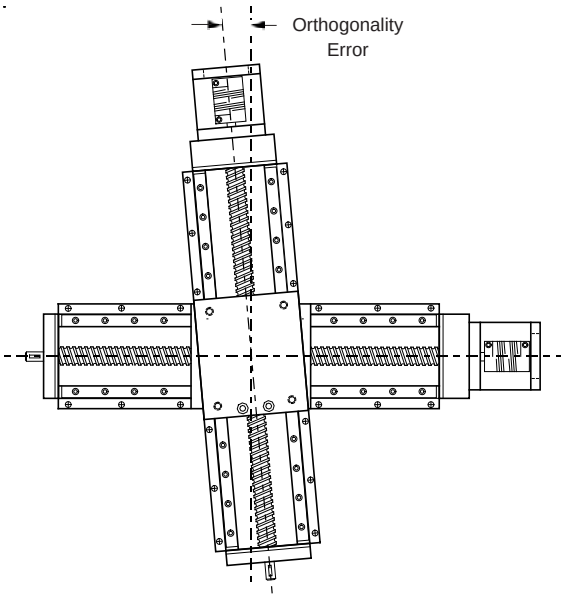
Multi-Axis

LINTECH has manufactured numerous multi-axis positioning systems for use in a wide variety of applications. X-Y, X-Z, and X-Y-Z multi-axis systems can be created in a variety of ways. *LINTECH* offers base to carriage, carriage to carriage, the use of horizontal & vertical angle brackets, and the integration of different table series to create various muti-axis positioning systems.

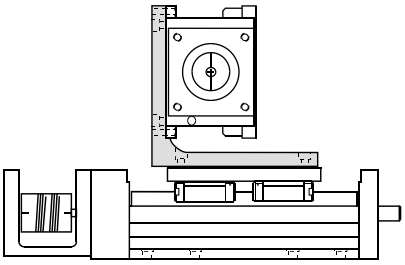
The most common X-Y mounting configuration is obtained by stacking two single axis tables on top of each other. The base of the top (Y axis) is mounted to the carriage of the bottom (X axis). Any time a multi-axis system is created by stacking of tables, the bottom axis (or axes) will have several application considerations that need to be reviewed. First, the bottom axis will experience moment loads that are generated by the top axis moving. These moment loads will vary, and the mean load equation on page A-19 can help to determine the forces exerted on the bottom axes bearings. For the majority of applications, a 4 bearing carriage should always be considered for any bottom axis. Second, additional errors are introduced into the system, such as orthogonality and stack up errors. Orthogonality is the maximum deviation from perpendicularity between 2 axes. Stack up errors are angular errors transmitted from the bottom axes to the top axis.



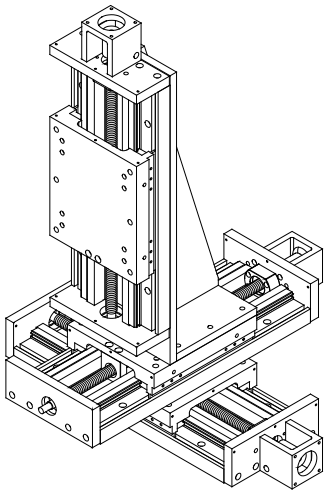
X-Y Axis Orthogonality

Another X-Y mounting solution has a spread rail configuration mounted to a base plate for the X axis. This generates more uniform forces on the bottom axis bearings, while also minimizing system deflections.

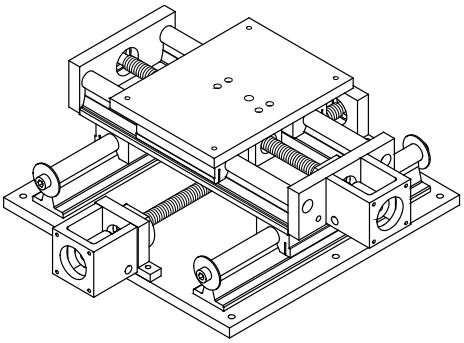
Some standard table series within this catalog can easily be constructed into a multi-axis arrangements. The 100, 110, 120, 130, 170, 180 and 550 either have base & carriage mounting hole patterns that match each other, or a selection of adapter plates & angle brackets that make creating a multi-axis assembly easy. See the individual table sections for more details. Other standard table series can have the top axis mounted to the bottom axis by adding new mounting holes in the bottom axis carriage. Contact *LINTECH* for more details.



X-Y System with Horizontal Angle Bracket



X-Y-Z System with Vertical Angle Bracket



X-Y System with Spread Rail X axis Base Plate