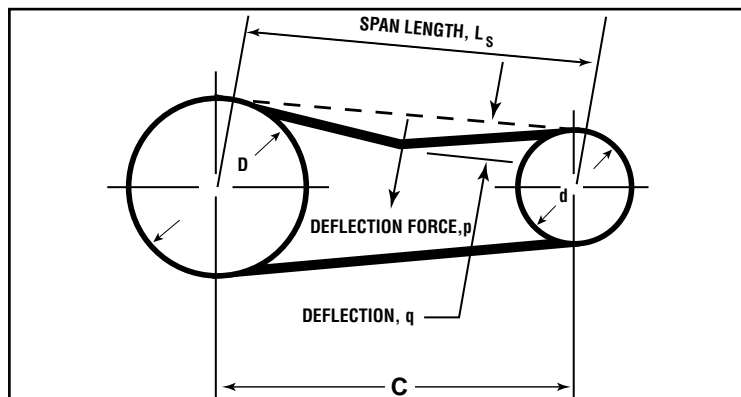


Figure 1 MEASURING DEFLECTION FORCE

Part No.	Item
102761	AWI 1 single stem belt tension tester
105575	AWI 2 double stem belt tension tester
105576	AWI 3 triple stem belt tension tester

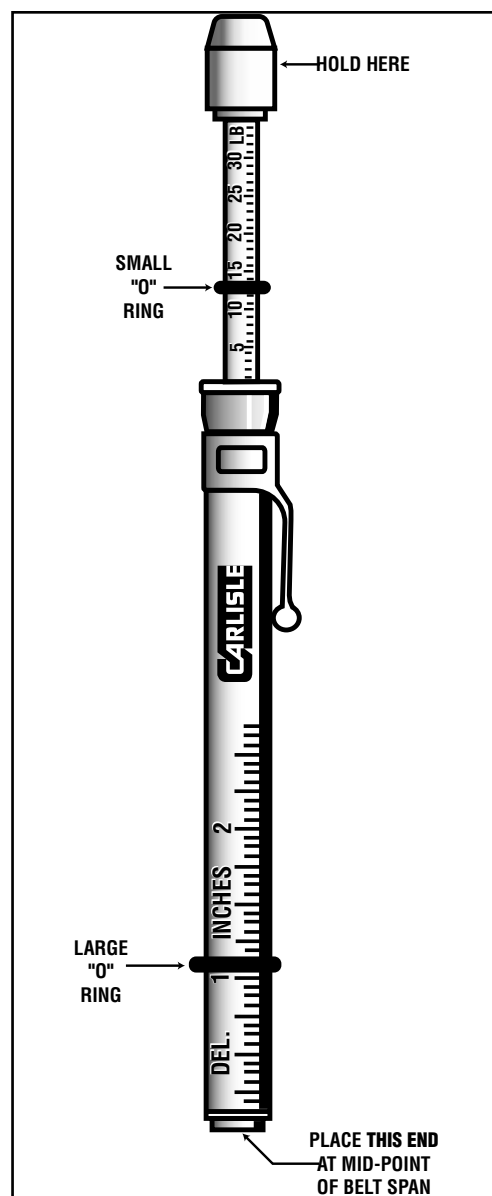


Figure 2 V-BELT TENSIO METER (Part No. 102761)

V-BELT TENSIONING (Continued)

TABLE 1 AVERAGE TENSIONING VALUES (RECOMMENDED MINIMUM FORCE PER BELT)

V-Belt Type	V-Belt Section	Small Sheave		Deflection Force for Drive Speed Ratio (lbs.)			
		Speed Range	Diameter	1.00	1.5	2.0	4.0 & over
Super II	A AP	1800-3600	3.0	2.0	2.3	2.4	3.3
		1800-3600	4.0	2.6	2.8	3.0	3.3
		1800-3600	5.0	3.0	3.3	3.4	3.7
		1800-3600	7.0	3.5	3.7	3.8	4.3
	B BP	1200-1800	4.6	3.7	4.3	4.5	5.0
		1200-1800	5.0	4.1	4.6	4.8	5.6
		1200-1800	6.0	4.8	5.3	5.5	6.3
		1200-1800	8.0	5.7	6.2	6.4	7.2
	C CP	900-1800	7.0	6.5	7.0	8.0	9.0
		900-1800	9.0	8.0	9.0	10.0	11.0
		900-1800	12.0	10.0	11.0	12.0	13.0
		700-1500	16.0	12.0	13.0	13.0	14.0
DP	900-1500	12.0	13.0	15.0	16.0	17.0	
	900-1500	15.0	16.0	18.0	19.0	21.0	
	700-1200	18.0	19.0	21.0	22.0	24.0	
	700-1200	22.0	22.0	23.0	24.0	26.0	
Gold Label® Cog-Belt®	AX	1800-3600	3.0	2.5	2.8	3.0	3.3
		1800-3600	4.0	3.3	3.6	3.8	4.2
		1800-3600	5.0	3.7	4.1	4.3	4.6
		1800-3600	7.0	4.3	4.6	4.8	5.3
	BX	1200-1800	4.6	5.2	5.8	6.0	6.9
		1200-1800	5.0	5.4	6.0	6.3	7.1
		1200-1800	6.0	6.0	6.4	6.7	7.7
		1200-1800	8.0	6.6	7.1	7.5	8.2
	CX	900-1800	7.0	10.0	11.0	12.0	13.0
		900-1800	9.0	11.0	12.0	13.0	14.0
		900-1800	12.0	12.0	13.0	13.0	14.0
		700-1500	16.0	13.0	14.0	14.0	15.0
	DX	900-1500	12.0	16.0	18.0	19.0	20.0
		900-1500	15.0	19.0	21.0	22.0	24.0
		700-1200	18.0	22.0	24.0	25.0	27.0
		700-1200	22.0	25.0	27.0	28.0	30.0
Power-Wedge Cog-Belt	3VX	1200-3600	2.2	2.2	2.5	2.7	3.0
		1200-3600	2.5	2.6	2.9	3.1	3.6
		1200-3600	3.0	3.1	3.5	3.7	4.2
		1200-3600	4.1	3.9	4.3	4.5	5.1
		1200-3600	5.3	4.6	4.9	5.1	5.7
		1200-3600	6.9	5.0	5.4	5.6	6.2
	5VX	1200-3600	4.4	6.5	7.5	8.0	9.0
		1200-3600	5.2	8.0	9.0	9.5	10.0
		1200-3600	6.3	9.5	10.0	11.0	12.0
		1200-3600	7.1	10.0	11.0	12.0	13.0
		900-1800	9.0	12.0	13.0	14.0	15.0
		900-1800	14.0	14.0	15.0	16.0	17.0
	8VX	900-1800	12.5	18.0	21.0	23.0	25.0
		900-1800	14.0	21.0	23.0	24.0	28.0
		700-1500	17.0	24.0	26.0	28.0	30.0
		700-1200	21.2	28.0	30.0	32.0	34.0
400-1000		24.8	31.0	32.0	34.0	36.0	
Super Power-Wedge	5V	900-1800	7.1	8.5	9.5	10.0	11.0
		900-1800	9.0	10.0	11.0	12.0	13.0
		900-1800	14.0	12.0	13.0	14.0	15.0
		700-1200	21.2	14.0	15.0	16.0	17.0
	8V	900-1800	12.5	18.0	21.0	23.0	25.0
		900-1800	14.0	21.0	23.0	24.0	28.0
		700-1500	17.0	24.0	26.0	28.0	30.0
		700-1200	21.2	28.0	30.0	32.0	34.0
		400-1000	24.8	31.0	32.0	34.0	36.0