Parallel Coupled Assembly Set-up Procedure

! Timing belt and pulleys must be enclosed in the belt guard before using.
! Do not step on the belt guard.

Required tools: 5/32” & 3/16” hex keys, large framing square, accurate measuring device (Cal-x-Tender ™), Phillips screw driver, 9/16” open end wrench, inside caliper.

1) Working from the pulley end of the slide assemblies, the motorized slide (drive slide) should be on the right, the (driven slide) on the left.

2) Mount the slides to the separators using T-nuts and mounting cleats. Do not tighten at this time.
3) Square the motorized slide to the separator closest to the pulleys and tighten the mounting cleats. Leave the driven slide loose for now.
4) Align the other separator at the far end of the slides parallel with the first one. Tighten the mounting cleats on the drive side.
5) Remove the cover and end caps from the gray belt guard. Remove the screws from the motor and end plate assembly near the pulleys, they will be reinstalled later.

6) Using the pulleys, bring both carriages into contact with the bearing assembly at the motor end of the units being careful not to force them.
7) Place the flat side of the belt guard with two large holes over the pulleys. Install the belt over both pulleys, be sure it seats properly into the pulleys and is not obstructed on the belt guard.
8) Install the screws from the motor and end plate assembly through the slots in the belt guard. Do not tighten.

9) Align the driven slide parallel with the drive slide. Both slides should be of equal distance from the pulley end separator. Spread the slides so the belt has a little tension. Recheck for parallel and tighten the mounting cleats lightly.
10) Loosen the mounting cleats on the driven slide nearest to the pulley end and one cleat on the endplate end (see diagram on next page.) Place the belt tensioning rod between the motor mounting plates of both slides and tighten until the rod will support it’s own weight.

![Image of belt tensioning rod](image1.png)

11) Measure accurately between the washers on either side of the coil spring of the belt tensioning rod and record the measurement. Tighten the hex nut to change the distance between the washers by 0.25” then tighten the mounting cleats. This measurement is important in maintaining proper belt tension.

![Image of measurement tool](image2.png)

12) Check for parallel between the two slides and adjust the driven slide as necessary. Recheck the change in spring length. Periodically rotate the belt to ensure correct belt seating. Note: The slides should be parallel within 0.002” for proper slide operation. Use a cross pattern tightening sequence on the mounting cleats after final check.

![Image of cross pattern tightening](image3.png)
Parallel Coupled Assembly Diagram

A change in A2 will change $\Delta T$ (readjust spring to keep $\Delta T=0.25''$ max.)

$\Delta T=0.25''$

When:
1) Carriages are same distance from end
2) Belt is in place on pulleys
3) $A1 = A2 \pm 0.002''$
4) $\Delta T = 0.25''$ (125 lb tension on belt)

Then:
Tighten all fasteners
13) Place a small amount of BiSlide lubricant on the inside contact surface of the blue coupling cover. By hand, press down on the cover over the stand-offs until it seats on the bottom surface of the slide.

14) Center the belt guard on the screws at the rear surface of the motor and bearing assembly and tighten.
15) Center the cover onto the belt guard and snap into place. Snap the end covers into place.

16) Before operation, be sure to set the limit switches to avoid accidental injury or damage.

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