

# A CLOSER LOOK AT KINEMATIC MOVEMENT

Mechanical systems can be classified according to the number of degrees of freedom (DOF) independent degrees of freedom: X, Y, Z. If all degrees of freedom are fully constrained.

the number of degrees of freedom (DOF)

A three-dimensional rigid body has exactly 6 independent degrees of freedom if all degrees of

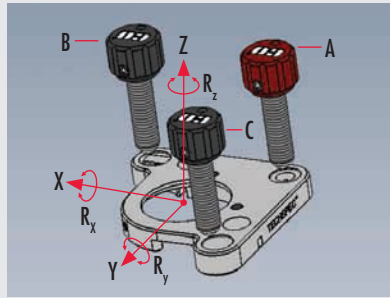


Figure 1

Edmund Optics® TECHSPEC™ Kinematic 1" Dia. Kinematic Optic Mount. To visualize the three adjustment screws.

2 illustrates the front plate of our perfectly in the coordinate system

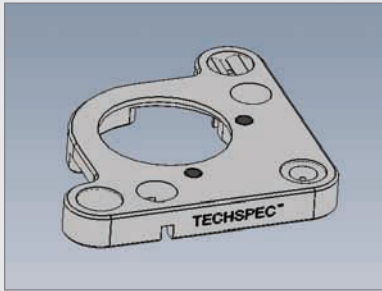


Figure 2

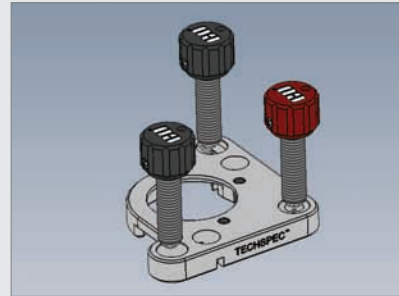


Figure 3

When the groove is oriented along the x-axis rotational degrees of freedom, (Ry, Rz). The final

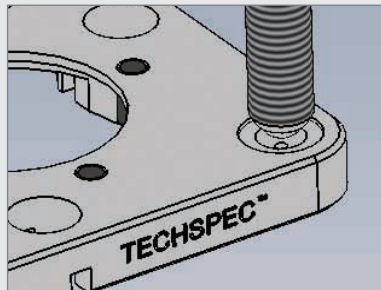


Figure 4

adjust the rotational degrees of freedom. In contrast to our example above, the axes of rotation are behind the optic when adjustment is made so a slight translation of the optic in the Z-axis also occurs.

A third screw can be placed over the cone to compensate for the unwanted translation. This 3-screw configuration enables the optic to be rotated, as needed using the first 2-adjustment screws, then returned to its original position along the Z-axis using the third.

at the groove and the flat, can be used to

