

Drone Design: Why Choose Composite Plastic Bearings?



■ A partnership with TriStar gives you a competitive edge.



Ultracomp® Bearings



CJ Bearings

The drone market is exploding. Gartner estimates the global drone market will grow 34% in 2017, and will reach \$11.2 billion by 2020.

But no matter the intended application, all drones have the same requirements of aerospace plastics. The materials must:

- Offer good strength-to-weight ratio to support lift and pivot movements
- Glide with agility for extended periods at various altitudes
- Withstand unpredictable turbulence for swift, reliable flight
- Resist temperature fluctuations in all-weather conditions

Which aerospace plastics can deliver all of the above attributes without lubrication — plus offer virtually unlimited options for [custom machining](#)?

Composite bearings are excellent choices for all lift, tilt, and pivot points of the drone engine assemblies

They give superior flexibility without added weight. The materials have high-impact properties to resist atmospheric turbulence and severe temperatures. And they are strong enough to carry heavy military payloads while tolerating for most high-moisture and dry-desert environments. They do it all without the need for excessive grease.

Choose [Ultracomp 200](#) bearings for a composite strength of 54,000 PSI on the joining fixtures of the fuselage, landing gears and high-load pivot points.

Or consider [CJ bearings](#) for weight and space savings on pivoting lift cylinders. Both are excellent and direct replacements for powdered steel or bronze components.

For added wing strength, consider a [plasma surface modification](#) treatment for enhanced wing edge.

We're ready to put our engineering expertise to work for you from prototype to production.

Engineering | Custom Fabrication | Manufacturing



CJ Composite

- Self-Lubricating
- Low weight | High Strength
- Chemical Resistance
- Direct replacement for Bronze



Ultracomp[®]

- Self-Lubricating
- High Load | Low Speed
- 54,400 PSI Compressive Strength
- Exceptional Resistance to Vibration and Impact



TriSteel[™]

- Self-Lubricating
- High Load | High Speed
- Metal Backed Bearing System
- 100% Lead Free



Rulon[®]

- Self-Lubricating
- Low weight | High Strength
- Low Coefficient of Friction
- Chemically Resistant



Enhanced Materials Division

- Plasma Surface Treatment
- Specialized Primers & Coatings
- Material ID & Selection
- Process Engineering | Analysis & Testing



TriStar



Engineered Plastic Solutions[™]

tstar.com



1.800.874.7827