Autobiography of JOHN A. GORHAM

Birth Date: August 8, 1922 AMA Number: 54367

Written & Submitted by JWS (3/93) Transcribed by NR (12/99) Edited by SS (2002)

Career:

- Successfully flying the world's finest Radio Controlled (RC) model Vane Controlled VTOL through the complete flight profile
- Designed and manufactured first USA RC helicopters
- Formed and headed-up company that designed and produced first successful 1/5 scale Hind D drone helicopter
- Successful flight guidance and controls engineer in many countries
- Worked with Smith Industries (U.K.), FAA and NASA and many aircraft companies in Europe, U.K. and the U.S.
- Designed and promoted many model aircraft designs in the U.K. and the U.S.

Honors & Patents:

- Elected Chartered Engineer on British Register - 1963
- Elected Fellow of Royal Aeronautical Society – 1991
- Holder U.S. patent #3,589,648 Direct Lift Control for improved glide slope performance
- Elected Associate Fellow of the American Institute of Aeronautics and Astronautics – 1967

The following biography was taken from a Hall of Fame application. The application was submitted by John W. Strobel III on 4/17/93.

I first met John Gorham in 1979 when I filmed the first model helicopter I had ever seen flown. John was flying it. We lost track of each other until 1991 when he joined and became a very active member of the Channel Islands Condors. John has given more to our hobby than anyone I know, from manufacturing to contributing to expanded fields of flight. He is presently involved with successfully flying the world's first RC model vane controlled VTOL through the complete flight profile.

The engineering and modeling techniques that brought this about border on genius and in themselves should be enough to nominate John to the AMA Hall of Fame. I am happy to nominate my friend, mentor and fellow club member John A. Gorham, to the Hall of Fame and hope that electors to that organization will recognize the great contributions John has brought to our hobby. John is not only a dedicated modeler, but also a gentle man who elicits the highest regard from his fellow modelers and illustrates the zenith of modeling achievement. I do not think the AMA could find a better person to add to the illustrious list of modelers who are now members of the AMA Hall of Fame.

Biography

John A. Gorham - Chartered Aeronautical Engineer on the British Register
Fellow of the Royal Aeronautical Society

Associate Fellow A. I.A.A.
Education - Degrees in Engineering

Career Summary

1940-1946	Joint Manager of Royal Air Force R & 0 unit, Madras, India
1948-1954	Chief of Design, Royal Aircraft Establishment Unit, England
1954-1965	Engineering Manager, Smith's Aviation Company, England
1965	Immigrated to the USA - now American citizen
1965-1967	Manager, Advanced Research, ARINC Corporation, Maryland
1967-1972	Assistant Chief Engineer, Flight Guidance, Primary Flight Control Systems and Flight Station for Lockheed L-1 01 1
1972-1997	Founder and owner of Gorham Associates, providing consulting services since 1970 to various NASA centers, FAA and industry on systems design and Alight guidance and control, including all-weather and terminal area operation and the UAV industry. Current member of Aerospace Safety Advisory Panel to NASA.
Currently	Retired

Specific Accomplishments and Contacts

• Royal Air Force - South East Asia Command (six years)

1942-1946 – Organized, set-up and designed all test equipment for a Repair and Overhaul unit to maintain and repair combat aircraft instruments in Madras, India. Successfully operated unit in support of South East Asia Command Air Force flying activities for four years.

• Royal Aircraft Establishment, Blind Landing Unit – England (five years)

As chief designer, designed many airborne and ground systems in support of British government “All Weather Operation” research. This included radio altimeters, heads up displays, flare and roll-out systems.

• Smith’s Aircraft Industries - Cheltenham, England (10 years)

Engineering Manager - Flight Control Systems Branch. Responsible for design test and certification of ground and airborne flight guidance and control systems for 14 civilian and military aircraft types. Led special task team to design, develop and test a new Vmd

control system for Vulcan 'V' bomber to an accelerated schedule of 16 weeks. Responsible for design and certification of Category III Triplex Autoland on British European Airways Trident.

• Lockheed Aircraft Company - Burbank, California (five years)

Assistant Chief Engineer, Commercial Aircraft on L-1011 program. Proposed, developed and was responsible for program to accomplish Cat III All-weather operation on L-1011. Program successful. Aircraft entered service with first certifiable Cat III system on a United States commercial aircraft. Led team of 800 engineers for development, design, test, production and certification of L-1011 flight controls, flight

station, avionics, navigation and electrical systems.

• Gorham Associates – San Marcos, California (1972 to Current)
Provides aviation consulting services on systems design and flight guidance and control to government and industry.

Airline Technical and Operational Groups

• Worked directly with most UK, USA, European and Japanese airlines on flight control and navigation systems, and low weather minima and terminal area operations. Familiar with IATA, ALPA and ARINC activities.

Government Organizations

NASA	1991 – 1997	Consultant member of National Aerospace Safety Advisory Panel
	Headquarters	Chairman TVC (Terminal Configured Vehicles) National panel for two years
	Langley, Virginia,	Consultant various programs
	Ames, San Jose, California	Consultant various programs, including STOLAND
FAA	1990 – 1997	Designated Engineering Representative (DER) to Federal Aviation Administration, approved for Certification Criteria Management of all avionic systems
	Headquarters-Washington, D.C. and Western Region	(Active liaison for 15 years) Team member in formulating first FARs for utilization of probability terms in the certification process
CAA	British Civil Airworthiness Authorities	Committee member in first formulation of the use of probability terms in aircraft/systems certification. General certification activity on many European aircraft

Addendum

The following information was added by John Gorham in 2002.

Modeling Biography of John A. Gorham

Born: August 8, 1922 in Ipswich, United Kingdom
Resident citizen in the U.S. from 1967 to present

1933 to 1939: First model was a tow-launch glider made of spruce and silk; first place at County Model Engineer Static Competition; subsequently built and flew various gliders and rubber-powered Free Flight models made of cane, spruce and paper.

1939 to 1946: Modeling suspended – Overseas service in Royal Air Force during World War II

1946 to 1948: Designed, built and flew various models – indoor, Free Flight, glider and rubber-powered; joined the Society of Model Aeronautic Engineers (SMAE); flew in many local and national competitions.

1948 to 1957: Became president of Ipswich Model Club. Entered various national and international competitions. In 1950 the Ipswich club members became national champions in rubber, glider Free Flight and power categories. John also became British National Open Champion in 1949 and runner-up to one of his own club members in 1950. The Ipswich Club, under John's guidance, became the National Champion Club of 1950.

1954: Selected as U.K. team member for FAI World Free Flight Power Championship; placed fourth in championships in New York County.

1958: Awarded first FAI "C" merit certificate for top performance in glider rubber and Free Flight power. Designed model and published plans for the following:

- Contender, Free Flight power, 1950, won many national competitions
- Ghost, Wakefield, 1951
- Lil Aud, Free Flight power, 1951, featured in Zaics 1951-52 yearbook
- VerTigO, Free Flight power, 1954, placed fourth in the World Model Air Olympics

1958 to 1967: Continued sport flying at local clubs (between studying for aeronautical degrees)

1967: Emigrated to the U.S. to assist in design of the Lockheed SST and L1011 program

1967 to 1979: Built various RC models for sport flying in local club events; busy (chief enginner – flight guidance and control) on Lockheed L-1011 design program so modeling was temporarily suspended.

1979: Resident in Los Angeles, California. While working at Lockheed became interested in RC helicopters and designed and built various helicopters including own designs, Jelly Bean and Cricket. At studio's request, flew Cricket in "All night Long," a Streisand/Hackman movie. Formed Helicopters Anonymous group in early days of RC helicopter flying to explore and promote RC helicopter flying in California with weekly meetings.

1980 to 1990: Gorham Model Product (GMP). Designed and produced many RC helicopters, including Cricket, Hughes 500, Competitor, Cobra, Legend and Viper. GMP was awarded INC 500 in 1983 for one of the fastest growing privately held companies in the U.S. Cricket ultimately sold 16,000 new helicopters that helped considerably in promoting RC helicopter flying all over the world. GMP helicopters took first place in many national and international contests.

1980 to 1985: Helicopter columnist for Radio Control Modeler magazine (RCM). Wrote the "Give it a Whirl" column that helped fly RC helicopters over the world. CEO of GMP and Gorham Drone Helicopter, Inc. (GDH).

1981 to 1989: Promoted and attended many competitions all over the U.S. that further encouraged model helicopter flying.

1986 to 1990: Designed and built a unique 1/5-scale RC Drone, Hind-D, helicopter (see "Jane's All the World's Aircraft," 1986-87, pages 810-811). Production run of 16 for U.S. government. Design adopted for production by Boeing.

1991 to 1993: Various aerospace and NASA consulting activities on stability and control. Continued RC model flying as a hobby, mainly flying larger size fixed wing models. Member of several local clubs.

1992 to 1993: Working as a consultant designed the control system and successfully flew the world's first Grumman designed RC model vane controlled VTOL through the complete flight profile. Continued RC modeling and UAV activities. Consulting activities also extended to many U.S. aircraft control problems working with NASA and FAA.

1993 to present: Retired to San Marcos, California, with wife Louise. President of local model club. RC airplane flying every few days and other delightful modeling activities as wished.

2002: On August 8, became an Octogenarian RC flyer.

Papers and Lectures

IATA ALL-WEATHER CONFERENCE, Lucerne, Switzerland, May 1963
- Performance of the British Autoland System in the FAA DC7
- Automatic Throttle Control Systems for Autoland

JOINT ENGLISH/FRENCH/GERMAN NAVIGATION SYMPOSIUM, Brighton, UK, May 1964
- The Role of the Automatic System in All-Weather Operations

AIAA FLIGHT CONTROL CONFERENCE, Hunstville, Alabama, 1968
- "Where Are We With All-Weather Landings?"

SAE NATIONAL AIR TRANSPORTATION MEETING, New York, April 1969
- Design & Development of the Fail-Operative Automatic Landing System for the Lockheed L-1011

ATA SYMPOSIUM, ALL-WEATHER OPERATIONS COMMITTEE, Washington, DC, May 1969
- "The Use of Airborne Radar as a Monitor of Airplane Landing Operations Under Adverse Weather Conditions"

SAE NATIONAL TRANSPORTATION MEETING, Atlanta, Georgia, May 1971
Development Testing of the L-1011 Independent Landing Monitor

SAE FLIGHT-CONTROL SYMPOSIUM, Miami, Florida, May 1973
Experience with Category II Landing Systems

USSR/US AERONAUTICAL TECHNOLOGY SYMPOSIUM, Moscow, Russia, July 1973
Automatic Flight Control & Navigation Systems of the L-1011

NASA - LANGLEY AND AMES, 1974
The Design Process for Civil Airplane Airborne Flight Control and Navigation Systems

STANFORD UNIVERSITY, May 1975
Design of Complex Avionic Systems in a Civil Airplane Environment

IEEE LECTURE, Los Angeles, April 1976
Future Air Carrier Avionics Requirements & Constraints

STANFORD UNIVERSITY, APRIL 1976
"The last 100 Feet" - Low Visibility Landing Operations

ICAO ALL-WEATHER OPERATIONG GROUP, Atlantic City, April 1976
A Typical TRSB Category III Microwave Landing System Airborne Configuration

STANFORD UNIVERSITY, October 1977
Aircraft Cockpits of the 1980s

NASA HEADQUARTERS, 1991 – 1997
Annual technical reports to Congress regarding Shuttle safety criteria and operation

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