**Tree Journeyman 325 Servo Motor Timing Belts:**

**Span Length = xxxxx mm**

**or**

**Span Length Formula:**

**S =** $\sqrt{CD^{2}- \left(D-d\right)^{2}/4}$

**Where: S=Calculated Span Length (mm)**

 **CD=Center Distance (mm)**

 **D=Large Pulley Dia. (mm)**

 **d=Small Pulley Dia. (mm)**

X-Axis:

Brand Belt: Bando Synchrolink

Number on Belt: 270L-0756 (SB-26)

PowerGrip Timing Belt – L (0.375”)

Mass Constant = 3.2 g/m

Belt Width = .750”

**Frequency on Correctly Tensioned Belt: 52Hz**

Speed Ratio =0.500

Pitch Diameter of the Large Pulley (26 tooth) = Ø3.104”

Pitch Diameter of the Small Pulley (13 tooth) = Ø1.552”

Center to Center axis span (used in formula above) = 9.8125”

**Checked Belt Tension was at a Frequency of 50-51 Hz.**

Y-Axis:

Brand Belt: Bando Synchrolink

Number on Belt: 322L-0756 (0949)

Mass Constant = 3.2 g/m

Belt Width = .750”

**Frequency on Correctly Tensioned Belt: 52Hz**

Speed Ratio =0.500

Pitch Diameter of the Large Pulley (30 tooth) = Ø3.581”

Pitch Diameter of the Small Pulley (15 tooth) = Ø1.790”

Center to Center axis span (used in formula above) = 11.8125”

**Checked Belt Tension was at a Frequency of 52-53 Hz.**

Z-Axis:

Brand Belt: Bando Synchrolink

Number on Belt: 225L-100G

Mass Constant = 3.2 g/m

Belt Width = 1.00”

**Frequency on Correctly Tensioned Belt: 128Hz**

Speed Ratio =0.400

Pitch Diameter of the Large Pulley (30 tooth) = Ø3.581”

Pitch Diameter of the Small Pulley (12 tooth) = Ø1.432”

Center to Center axis span (used in formula above) = 7.250”

**Checked Belt Tension was at a Frequency of 128-129 Hz.**





**X-Axis calculations**



**Y-Axis calculations**



**Z-Axis calculations**