

Henry Howard Haskin
134 Mimosa DR
Williamsburg, VA 23185
Day Phone: 757-864-6939
Email: henry.h.haskin@nasa.gov

**WORK
EXPERIENCE**

NASA Langley Research Center

4/1996 - Present

AST, Experimental Facilities Techniques , 0801

Mr. Haskin serves as a Project / Facility Engineer, Facility Safety Head, and facility expert for the Jet Noise Lab (JNL). The JNL consists of two facilities; the Small Anechoic Jet Facility and the Low Speed Aeroacoustic Wind Tunnel (LSAWT). The LSAWT is a GFTD facility and the Aeroacoustics Branch is the primary customer. In this capacity, he provides the overall direction and technical coordination of multidisciplinary project teams which consists of engineers, technicians, contract administrators, and contractors. Mr. Haskin serves as the principal authority and technical advisor for the Jet Noise Team. The incumbent advises customer on the use of the facility, test techniques and experimental methods, model design and construction, including facility capabilities and limitations. Mr. Haskin is providing the technical lead for fuel systems and propulsion simulation on the Hybrid Wing Body Aeroacoustic test in 14x22 Subsonic Wind Tunnel. This test is part of the Environmentally Responsible Aviation Project's Integrated Systems Research Program. This effort is concurrent with supporting the JNL.

Specific job functions include:

- Research team technical lead for model and facility issues
- The incumbent provides the engineering services for the JNL as described in LMS-CP-5620, Facility Systems Engineering Process. Depending on the schedule and cost constraints, he will either manage the team performing the work or do the work.
- Model fabrication development, work with in-house or contract shops to invent processes by which the required test articles can be manufactured.
- Develop new test hardware by working with the customer to convert their desired test parameters into affordable hardware configurations.
- Transfer high temperature engine model design and fabrication technology to industry and other NASA centers.
- Produce the required 3D models of the test hardware concepts
- Provide tactical engineering as required during facility operations, assist operators when a new model configuration is being run to refine the test operation mode.
- Advocate for the JNL to obtain center resources (maintenance support, technician support, high pressure air, CoF marketing).

Facility Safety Head Functions:

- Technical review of models and facility upgrades, approval of the hardware, documentation and testing conditions for each test performed at JNL.
- The incumbent is the responsible individual for the safe operation of the Jet Noise Laboratory.
- The incumbent works with the operators to develop standard operating procedures, training plans, operator qualifications, reviewing the operators for qualification, developing check out plans for activation after upgrades. -
- Conduct reviews of the facility to identify when new products or methods can enhance the efficiency and safety of the Jet Noise Lab.

(Contact Supervisor: Yes, Supervisor's Name: Charlotte Whitfield, Supervisor's Phone: 757-864-5172)

NASA Langley Research Center

5/1990 - 4/1996

**AST, Experimental Facilities Development , 0801
Project Manager**

Responsible for: managing a design team for complex integrated facility systems projects, conceptual design of facility upgrades, oversight of final design and Contracting Officer's Technical Representative (COTR) during construction, develop conceptual design and cost estimates of proposed tests for annual budget submittals, detail design of models as required or liaison /oversight of contractor in final design and fabrication. Work with shops to develop ways to build hardware required in lab. Typical projects included the following.

- Acted as task monitor for the design of the Low Speed Aeroacoustic Wind Tunnel (LSAWT), then revised design to correct a major design error after contract roll over. Acted as COTR for the fabrication contract. Construction was completed on time and within budget.

- Acted as COTR for the contract to provide the wind tunnel drive system for LSAWT. The contract was terminated for default when it failed to meet vibration requirements, won appeal, repaired drive for \$17K over retained funds from contract.

- Acted as project manager for the FY-94 Construction of Facilities project, "Upgrades to the Jet Noise Lab for Forward Flight". Mr. Haskin was COTR for the contract. The project integrated seven projects under one installation contract that built the LSAWT facility. The total project cost \$6.2 million dollars.

- Axi-Symmetric Co Annular Exhaust nozzle test was joint effort with Boeing. Mr. Haskin developed hardware concepts and detail designs. The hardware was built under the models contract. Phased delivery of parts allowed initial test results to modify later part designs.

- During the four-month test at Boeing's wind tunnel we progressed to 3rd generation hardware. Mr. Haskin coordinated the hardware design with the Principle Investigator and the fabrication contractor. Innovative fabrication methods were developed to produce the required hardware.

- 2Dimensional Supersonic Nozzle system, Developed concept and monitored contractor. Helped to develop fabrication methods for nickel super alloys with contractor. (Contact Supervisor: Yes, Supervisor's Name: Michael D. Mastaler, Supervisor's Phone: (757) 864-6931)

Emhart, Planning Research Corp

8/1989 - 5/1990

Project Manager

This job was a short-term position taken while waiting for a slot to open as a civil servant at Langley Research Center. The tasks started here were completed as a civil servant.

The incumbent was responsible for: converting vague research requirements into workable concepts, managing the design team, the design of complex integrated systems, cost estimates and schedules, documentation of the job, presentations at project reviews. Two typical tasks are identified below:

Preliminary Design FY-94CoF Upgrades to the Jet Noise Lab for Forward Flight, drive study for open circuit anechoic wind tunnel. Axisymmetric Inverted Velocity Profile nozzle design and installation upgrades to the Jet Noise Laboratory to accommodate testing. (Contact Supervisor: Yes, Supervisor's Name: Jeffrey M. Newton)

MicroCraft Inc

6/1985 - 9/1989

Project Manager

Mr. Haskin worked on many wind tunnel model designs for subsonic through hypersonic speed ranges. Model designs called for innovation in several areas to meet the test requirements. Typical examples of this model class include: a new wing for Pathfinder II (a NTF cryogenic baseline model), various missile and aircraft models for Unitary Tunnel, and a Generic NASP propulsion model for 16'TT. Mr. Haskin also managed a super sonic combustion ram jet engine model design to be tested at the NASA Glenn Research Center 10 x 10' supersonic tunnel and at the LaRC 8 Foot high temperature tunnel.

This model includes integration of several systems: a 1300F hydrogen supply, hydraulically driven valves and nozzle positioning hardware, a data acquisition system, and having the model survive 5000F combustion temperatures along with a tunnel ambient temperature of 3600F. (Contact Supervisor: Yes, Supervisor's Name: Ray L. Knowis, Supervisor's Phone: retired)

Engineering Incorporated

8/1981 - 6/1985

Project Engineer

Major portions of Mr. Haskin's efforts were devoted to system designs for NASA LaRC facilities under an engineering support contract. Projects ranged from mechanical systems for positioning wind tunnel models to cryogenically cooled vacuum chambers with heaters to simulate space reentry conditions. The Unitary model support system upgrade provided system engineering to automated a five-axis mechanical system and increased load capacity. The Unitary Tunnel effort also included being a test case application of the wind tunnel model systems design criteria to model support systems. The lessons learned were incorporated into the next update of the Model Systems Criteria. The rehabilitation of the 20-inch Supersonic Wind Tunnel test cabin involved recertifying the 1941 vintage test cabin to current pressure vessel design code and modifying non-compliant hardware. A reusable fast acting pressure relief device was developed to protect the flexible plate wind tunnel nozzle from over pressurization. The device was then ASME certified by NASA. Typical vacuum systems projects included: designing and building a high altitude test chamber to study contrail formation, preliminary design of a Vacuum Test Chamber to simulate reentry conditions for NASP structures, Design of an Aluminum Atomizer for powder metal production, and rehabilitation of a vacuum furnace to provide heated molds for investment casting. Mr. Haskin's commercial design work during this time was: design of slide gate valves to control water height in dam, design of a spotting dolly (tow tractor) for moving and parking aircraft, design of an automated dock gangway which compensates for 16 foot elevation changes during loading of an oil tanker. (Contact Supervisor: Yes, Supervisor's Name: Thomas J. Quenville, Supervisor's Phone: (757) 864-7286)

Goodyear Tire & Rubber Co

4/1979 - 6/1981

Machine Designer

He was involved in designing tire building machine components and subsystems. Project responsibility grew from simple component scaling from a passenger car machine to a heavy truck size, up to redesign of a first stage tire building machine. Equipment designs included control designs based on hardwired relay logic, and pneumatic logic systems. (Contact Supervisor: Yes, Supervisor's Name: Maxwell Brinkley, Supervisor's Phone: (330) 796-2121)

EDUCATION

Virginia Polytechnic Institute and State University
Blacksburg, Virginia US
Bachelor's Degree - 3/1979
Major: Mechanical Engineering

AFFILIATIONS

Systems Operations Committee	Panel Member
American Institute of Aeronautics and Astronautics	Member

PROFESSIONAL PUBLICATIONS

Kinzie, K.W., Henderson, B.S., and Haskin, H.H., Aeroacoustic Properties of Model Jet Test Facility Flow Conditioners, AIAA Paper 2005-3055, Presented at the 11th AIAA/CEAS Aeroacoustics Conference, Monterey, CA, 2005

Henderson, B.S., Kinzie, K.W., and Haskin, H.H., Effects of Nozzle Trailing Edge Thickness on Jet Noise, AIAA Paper 2004-2948, Presented at the 10th AIAA/CEAS Aeroacoustics Conference, Manchester, England, 2004

Seiner, J.M., Ponton, M.K., Haskin, H.H., Application of Micromanipulators for Suppression of Supersonic Jet Noise, Research Technology Highlights, 1993, NASA, NASA Technical Memorandum 4575

Doty M. J., Haskin H. H., Investigation of Flow Conditioners for Compact Jet Engine Simulator Rig Noise Reduction, AIAA Paper 20011-2791. Presented at the 32'nd AIAA Aeroacoustics Conference, June 2011

Doty M. J., Haskin H. H., Acoustic Characterization of Compact Jet Engine Simulator Units. AIAA Paper 2013-2035, Presented at 19'th AIAA/CEAS Aeroacoustics Conference, May 2013

Heath S. L., Brooks T., Hutchenson F., Doty M.J., Haskin H. H., Spalt T., Bahr C., Burley C., Bartram S., Humphreys W., Lunsford C. B., Popernack T., Colbert S., Hoad D., Becker L., Stead D., Kuchta D., Yeh L., Hybrid Wing Body Aircraft Acoustic Test Preparations and Facility Upgrades. AIAA Paper 2013-2623, Presented at 28'th AIAA Aerodynamic Measurement Technology Ground Testing and Flight Testing Conference, June 2013.