

## Professional Summary

Argos Engineering provides new product development consulting for the Aerospace Fastener and Aircraft Interiors industries, as well as litigation consulting in the areas of mechanisms, latches and fasteners.

Before retiring as an aerospace industry executive in 2005, Dr. Pratt co-invented and led the development of the post-9/11 secure (terrorist-proof) cockpit door decompression latches now installed on half the world's fleet of aircraft. Previously Dr. Pratt invented and commercialized the first viable blind fastening system for laminated composites. After 24 years, that system (Monogram Aerospace Fasteners' Composi-Lok©) remains one of the most-used structural blind fasteners for composite airframe assembly. Recent litigation consulting projects have included aircraft engine cylinder head bolt failure analysis, aircraft hanger wind-induced anchorage loss, and motor home retractable bunk mechanism analysis.

## Expertise

- Fasteners
- Latching Mechanisms
- Aircraft Rapid Decompression
- Engineering, Structural
- Kinematics Analysis
- Mechanisms
- Products Liability
- Wind Load Analysis
- Patent Infringement and Validity

## Education

<u>Year</u>	<u>College or University</u>	<u>Degree</u>
2001	University of California, Irvine	Ph.D. - Civil Engineering—Structural Mechanics (Airframe Joint Behavior)
1998	California State University, Fullerton	M.S.M.E.
1996	California State University, Fullerton	B.S.M.E.

## Litigation Support Experience

Comprehensive list available upon request

## Professional Experience

From: June 2005  
To: Present  
Organization: Argos Engineering, Laguna Niguel, CA  
Title: Principal  
Summary: Argos Engineering provides litigation consulting, deposition and trial testimony, expert reports and failure analysis. Argos engineering has relationships with local laboratories for in-depth mechanical testing and metallurgical analysis. Argos Engineering offers litigation consulting and expert witness services in the following areas:

- Fasteners and mechanically-fastened joint failures.
- Latching mechanisms and latched joint failures, particularly aircraft structural latches.
- Wind-induced building damage.
- Aircraft rapid decompression.
- Mechanism kinematics and failure analysis.
- Metal forming (hot and cold forging) and processing (heat treatment, finishing).

From: August 2000  
To: June 2005  
Organization: Hartwell Corporation, Placentia, CA  
Title: Vice President, Engineering  
Summary: Oversaw all new product development and engineering, including development of engine nacelle latches for the Airbus A380, A318, A400M, B787 and RJ700/900 Series aircraft. Also co-invented and led the development of the post-9/11 secure cockpit door decompression mechanisms presently in use on half of the world's fleet of commercial transport aircraft.

From: March 1988  
To: August 2000  
Organization: Textron Aerospace Fasteners, Santa Ana, CA  
Title: Vice President, Research and Development (Started as Director R&D)  
Summary: Led the development of various solid shank and blind fastener systems. Founded Textron Sports Technology operation within TAF in 1995 and led that group until its relocation to a commercial Textron division in 1999.

From: February 1979  
To: March 1988  
Organization: Monogram Aerospace Fasteners, Los Angeles, CA  
Title: Engineering Manager  
Summary: Led the product development and standardization efforts. Invented Composi-Lok (I & II), Visu-Lok II and other product lines, accounting for sales in excess of \$250 million since 1983. Represented company at MIL-HDBK-5, NASC and other standardization activities.

## Professional Experience (Continued)

From: August 1969  
To: February 1979  
Organization: Olympic Fastening Systems, Downey, CA  
Title: Sr. Project Engineer, R&D (Started as Drafter Trainee)  
Summary: Product development and manufacturing engineering activities, including fastener installation tooling and progressive header tooling. Designed hydraulic-pneumatic installation tools for Olympic's and competitor's product lines.

## Professional Affiliations, Achievements & Awards

- Professional Engineering License (Mechanical Engineering), CA, 1979
- National Academy of Forensic Engineers (NAFE)
- American Academy of Forensic Sciences (AAFS)
- National Society of Professional Engineers (NSPE/CSPE)
- American Society of Mechanical Engineers (ASME)
- American Society of Civil Engineers (ASCE)
- American Society of Metals (ASM)
- Society of Forensic Engineers and Scientists (SFES)
- Member of the FAA/DoD Fastener Task Group for MMPDS

## Patents & Publications

### Patents

4,376,604	4,548,533	4,747,204	5,046,348	5,131,107	5,378,098	5,938,384	6,261,042	7,252,311	8,322,015
4,451,189	4,659,271	4,752,169	5,052,870	5,152,648	5,620,287	5,941,539	6,866,226	7,255,376	8,348,566
4,457,652	4,659,272	4,767,248	5,056,973	5,333,980	5,692,865	5,957,642	6,866,227	7,578,475	8,398,345
4,537,542	4,681,494	4,967,463	5,066,179	5,354,160	5,884,923	6,171,038	7,131,672	7,857,563	

Several other patents are presently pending before the United States Patent and Trademark Office, including the following which have reached the Publication stage:

2008/0213063 A1  
2009/0092462 A1  
2009/0191020 A1  
2012/0011702 A1  
2012/0263556 A1  
2013/0061451 A1  
2013/0061452 A1

### Publications:

- "Fastening of Advanced Composites", NASA conference, 1983, Seattle, WA.
- "Testing and Analysis of Mechanically-Fastened Lap Joints", Ph.D. Dissertation, John D. Pratt (2001)
- "Analytical Modeling of Bolted Lap Joint Load-Elongation Behavior", *Journal of Aerospace Engineering*, January 2002 (ASCE)

## Patents & Publications (Continued)

4. "Comparative Load-Elongation Behavior of Single-Bolted and Dual-Bolted Lap Joints", *Journal of Aerospace Engineering*, April 2002 (ASCE)
5. "The Influence of Conical Head Geometry on the Slip Resistance of Bolted Joints", *Journal of Aerospace Engineering*, October 2002 (ASCE)
6. "Rapid Decompression of Pressurized Aircraft", *Journal of Failure Analysis and Prevention*, December, 2006 (ASM)
7. "Allowables-Based Flow Curves for Nonlinear Finite-Element Analysis", *Journal of Failure Analysis and Prevention*, April, 2007 (ASM)

## Technical Presentations

- "Fastening of Advanced Composites", NASA conference, 1983, Seattle, WA.
- "Analysis of Wind Damage to Mountain Residence", SFES Seminar, March 1, 2008, Yosemite CA
- "A Summary of Forensic Engineering Cases", SFES Seminar, Jan., 11, 2009, St. Helena, CA
- "Rapid Decompression and Flightdeck Security", SFES Seminar, Oct. 2-3, 2010, Napa, CA