

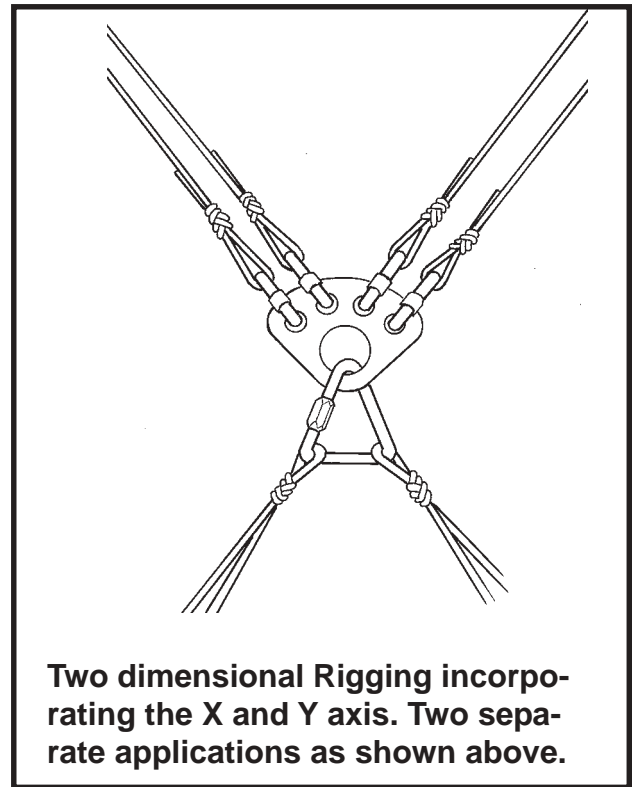
Three Dimensional (3-D) Rigging

By Bruce W. Smith

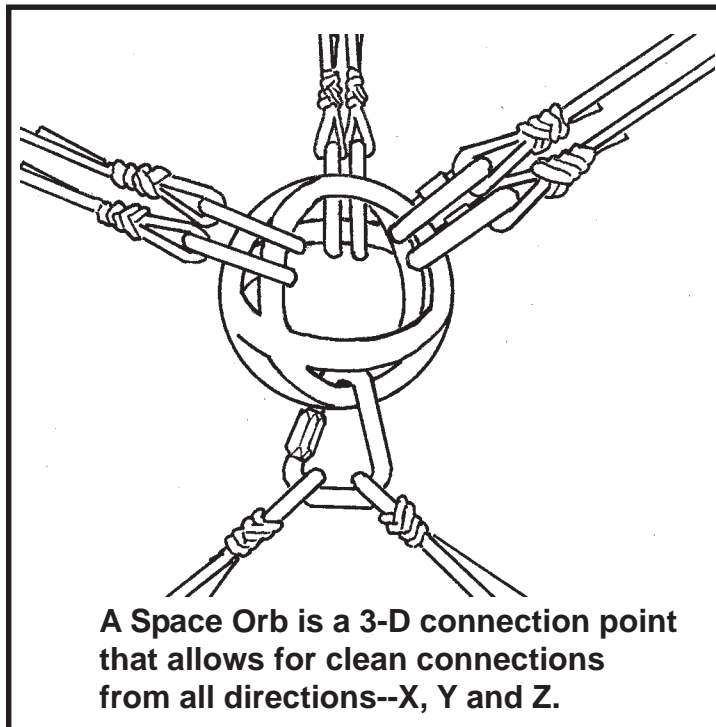
Another Look at Clean Rigging

For years most riggers have relied on singular plane rigging--meaning only an X and Y plane gets involved in the equation. So often the Z dimension gets introduced into a rigging scenario. When that occurs the hardware that most teams have in their haul/lower bags may fall short of providing clean connections resulting in carabiner gate loading or dangerously torque equipment in manners it was not meant to endure. This can cause hard linking and exponentially stress gear beyond its safe working limit.

Rigging plates are built and designed specifically for the X and Y application. There are no holes for the Z connection. When an application needs to be tensioned from another direction it results in a canting of the rigging plate which in turn causes unexpected forces in places on carabiner gates and connection points that could result in premature failure.



Two dimensional Rigging incorporating the X and Y axis. Two separate applications as shown above.



A Space Orb is a 3-D connection point that allows for clean connections from all directions--X, Y and Z.

Space Orbs

About 8 years ago, demands and situations during rigging scenarios became apparent. Taking a simple rigging ring to a three-dimensional level seemed simple enough. Since then numerous designs, along with dozens of other approaches, were discussed and engineered. In the end the original design seems to work the best.

The equator needs to remain as the primary X-Y application while the Z ring has numerous applications that allow for deviations, raising and lowering.

For 8 years, the Orbs have been run through their paces under numerous applications and functioned great. One caution-- they roll. On a cliff edge this means they need to be tethered or bagged when not in use.

Note: Bruce Smith is the President of On Rope 1, Inc. and co-author of the book *On Rope*.