

Jim D. Stewart

Outstanding Accomplishments

- ❖ **Designed a new Light Sport Aircraft** and organized a new company, New Horizons Aircraft, Inc., as the corporate vehicle through which to build the prototype, as well as to manufacture and market the aircraft. Acted as both the Chief Design Engineer and Executive Vice President.
- ❖ **Personally designed and engineered** 70% scale, all metal, fully functional military aircraft replica, the *S51D*. Seventy of the *S-51D kits* were delivered, internationally. Numerous *S-51Ds* have been completed and flown.
- ❖ **Independently designed** a two place, all metal training aircraft known as the Sparrow, for the Swedish National Flying Club. The aircraft complied with the F.A.A. JAR 22 regulations.
- ❖ **Hold a total of 6 patents** for the design of aircraft gas turbine engine components.
- ❖ Technically literate in **AutoCAD 2000**.
- ❖ Technically literate in **SolidWorks 2009**.

Consulting engagements held with **Piper Aircraft**, Lakeland, FL.

Consulting engagements held with **Aerospatiale**, Dallas, TX.

Consulting engagements held with **Electro-Mechanical Division of A.B.A. Industries**, Clearwater, FL.

- ❖ For **Aerospatiale** – designed mechanical components and installation of **single pilot IFR auto pilot for FAA certification in Bell 206 L**.
- ❖ For **Pratt & Whitney Div. UTC**, designed various components for experimental military jet engines.
- ❖ For **Allison Division of GMC**, designed layout and detail design of turbojet, turbofan, ramjet and variable geometry gas turbine engines.
- ❖ As a personal project, **designed an “EAA Bi-Plane” for the Experimental Aircraft Association (EAA)**. The EAA sold more than 6000 sets of plans and this **design was the basis of the “EAA Acro Sport” Aircraft**.
- ❖ Licensed pilot.

Career Summary

Mechanical Design Engineering Consultant

Stewart Aircraft

Wesley Chapel, FL

1979 – Present

- **Provide excellence in both Aviation and Mechanical Design** engineering consulting services. Work is accomplished utilizing **AutoCAD 2000** and **SolidWorks 2009**.

Consultant - Mechanical Design Engineer

Aviation Instrument Technologies, Inc.

Zephyrhills, FL

April 2000 – Present

- **Currently designing test equipment** for F-16 aircraft, utilizing SolidWorks 2009.

Jim D. Stewart

Page 2

- **Designed mechanical components** for flight simulator instruments, military vehicles and multi function key pads. Work is accomplished with AutoCAD 2000 and SolidWorks 2009 as the primary tools. Possess strong desire to expand design work to include new projects and further challenges.

Chief Design Engineer, Member Board of Director, and major stockholder

New Horizons Aircraft, Inc.

Orlando, FL

2005 – 2009

- **Designed a new innovative Light Aircraft** for the new Light Sport Aircraft category. Although no longer involved in daily activities for this company, I remain as the Chief Design Engineer, as well as a member of the Board of Directors and a major stockholder.

Owner, CEO/CTO

Stewart 51, Inc.

Vero Beach, Florida

June 1990 – April 2000

- **Personally designed and engineered a 70% scale, fully functional replica of the P-51D Mustang.** Although somewhat unique in this industry, also funded and built the prototype of this all-metal military aircraft replica, the *S-51D*. On completion of design, a comprehensive, independent **Finite Element Analysis** substantiated this work.

The *Stewart 51* design is widely acclaimed in the experimental aviation community and has been *recognized as the first high-performance aircraft of its type*. The *S-51D* has been featured numerous times in the aviation press and Machine Design for its design, its speed, and its agility during aerobatic maneuvers. Seventy of the *S-51D kits* were delivered, internationally. Numerous *S-51Ds* have been completed and flown. Photos are available upon request.

- In addition to the aircraft itself, also *independently designed the 1,000 HP engine* to propeller gear reduction unit for the *S-51D* which has been successful as well as financially lucrative in its own right.
- After the design phase, created Stewart 51, Inc. the corporate vehicle through which this full metal kit aircraft – *the first prefabricated, all aluminum aircraft kit of its kind* and the gear drive *the first large displacement, high horsepower, liquid cooled power plant to be employed in this type craft* were both manufactured and successfully internationally marketed.

Senior Design Engineer (Grade 48)

Pratt & Whitney

Military Engine Division

Jupiter, Florida

August 1984 – June 1990

- **Hold 3 patents for the design of aircraft gas turbine engine components.** Specifically, acted as preliminary designer of jet engine components such as Vectoring Nozzles, Stealth Nozzles, and various other structural members. Examples include participation in the component design for V-22 aircraft engines, conceptual and detail design of axi-symmetric and spherical omni-vectoring nozzles. In addition to design responsibilities, *supervised new engineers in the mechanical design components*. Began this work as a contract engineer and eventually went direct with Pratt. While in this capacity, *held secret clearance* with the U.S. Government.

Co-Owner, Vice President, CTO

American Powerglider

Lakeland, Florida

October 1982 – July 1984

Jim D. Stewart

Page 3

- ***Independently designed a two place, all metal training aircraft*** known as the Sparrow, for the Swedish National Flying Club. The aircraft complied with the F.A.A. JAR 22 regulations. Additionally, supervised the fabrication and assembly of the prototype and later traveled to Sweden where the aircraft was to be produced as a trainer, the *Sparrow*, for the Swedish Aero Club. Personally *performed a portion of the flight tests* for this aircraft.

CDI Contract Engineer

Air Research Corporation

Garrett Division (for Piper Aircraft)

Lakeland, Florida

December 1981 – August 1982

- ***Designed and directed the CAD loft*** of engine mount, induction system, exhaust system, and nacelles for the **Piper Cheyenne IV Aircraft**.

Design Engineer

Piper Aircraft Corporation

Lakeland, Florida

August 1980 – December 1981

- As an ***independent contract Design Engineer***, designed the control system and emergency escape system for the **Piper Pillan**, a 300 HP military trainer for Chile. Designed new empennage and aft fuselage for the **Piper Enforcer** military aircraft. *Supervised three supporting engineers*.

Design Engineer

S.F.E.N.A. Corp. (Aerospatiale)

Dallas, Texas

July 1979 – December 1979

- As an ***independent contract Design Engineer***, designed the mechanical components for a three axis **Helicopter** auto pilot which was *FAA certificated*.

Design Engineer

Electro-Mechanical Div. Of A.B.A. Industries

Dallas, Texas and Clearwater, Florida

May 1979 – July 1979

- As an ***independent contract Design Engineer***, designed portions of a large, land-based radar pedestal and associated test apparatus.

Co-Owner, Vice President

Huggins Motor Parts, Inc.

St. Petersburg, Florida

February 1959 – December 1979

- Temporarily left the mainstream of aeronautical engineering to assist in the development and day-to-day management of a family owned and operated, privately held corporation. During this tenure, ***continued pursuing education and experience in the aeronautical industry on a non-commercial basis***. Pursuits included beginning development of a liquid cooled aircraft engine that later evolved into the power plant for the *S-51D*.

Preliminary Designer

Allison Div. GMC

Indianapolis, Indiana

June 1950 to February 1959

Jim D. Stewart

Page 4

- Began as a Draftsman and progressed to ***Preliminary Designer*** responsible for the design of turbo jet and turbo prop engine components including compressor blades, turbine blades, burners, compressor cases, etc. During this career phase, *earned three patents*.

Education and Military Service

- University of Illinois Extension, Danville, Illinois- Mathematics
- Mechanical Engineering Correspondence Course 2 years
- United Technologies Corp.-Mechanical Engineering-2 years
- United States Army Killeen Base Assistant Base Engineer - 2 years