

# Becker, John V. Papers

John V. Becker Papers

1936-1980, n.d.



## Title Statement

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## Descriptive Summary

### Unit ID

Ms.1990.052

### Unit Date

1936-1980, n.d.

### Language

The materials in the collection are in English.

### Abstract

The John V. Becker Papers include correspondence, notes, memoranda and other materials related to NACA and NASA programs with which Becker was associated, including the X-1, X-15, X-20 (or Dyna-Soar) programs; research files for The High-Speed Frontier; transcripts of oral history interviews; and copies of publications and lectures by Becker, created between 1936 and 1980.

### Creator

Becker, John V. (John Vernon), 1913-2020

### Extent

5.4 Cubic Feet 4 boxes

### Physical Location

**Please note:** This collection is in off-site storage and requires 2-3 days notice for retrieval. Please contact Special Collections and University Archives for more information.

## Repository

Special Collections and University Archives, Virginia Tech

# Administrative Information

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## Source of Acquisition

The John V. Becker Papers were donated to Special Collections in 1990.

## Processing Information

The initial processing, arrangement, and description of the John V. Becker Papers was completed in 1990. Additional description, re-housing of the collection, and the creation of series was completed in August 2018.

## Preferred Citation

Researchers wishing to cite this collection should include the following information: [identification of item], [box], [folder], John V. Becker Papers, 1936-1980, n.d., Ms1990-052, Special Collections and University Archives, Virginia Tech, Blacksburg, Va.

# Biographical Note

John Vernon Becker was born in Albany, New York, in 1913. He graduated from NYU in 1935 with a degree in mechanical engineering and an MS in 1936. He began working at National Advisory Committee for Aeronautics (NACA) in the Langley Memorial Aeronautical Laboratory later that year. During his career, he served as . Head of the 16-ft. Wind Tunnel Branch (1943-1947), chief of the Compressibility Research Division (1947-1957), and chief of the Aero-Physics Research Division (1958-1974) at NACA and NASA-Langley. He was a specialist in hypersonic and reentry aerodynamics and a pioneer in the development of hypersonic research aircraft, including the X-15. Becker retired from NASA in 1974. He was elected a fellow of the American Institute of Aeronautics and Astronautics. In 1980, he authored *The High-Speed Frontier: Case Histories of Four NACA Programs, 1920-1950* (Washington, DC: NASA, 1980). He died in 2020.

A longer biography of Becker is available on the NASA website: <https://www.nasa.gov/centers-and-facilities/langley/john-v-becker/>.

See also Becker's obituary online at <https://www.legacy.com/us/obituaries/dailypress/name/john-becker-obituary?id=14163893>.

# Scope and Content

The John V. Becker Papers contain correspondence, notes, memoranda and other materials related to NACA and NASA programs with which Becker was associated, including the X-1, X-15, X-20 (or Dyna-Soar) programs, research files for *The High-Speed Frontier* and other writings, transcripts of oral history interviews, and copies of publications and lectures by Becker. The majority of materials were created between 1936 and 1980, with the bulk dated between 1946 and 1976. There are also undated materials, but based on their content, they date to the same active time period of Becker's career.

# Keywords

Archives of American Aerospace Exploration (AAAE)

Aerospace engineers

Science and Technology

# Rights Statement for Archival Description

## Arrangement

The John V. Becker Papers are in their original order. Since this order grouped like materials together, series were added to help navigate the collection.

Series I: Biographical Information and Correspondence, 1936-1976, n.d., contains resumes, interviews with Becker, correspondence, and materials about his retirement.

Series II: Writings and Authored Studies, 1970-1980, n.d., includes books, reports, and studies written by Becker and reviews about those works. In addition, this series has writings by colleagues on which Becker commented.

Series III: Talks and Presentations, 1946-1976, consists of talks and presentations given by Becker between 1946 and 1976. These include presentations given to the public (at conferences or invited events), as well as presentation given in the context of his job (for the military, NASA, and corporate partners).

Series IV: Research and Meeting Files, 1954-1974, n.d., contains research and subject files on various projects from Becker's career including, but not limited to, wind tunnels, hypersonic and supersonic flight, the X-15 (and precursors and successors), Dyna-Soar, and active cooling programs. In addition, this series contains notes from meetings with supervisors, project partners, committees. This series may also have correspondence not located in Series I.

## Description of Subordinate Components

### **Series I: Biographical Information and Correspondence**

**Unit Date** 1936-1976, n.d.

#### **Biographical data, resumes, etc.**

**box-folder** 1 (box)

**Container** 1 (folder)

#### **Interviews: May 27, 1973-Walt Bonney; February 10, 1976-Gene Emme**

**box-folder** 1 (box)

**Container** 2 (folder)

#### **List of Publications**

**box-folder** 1 (box)

**Container** 3 (folder)

#### **Correspondence, Miscellaneous**

**box-folder** 1 (box)

**Container** 4a-4b (folder)

#### **Correspondence, Appointments to advisory groups, committees**

**Unit Date** 1936-1974

**box-folder** 1 (box)

**Container** 4c (folder)

#### **Correspondence, Banquets & Awards**

**box-folder** 1 (box)

**Container** 4d (folder)

#### **Retirement**

**Unit Date** 1975-1990

**box-folder** 1 (box)  
**Container** 4e (folder)

## **Series II: Writings and Authored Studies**

**Unit Date** 1970-1980, n.d.

### **Roland's NACA History-JVB Comments**

**box-folder** 1 (box)  
**Container** 5a (folder)

### **Hansen's Langley History**

**box-folder** 1 (box)  
**Container** 5b (folder)

### **Book Review-Hallion's Dryden History**

**box-folder** 1 (box)  
**Container** 5c (folder)

### **HRE Hindsight Study-Pre-HRE Scram jet res., aerospace plane**

**box-folder** 1 (box)  
**Container** 6a (folder)

### **HRE Hindsight Study-Contract, Report correspondence**

**box-folder** 1 (box)  
**Container** 6b (folder)

### **HRE Hindsight Study-Coord. National Programs**

**box-folder** 1 (box)  
**Container** 6c (folder)

### **HRE Hindsight Study-Final Report**

**box-folder** 1 (box)  
**Container** 6d (folder)

### **HRE Hindsight Study-Comments**

**box-folder** 1 (box)  
**Container** 6e (folder)

### **DuPont Engine Study**

**Unit Date** 1970-1977  
**box-folder** 1 (box)  
**Container** 6f (folder)

### **The High-Speed Frontier-Correspondence, proposals, contract**

**box-folder** 1 (box)  
**Container** 7a (folder)

### **The High-Speed Frontier-Interviews**

**box-folder** 1 (box)  
**Container** 7b (folder)

### **The High-Speed Frontier-Sample taped interviews**

**The High-Speed Frontier-Sample taped interviews**

**box-folder** 1 (box)

**Container** 7c (folder)

**Unused writings for SP445**

**box-folder** 1 (box)

**Container** 7d (folder)

**The High-Speed Frontier (NASA SP445)-2 reviews**

**Unit Date** 1980

**box-folder** 1 (box)

**Container** 7e (folder)

**Reviews and comments on The High-Speed Frontier**

**box-folder** 1 (box)

**Container** 7f (folder)

**The Development of Winged Reentry Vehicles**

**box-folder** 1 (box)

**Container** 8 (folder)

**Series III: Talks and Presentations**

**Unit Date** 1946-1976

**Aviation Writers Association talk**

**Unit Date** 2/7/1946

**box-folder** 1 (box)

**Container** 9a (folder)

**"Problems in Newer Fields of Fluid Mechanics"**

**Unit Date** December 29, 1949

**box-folder** 1 (box)

**Container** 9b (folder)

**"States of 2-Dimension Transonic Research"**

**Unit Date** June 1950

**box-folder** 1 (box)

**Container** 9c (folder)

**Chairman's remarks**

**Unit Date** October 2-3, 1951

**box-folder** 1 (box)

**Container** 9d (folder)

**"Scale Effects at Supersonic Speeds"**

**Unit Date** September 1953

**box-folder** 1 (box)

**Container** 9e (folder)

**"Supersonic Heat Transfer on Flared Bodies"**

**Unit Date** January 19, 1956

**box-folder** 1 (box)

**Container** 9f (folder)

**"Future Aircraft,**

**Unit Date** March 28, 1956

**box-folder** 1 (box)

**Container** 9g (folder)

**"Hypersonic Gliders," May 1, 1957; "The Coolant Requirements of Hypersonic Gliders"**

**Unit Date** November 4, 1957

**box-folder** 1 (box)

**Container** 9h (folder)

**"Winged Configurations for Manned Satellites"**

**Unit Date** March 1958

**box-folder** 1 (box)

**Container** 9i (folder)

**"Reentry" lecture**

**Unit Date** November 26, 1958

**box-folder** 1 (box)

**Container** 9j (folder)

**"Comparisons of X-15, Mercury and Dyna-soar"**

**Unit Date** February 10, 1959

**box-folder** 1 (box)

**Container** 9k (folder)

**"Comparative Studies of Reentry Vehicles"**

**Unit Date** April 7, 1959

**box-folder** 1 (box)

**Container** 9l (folder)

**"Manned Hypersonic Vehicles"**

**Unit Date** 1959-1960

**box-folder** 1 (box)

**Container** 9m (folder)

**"State of the Art 1959 Manned Reentry Vehicles"**

**Unit Date** July 28, 1959

**box-folder** 1 (box)

**Container** 9n (folder)

**"Reentry" lecture**

**Unit Date** September 9, 1959

**box-folder** 1 (box)

**Container** 9o (folder)

**"Supersatellite Reentry"**

**Unit Date** December 2-4, 1959

**box-folder** 1 (box)

**Container** 9p (folder)

**"Reentry R & D"**

**Unit Date** 1960-1961

**box-folder** 1 (box)

**Container** 9q (folder)

**"Trajectory Control-Reentry at Escape Speed"**

**Unit Date** June 21, 1961

**box-folder** 1 (box)

**Container** 9r (folder)

**"Reentry from Lunar Missionsm"**

**Unit Date** August 5, 1961

**box-folder** 1 (box)

**Container** 9s (folder)

**"Reentry from Lunar Missions"**

**Unit Date** September 8, 1961

**box-folder** 1 (box)

**Container** 9t (folder)

**RESA lecture**

**Unit Date** October 17, 1961

**box-folder** 2 (box)

**Container** 1 (folder)

**"Facilities for Hypersonic Research"**

**Unit Date** September 14, 1962

**box-folder** 2 (box)

**Container** 2 (folder)

**"Reentry from Deep Space Missions"**

**Unit Date** October 17, 1963

**box-folder** 2 (box)

**Container** 3 (folder)

**OART studies**

**Unit Date** June 25, 1964

**box-folder** 2 (box)

**Container** 4 (folder)

**"Studies of High L/D Hypersonic Config ICAS IV"**

**Unit Date** August 8, 1964

**box-folder** 2 (box)

**Container** 5 (folder)

**"Research on Hypersonic Aircraft"**

**Unit Date** January 14, 1966

**box-folder** 2 (box)

**Container** 6 (folder)

**"Fluid Mechanics Problems of Hypersonic Aircraft"**

**Unit Date** August 28-31, 1966

**box-folder** 2 (box)

**Container** 7 (folder)

**"The Evolution of Lifting Body R.V.s"**

**Unit Date** December 1967

**box-folder** 2 (box)

**Container** 8 (folder)

**"A Critical Look at the R & D of Hypersonic Aircraft"**

**Unit Date** October 24, 1967

**box-folder** 2 (box)

**Container** 9 (folder)

**"Research and Development for Long Range Supersonic Aircraft"**

**Unit Date** November 1, 1968

**box-folder** 2 (box)

**Container** 10a (folder)

**"X-15 in Retrospect"**

**Unit Date** December 4-5, 1968

**box-folder** 2 (box)

**Container** 10b (folder)

**"Research and Project Management"**

**Unit Date** March 13, 1970

**box-folder** 2 (box)

**Container** 11 (folder)

**\_Hypersonic Technology\_ Briefings for G. Low, June 8, 1970, and D. Nicks**

**Unit Date** April 23, 1970

**box-folder** 2 (box)

**Container** 12 (folder)

**ICAS VII**

**Unit Date** September 1970

**box-folder** 2 (box)

**Container** 13 (folder)

**Aeronautical Research Beyond Mach 3**

**Unit Date** July 15, 1971

**box-folder** 2 (box)

**Container** 14 (folder)

## **NASA/OAST Hypersonic Technology Programs**

**Unit Date** 1973

**box-folder** 2 (box)

**Container** 15 (folder)

### **"Actively Cooled Hypersonic Aircraft"**

**Unit Date** May 18, 1972

**box-folder** 2 (box)

**Container** 16 (folder)

### **"Transport A/C Opportunities Beyond the M-2.7 SST"**

**Unit Date** July 27, 1973

**box-folder** 2 (box)

**Container** 17 (folder)

### **"Hypersonic Technology"**

**Unit Date** March 19, 1974

**box-folder** 2 (box)

**Container** 18 (folder)

### **"Reflections on Hypersonics"**

**Unit Date** December 5, 1976

**box-folder** 2 (box)

**Container** 19 (folder)

## **Series IV: Research and Meeting Files**

**Unit Date** 1954-1974, n.d.

### **Langley Wind Tunnel Development**

**box-folder** 2 (box)

**Container** 20a (folder)

### **4-ft Supersonic Tunnel**

**box-folder** 2 (box)

**Container** 20b (folder)

### **60,000 hp Compressor for 4ft Supersonic Tunnel-Design, manufacture, test photos**

**box-folder** 2 (box)

**Container** 20c (folder)

### **Analysis of Ram-Jet-powered wind tunnel**

**box-folder** 2 (box)

**Container** 20d (folder)

### **Use of gases other than air in hypersonic tunnels**

**box-folder** 2 (box)

**Container** 20e (folder)

### **Alternates to slotted throats for transonic testing in 16 ft tunnel**

**box-folder** 2 (box)

**Container** 20f (folder)

**Isentropic Compressor****Unit Date** 1953**box-folder** 2 (box)**Container** 20g (folder)**11-inch Hypersonic Wind Tunnel-conception, progress reports, early research, initial design****box-folder** 2 (box)**Container** 20h (folder)**11-inch Hypersonic Wind Tunnel-photos****box-folder** 2 (box)**Container** 20i (folder)**11-inch Hypersonic Wind Tunnel-Tests, tech reports, transfer to Virginia Tech****box-folder** 2 (box)**Container** 20j (folder)**X-1 research airplane (conceptual predecessor to X-15)****box-folder** 2 (box)**Container** 21a (folder)**Langley pre-X-15 study of 1954****box-folder** 2 (box)**Container** 21b-c (folder)**Bell aircraft and Douglas visitors****Unit Date** 1964**box-folder** 2 (box)**Container** 21c (folder)**Project 1226 (X-15)****Unit Date** 1955**box-folder** 2 (box)**Container** 21d (folder)**X-15 Evaluation of contract proposals****Unit Date** 1955**box-folder** 2 (box)**Container** 21e (folder)**X-15 Design phase (samples)****box-folder** 2 (box)**Container** 21f (folder)**X-15, Advances in technology****box-folder** 2 (box)**Container** 21g (folder)**X-15 Follow-on program, termination****box-folder** 3 (box)

**Container** 1 (folder)

## **X-15**

**box-folder** 3 (box)

**Container** 2 (folder)

## **X-15 History, retrospective assessment**

**box-folder** 3 (box)

**Container** 3 (folder)

## **X-15 Sample correspondence**

**box-folder** 3 (box)

**Container** 4 (folder)

## **Hypersonic Research Airplane Study**

**Unit Date** 1956-1957

**box-folder** 3 (box)

**Container** 5a (folder)

## **Round III meetings**

**Unit Date** October 16-18, 1957

**box-folder** 3 (box)

**Container** 5b (folder)

## **"Minimum Manned Satellite," WADC Briefings**

**Unit Date** January 30-31, 1958

**box-folder** 3 (box)

**Container** 6 (folder)

## **Dyna-soar, X-20 Concept**

**Unit Date** 1958-1959

**box-folder** 3 (box)

**Container** 7a (folder)

## **X-20 Controls**

**box-folder** 3 (box)

**Container** 7b (folder)

## **Dyna-soar correspondence**

**Unit Date** 1959-1962

**box-folder** 3 (box)

**Container** 7c (folder)

## **Korycircki Log of Key Dyna-soar Office Activities**

**Unit Date** 1957-1962

**box-folder** 3 (box)

**Container** 7d (folder)

## **RVX-2, Proposed flight tests to validate Dyna-soar heating and aerodynamics**

**box-folder** 3 (box)

**Container** 7e (folder)

**Dyna-soar related ASAF's Asset Project****box-folder** 3 (box)**Container** 7f (folder)**Dyna-soar Reviews****box-folder** 3 (box)**Container** 7g (folder)**Dyna-soar Briefings****Unit Date** 1962**box-folder** 3 (box)**Container** 7h (folder)**Dyna-soar Final Crises and Demise****Unit Date** 1963**box-folder** 3 (box)**Container** 7i (folder)**Dyna-soar Problem Areas remaining for R&D****box-folder** 3 (box)**Container** 7j (folder)**1968 Hypersonic Research Airplane study****box-folder** 3 (box)**Container** 8a (folder)**1972 Hypersonic Research Airplane reviews****box-folder** 3 (box)**Container** 8b (folder)**Hypersonic Research Airplane industry field trip****Unit Date** June 1972**box-folder** 3 (box)**Container** 8c (folder)**"MARV" proposal****Unit Date** 1973**box-folder** 3 (box)**Container** 8d (folder)**X-24C approach to a hypersonic research airplane****Unit Date** 1974, 1976**box-folder** 3 (box)**Container** 8e (folder)**NASA/USAF position paper advocating a hypersonic research airplane****Unit Date** 1976**box-folder** 3 (box)**Container** 8f (folder)

**Lunar Mission Steering Group****box-folder** 3 (box)**Container** 9 (folder)**Reentry Research Steering Committee****Unit Date** 1960**box-folder** 3 (box)**Container** 10a (folder)**Reentry flight tests****Unit Date** January 7, 1961**box-folder** 3 (box)**Container** 10b (folder)**Reentry Flight Program Presentations****Unit Date** November 7, 1960**box-folder** 4 (box)**Container** 1 (folder)**RVX-2 Proposal****Unit Date** April 1, 1960**box-folder** 4 (box)**Container** 2 (folder)**Reentry Flight Tests-supercircular speed, project fire****box-folder** 4 (box)**Container** 3 (folder)**Airbreathing Launch Vehicle Studies****box-folder** 4 (box)**Container** 4 (folder)**Supersonic Transport R&D; Hypersonic Transport R&D; Critique of OART Program****box-folder** 4 (box)**Container** 5a (folder)**OART Management Council Reviews Hypersonic Technology Program****Unit Date** 1971-1973**box-folder** 4 (box)**Container** 5b (folder)**Joint NASA/USAF Hypersonic Program****Unit Date** November 9, 1962**box-folder** 4 (box)**Container** 6a (folder)**USAF/NASA Scramjet Programs Reviews****Unit Date** 1965-1967**box-folder** 4 (box)**Container** 6b (folder)

**USAF/NASA Review of AEDC Triplet Facility****Unit Date** 1966**box-folder** 4 (box)**Container** 6c (folder)**AACB-DOD/NASA Joint Study, Hypersonic Technology****Unit Date** September 1972**box-folder** 4 (box)**Container** 6d (folder)**DOD/NASA Joint Reviews, Supersonic/Hypersonic Programs****Unit Date** 1973-1974**box-folder** 4 (box)**Container** 6e (folder)**Active Cooling Aircraft Proposal-History and initial publications****Unit Date** 1966-1974**box-folder** 4 (box)**Container** 7a (folder)**Symposium on Active Cooling Airframes****Unit Date** November 17, 1970**box-folder** 4 (box)**Container** 7b (folder)**Active Cooling Structures Program****Unit Date** November 21, 1972**box-folder** 4 (box)**Container** 7c (folder)**Active Cooling Inter-directional Group****Unit Date** 1974**box-folder** 4 (box)**Container** 7d (folder)**Active Cooling Program and Reviews****Unit Date** 1972-1973**box-folder** 4 (box)**Container** 7e (folder)**Reorganizations****Unit Date** 1969-1974**box-folder** 4 (box)**Container** 8a (folder)**Exchanges with director****box-folder** 4 (box)**Container** 8b (folder)

**Airlie House Retreats****Unit Date** 1970-1971**box-folder** 4 (box)**Container** 8c (folder)**Williamsburg Retreat****Unit Date** 1974**box-folder** 4 (box)**Container** 8d (folder)**LRC Aircraft Design Steering Committee-Critiques of Aeronautics Program****box-folder** 4 (box)**Container** 8e (folder)**Director's Reviews Aero-physics Division, 1968; Hypersonic Division****Unit Date** 1972**box-folder** 4 (box)**Container** 8f (folder)**Committee on Studies & Analogues****Unit Date** 1973**box-folder** 4 (box)**Container** 8g (folder)**Technical Report Survey, Theoretical vs. Experimental****box-folder** 4 (box)**Container** 8h (folder)