

Biaxial Loading Frame - Concept Design

Brilliant GP

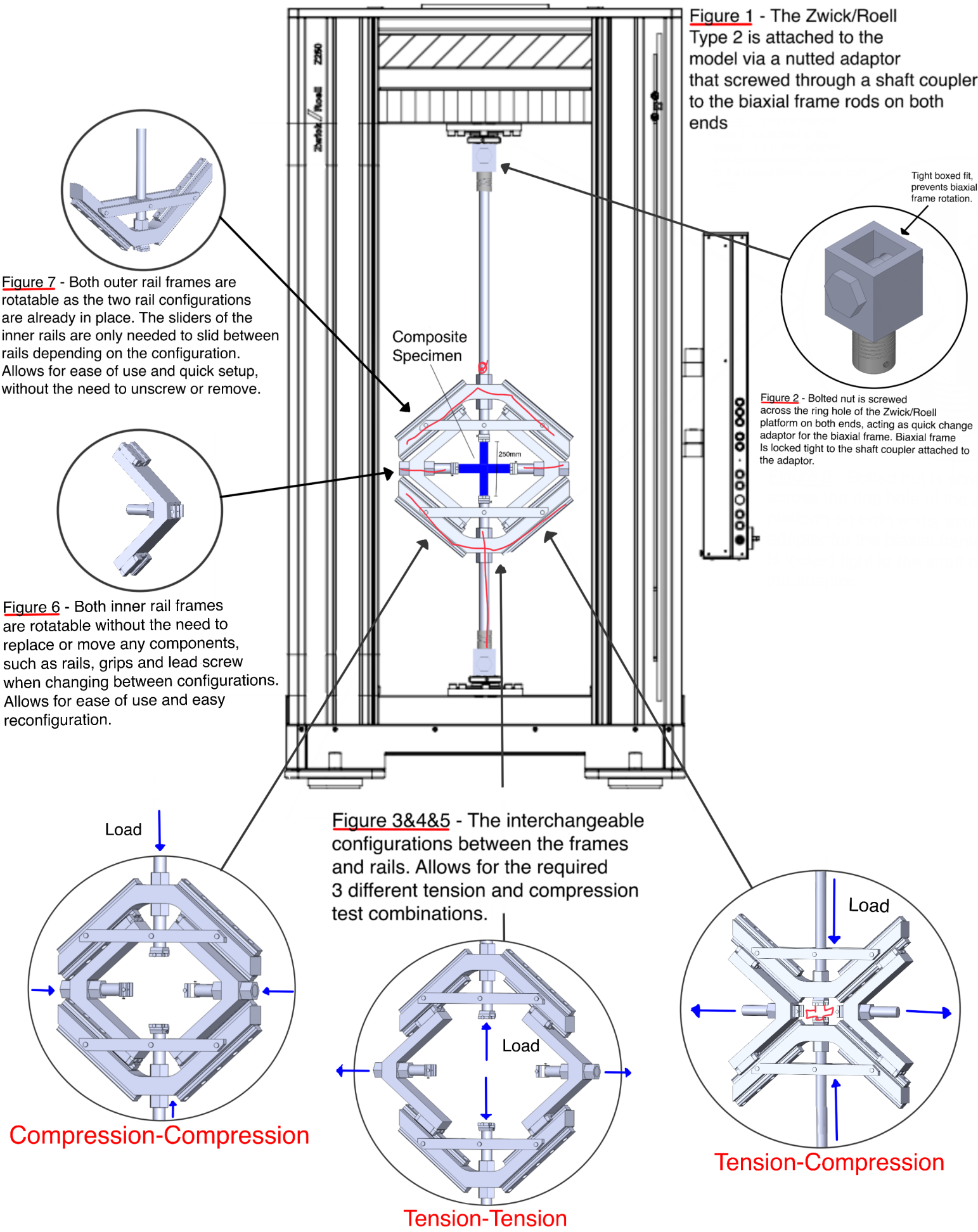


Figure 8 - The shaft that connects to the coupler on the Zwick/Roell is always supported this allows the fixture and specimen to always be aligned. Removing the possibility of creating any bending moment or shear force.

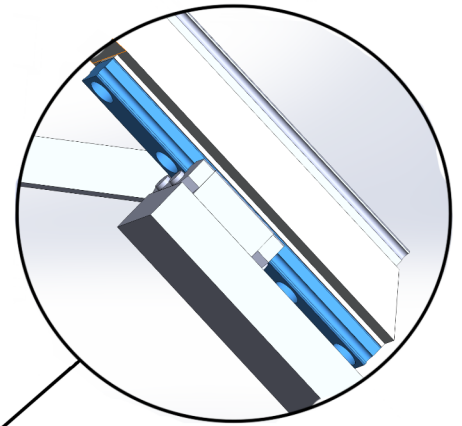
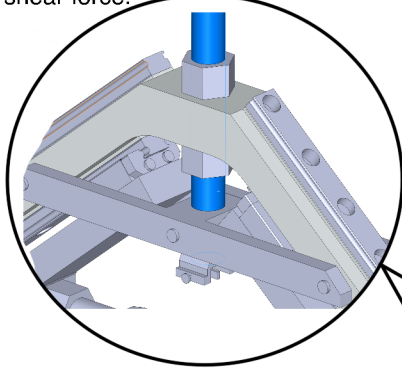
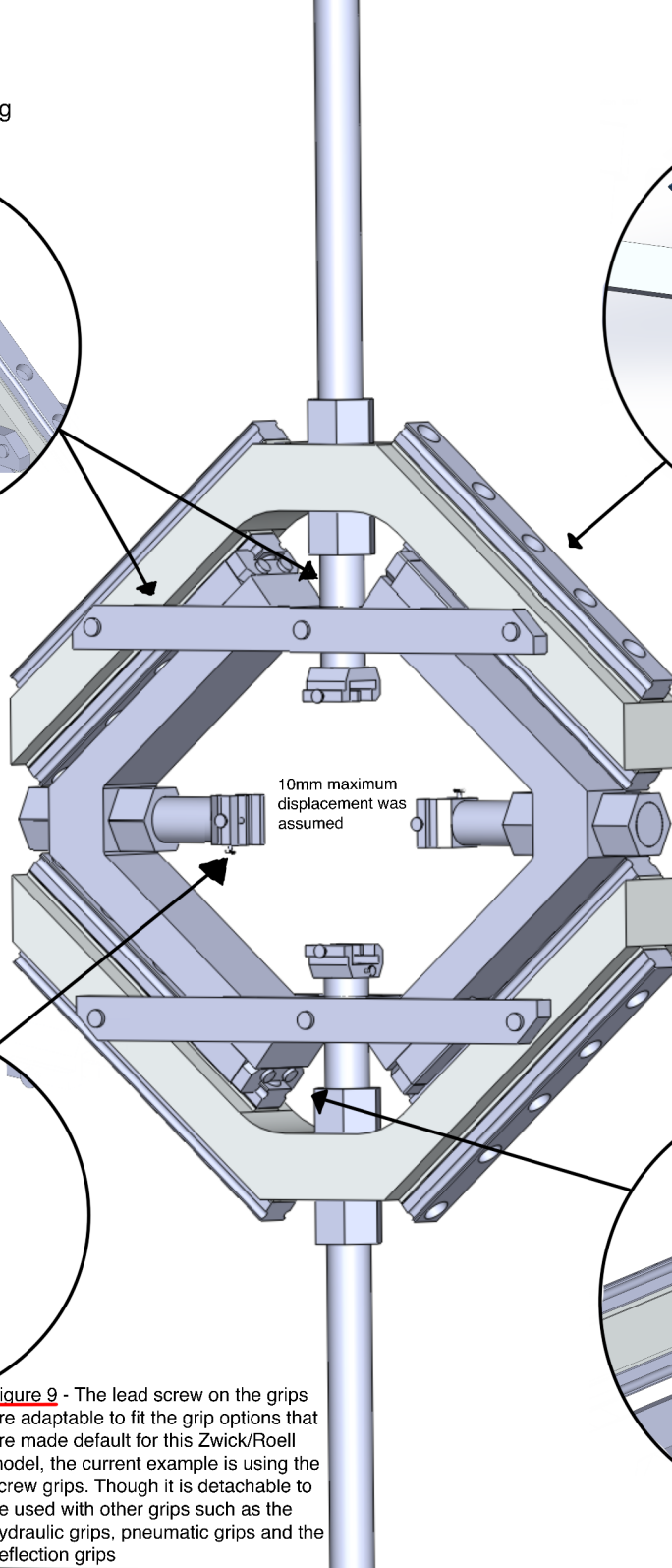


Figure 11 - The rails are on both sides to accommodate ease of access between the two reconfigurations. The example employs a model from NSK. An endstop limit switch is used to set boundaries and measure distance.

Figure 10 - This fixture is able to operate because the frames are held by the rails and sliders which slide as the fixture compress or tin tension. Though slight reconfiguration is necessary for tension-compression.



10mm maximum displacement was assumed

Figure 12 - Sliders are easily slid off so the parts and frames can be reconfigured.

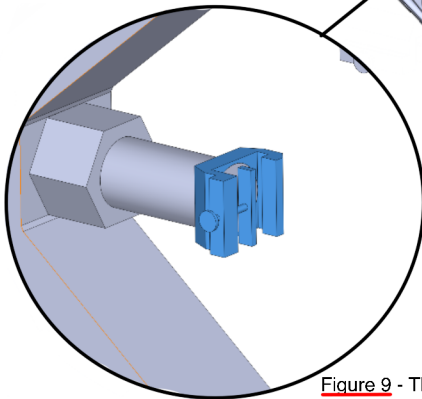
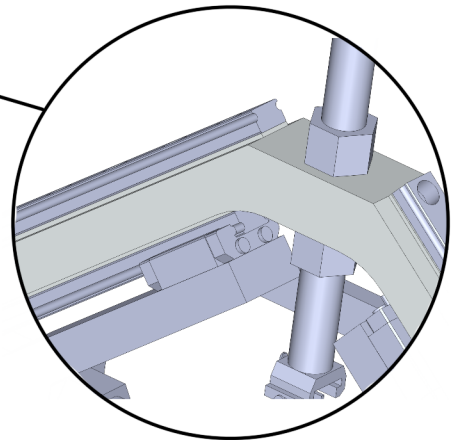
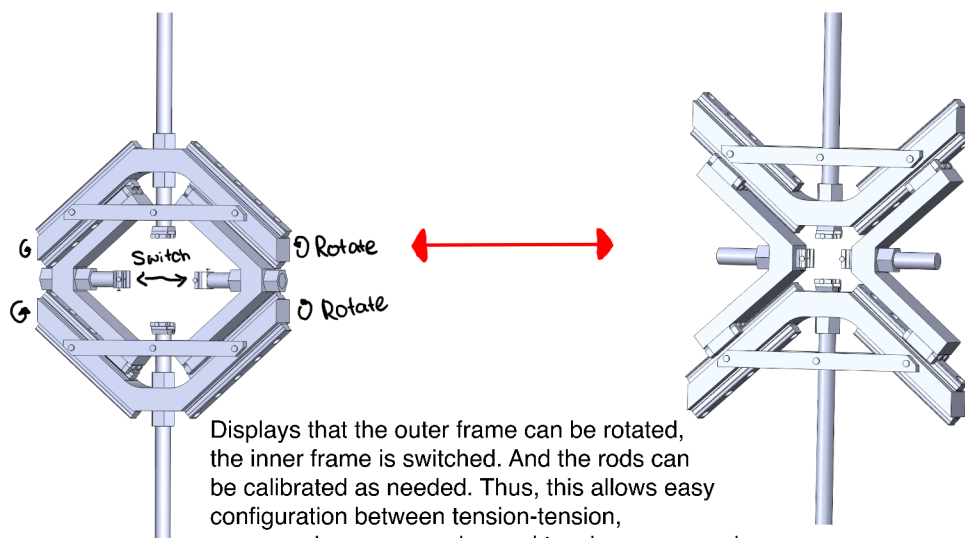


Figure 9 - The lead screw on the grips are adaptable to fit the grip options that are made default for this Zwick/Roell model, the current example is using the screw grips. Though it is detachable to be used with other grips such as the hydraulic grips, pneumatic grips and the deflection grips



Reconfiguration of The Fixture



Displays that the outer frame can be rotated, the inner frame is switched. And the rods can be calibrated as needed. Thus, this allows easy configuration between tension-tension, compression-compression and tension-compression