

Jack S. Thrower

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SUMMARY:

Engineer and Consultant DER with FAA delegations in Propulsion (engines, powerplant & APU), Mechanical Systems and Structures. Extensive interaction with FAA-ACO, FAA-FSDO and FAA-MIDO. Full authority for approval of major repairs and repair specifications. Experienced with FAA regulations, policies and procedures related to certification, manufacturing and continued airworthiness. Technical expertise in metallurgy, welding, brazing, heat treatment, investment castings and metal fabrication. Comfortable in small shops or Fortune 100 companies.

PROFESSIONAL EXPERIENCE:

Expert Consulting / Expert Aerospace LLC, Mesa, AZ 2005 - Present

Consultant DER / Managing Partner. Transitioned from proprietorship for DER services into a full services reverse engineering company. Reverse engineering services include dimensional inspection; 3-D modeling in SolidWorks; drawing preparation with GD&T per ASME Y14.5-2009; documentation of installation eligibility; and preparation of substantiation data packages to support major repairs (i.e. Repair Specifications) and Parts Manufacturer Approval (PMA). Review and approve data as FAA Consultant DER. FAA delegations include Engines (FAR 33), APU (TSO C77), Powerplant (FAR 23/25/27/29), Structures, and Mechanical Systems (pneumatics, hydraulics, water/waste & wheels/tires/brakes). Assist clients with FAA compliance issues related to new product certification and continued airworthiness. Provide clients with coordination at various FAA offices.

Aerocomponents Engineering LLC, Mesa, AZ 2011 - 2014

President / Quality Manager. Founded company to reverse engineer airframe, mechanical systems and powerplant parts for Boeing and Airbus aircraft. Developed FAA-approved quality manual to support manufacturing and distribution of FAA-PMA replacement parts. Performed duties of quality manager and FAA-DMIR. Primary company contact with FAA-ACO and FAA-MIDO. Sold company in 2013 and stayed on as quality manager / DMIR until 2014.

Star Aero LLC, Tempe, AZ 2008 - 2013

Director of Quality / FAA-DMIR. Developed FAA-approved quality manual to support manufacturing and distribution of FAA-PMA replacement parts. Acted as FAA Designated Manufacturing Inspection Representative (DMIR) and quality manager. Perform FAA conformities and confirm airworthiness of parts via FAA Form 8130-3. Act as primary company contact with FAA-ACO and FAA-MIDO.

Optimum Engineering & Manufacturing, Inc., Phoenix, AZ 2000 - 2006

Founder - General Manager. Designed and manufactured FAA-PMA components for aircraft and engines. Set company policy, provided engineering and materials expertise, supervised engineering and ultimately responsible for entire operation to ensure compliance to all FAA requirements. Act as primary contact with FAA-ACO and FAA-MIDO including FAA designation as DMIR. Submitted and received PMA on 200+ part numbers, including gas turbine hot section components. Sold company to Wencor in 2003 and stayed on as general manager until 2006 under contract.

Precision FliteParts, Inc., Phoenix, AZ 1998 - 2000

President - General Manager. Set company policy, provided engineering direction and supervised entire operation to ensure compliance to FAA requirements. Met with customers and performed market analyses to identify candidate PMA components. Acted as primary contact with FAA-ACO and FAA-MIDO. Submitted and received PMA for 15 gas turbine hot section part numbers.

EXTEX, Ltd., Phoenix, AZ 1998

APU Project Manager. Established APU components as a second product line and built airline customer base from scratch. Responsibilities included market analysis, new product design, FAA substantiation, material procurement, cost / profit analysis and sales to airline customers. Submitted and received PMA on approximately 40 part numbers, including two turbine blades.

Triumph Air Repair, Phoenix, AZ 1995 - 1998

Director - Engineering & Quality Assurance. Set company policy and provided overall direction to Engineering and Quality Assurance for a \$30M operation. Acted as chief engineer, materials/metallurgy expert and final warranty authority. Led team of three engineers and 15 quality inspectors in a FAR 145 repair station. Developed and implemented numerous major repairs of turbine components. Extensive interaction with OEM's, FAA-FSDO, FAA-ACO and airline customers.

Walbar Metals, Inc., Div. of Coltec Industries, Peabody, MA 1994 - 1995

Engineering Manager. Provided Engineering and Production leadership for a \$19M turbine component FAR 145 repair station. Approved technical procedures, standard practices and tool design. Served as primary technical point of contact with turbine component OEM's and approval authorities. Implemented ISO9002 on first attempt.

GE Power Generation, Schenectady, NY 1989 - 1994

Sr. Process Engineer / Technical Leader (Supervisor). Technical leadership for a team of process engineers. Assigned work, established schedules, encouraged self-direction, conducted design reviews and translated company goals to individual contributors. Implemented ISO9001 Quality System certification. Received corporate awards for establishment of new weld development facility. Directed purchase/installation of equipment and implementation of advanced welding processes.

Pratt & Whitney - UTC, West Palm Beach, FL 1979 - 1989

Engineer / Sr. Engineer / Project Engineer (Manager). Received UTC corporate award and two patents for inertia welding technology. Optimized existing technology friction welding into a reliable, predictable joining method for difficult-to-weld alloys via Taguchi "design of experiments". Directed facility modification and strategic planning. Development and application of repair processes including welding, hot isostatic pressing, vacuum plasma spray and TLP bonding.

IBM Corporation, Lexington, KY 1977 - 1979

Development Engineer. Performed complex corrosion studies to support advanced technology programs. Provided metallurgical support in the areas of aqueous based corrosion, fractography, basic material properties and alloy selection.

FORMAL EDUCATION:

B. S. Metallurgical Engineering, 1977 *Summa Cum Laude*
Missouri School of Mines (University of Missouri - Rolla)

PATENTS:

4,903,887
5,111,990