

## TORX PLUS® DRIVE SYSTEM FACT SHEET



### **Foundation for Growth**

Acument's patented TORX PLUS® Drive System is the foundation on which future fastening processes will be designed and developed at Camcar® Aerospace.

### **TORX® Introduction**

TORX® was developed in the mid-1960s by Camcar in Rockford, Ill., with a patent awarded in 1971 for the hexlobular drive system. Mass production was achieved in 1981 when General Motors

used TORX® screws to attach headlights and taillights on all its models.

### **TORX PLUS®**

Introduced in 1991, featuring hexlobular recess with elliptical lobe design featuring large cross section at the lobes, vertical sidewalls, and zero-degree drive angle.

### **Large Cross-Section**

Delivers a 23 percent increase in torque, providing greater strength and preserving tool life.

### **Vertical Sidewalls**

Prevent cam-out and tool slippage, avoiding production slowdowns and replacement of expensive parts and scratched trim on finished surfaces.

### **Zero Degree Drive Angle**

Elliptical configuration creates zero-degree drive angle, eliminating radial forces that put stress on drivers and sockets. Maximum lobe engagement between driver and fastener spreads driving forces over surface area. Energy concentrated away from fastener head to rotation of bolt or screw, generating optimal torque transmission and use of thinner walled recesses.

### **No End Load**

Keeps drivers engaged in fastener recesses, assuring ease of torque application, while eliminating strain on operators when driving fasteners.

### **Reduced Service Costs**

Unlike other recessed fasteners, TORX PLUS® screws and bolts disengage when recesses are half-filled with dirt, paint, debris, and other accumulated residue. Two million parts replaced during 30-year lifespan of typical commercial aircraft, with service procedures accounting for 20 percent of operational costs.

### **Licensing**

More than 90 licensed manufacturers worldwide also produce and market TORX® and TORX PLUS® screws and bolts.

- more -

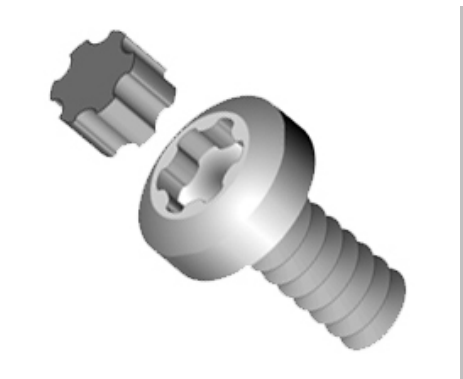
**Global Sales**

During the past 38 years, seven billion TORX® and TORX PLUS® Drive System screws and bolts in hundreds of sizes and shapes used in assembly of airplanes and helicopters, as well as automobiles, trucks, cell phones, computers, homes, high-rises, and hundreds of other products and structures.



**TORX PLUS® Threaded Aerospace Fasteners**

Built on a 65-year heritage of fastening solutions for thousands of customers, Acument’s new Camcar Aerospace operation enters the aerospace threaded fastening arena with a line of high-strength, heat-resistant A286 stainless steel threaded fasteners for use in hundreds of different applications in modern aircraft assembly and maintenance, repair and overhaul processes.



**Note to Editors:** Download 300 dpi TORX PLUS® photos from the Acument newsroom:

<http://www.acument.com/news.asp>

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