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## INVENTORY TO THE RALPH S. JOHNSON PAPERS 1924-2010

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Compiled by: Mary A. Segó

## Descriptive Summary

<b>Creator Information</b>	Johnson, Ralph S., 1906-2010
<b>Title</b>	Ralph S. Johnson papers
<b>Collection Identifier</b>	MSA 25
<b>Date Span</b>	1924-2010, predominant 1930-1947
<b>Abstract</b>	Engineering drawings, articles, papers, newspaper clippings, awards, honorary Doctorate of Engineering from Purdue University, memoirs and biographical information, along with photographs, albums and scrapbooks which document the pioneering aviation career of Ralph S. Johnson.
<b>Extent</b>	14.05 cubic feet (21 mss boxes, 4 cubic foot boxes, 2 large flat boxes, 2 small boxes, one tube and 2 items)
<b>Finding Aid Author</b>	Mary A. Segó, 2009
<b>Languages</b>	English
<b>Repository</b>	Virginia Kelly Karnes Archives and Special Collections Research Center, Purdue University Libraries

## Administrative Information

<b>Location Information:</b>	ASC
<b>Access Restrictions:</b>	Collection is open for research
<b>Acquisition Information:</b>	Donated by Abra Johnson Parkhurst, May 9, 2008 and Alan Johnson, son of Ralph S. Johnson, February 12, 2010
<b>Accession Number:</b>	20080509, 20100212
<b>Preferred Citation:</b>	MSA 25, Ralph S. Johnson papers, Archives and Special Collections, Purdue University Libraries
<b>Copyright Notice:</b>	Purdue University, per deed of gift

**Related Materials  
Information:**

Ralph S. Johnson Interview, Oral History  
<http://earchives.lib.purdue.edu/u?/oralhist,55>

## Subjects and Genres

### Persons

Johnson, Ralph S., 1906-

### Organizations

Purdue University

United Air Lines

United State Army

Flight Archives at Purdue University

### Topics

Flight--United States

Test Pilot

Aerospace engineering

### Form and Genre Types

Articles

Artifacts

Awards

Cassettes, Audio

Clippings

Correspondence

Engineering drawings

Flight logs

Miscellaneous pieces

Notebooks

Papers

Photographs

Publications

Scrapbooks

### Occupations

Test Pilot

Mechanical Engineer

## Biography of Ralph S. Johnson, 1906-2010

Ralph S. Johnson was born in Goodland, Indiana in 1906, where he grew up on a farm. His parents were John W. Johnson and Helen Johnson. Having been influenced by his uncle, Hartley Rowe, a Purdue graduate who became a famous engineer who helped build the Panama Canal, Johnson also decided to attend Purdue University. While at Purdue, Ralph was a member of R.O.T.C., Acacia fraternity, the Debate Team, Kappa Phi Sigma, Purdue Little Theater, Purdue Independent Association, and he worked his way through Purdue working at the Union, as a food server. He graduated from Purdue in 1930 with a Bachelor of Science degree in Aeronautical and Mechanical Engineering.

Ralph Johnson's flying career began in 1930 after graduating from Purdue. He became an Army pilot, one of only four to complete the rugged flight program. He was chosen as personal pilot for General Wyman, Commander of the U.S. National Guard and Reserve Units.

In 1933 he became a "mate" (co-pilot) flying Ford Tri-Motors for National Air Transport, which was absorbed by United Air Lines. He was named chief pilot in 1935.

During the early years of WWII, he was responsible for developing and testing a myriad of programs all aimed toward air safety. He flew hundreds of Boeing B-17s, B-24s, C-87s, DC-4s and PBYS modified by United's Modification Center in Cheyenne. He developed the stabilized approach taught to all USAF multi-engine pilots and produced a movie called, "All Weather Flying Methods" used by all the training commands.

At the end of the War, United moved to San Francisco. Johnson elected to stay in Wyoming. He invented spraying equipment to adapt war planes for use in agricultural aerial application. He also served two terms in the Wyoming State Legislature.

His many and varied contributions to the aviation industry are the legacy of Captain Ralph S. Johnson. He has won numerous awards over the years, and Purdue University awarded him an honorary Doctorate of Engineering in 2008. Ralph S. Johnson died in Tempe, Arizona on January 12, 2010 at the age of 103.

*Sources:*

Excerpts taken from his Oral History interview:  
<http://earchives.lib.purdue.edu/u/?oralhist,55>

Text was also taken from the Wyoming Aviation Hall of Fame Certificate Johnson was awarded in 1995.

## Collection Description

### Scope

The Ralph S. Johnson papers (1924-2010; 14.05 cubic feet (21 mss boxes, 4 cubic foot boxes, 2 large flat boxes, 2 small boxes, one tube and 2 items) document the pioneering aviation career of Ralph S. Johnson. Included among the papers are aeronautical engineering drawings done by Johnson, along with articles and papers authored by him. The newspaper clippings, awards, and honorary Doctorate of Engineering from Purdue University focus on the latter part of his career, as he was being recognized as an aviation pioneer. The biographical information was often collected and written by the authors, as a part of a nomination for an award. His memoirs provide a unique look into his life at this time period in aviation history. Most of the photographs represent the planes he flew during his career, along with incredible aerial shots taken during his training days. The collection contains a wealth of information regarding flight history and safety during the 1930s and 1940s.

The papers are arranged into six series:

Series 1. Papers, Engineering Drawings, and Articles, 1929-2009 (3.25 cubic feet). This series of the Ralph Johnson papers has a strong focus on the unique air safety contributions he made to aviation and aeronautical engineering. Included are Johnson's engineering drawings, papers he authored, various articles, biographical information, clippings, certificates, correspondence, manuals, memorandums, memoirs, "reading files," records, reports, and transcripts.

Highlights of the papers are Johnson's reports on "The National Army Air Maneuvers of 1931;" "Exposure – The Key to Flight Safety," which includes Johnson's designs; all weather and landing techniques; ice accumulation studies/de-ice issues; and papers authored by Johnson and published in *Air Transport*.

Some of the material focuses on the latter part of Johnson's career, as he was recognized for his pioneering aviation feats. The memoirs give the reader a look into the life of Ralph S. Johnson, as he saw it during this unique time in early aviation history. Most of the biographical information was collected and written by the authors for awards for which Johnson had been nominated.

Series 2. Aeronautical Publications and Patent Information, 1929-2009 (2 cubic feet). Included in this series are various aeronautical related publications; *United Air Lines news*; *OX5 News*; Engineers in Theater Operations, reports of operations, United States Army Forces in the Far East, Southwest Pacific Area, Army Forces, Pacific, 1947; Agricultural Aircraft Operations information; and the book, "The Aviation Book: A survey of the world's aircraft (2006).

Also included are documents concerning Johnson's patents and files from his patent attorney (1966-1975); Johnson's United States patent, 3,860,202; Method and Apparatus for Dispensing Granular Material from Aircraft, January 14, 1975; and patent information on his "Map Vending Machine," 1975-1977.

Series 3. Day Planners, Notebooks, Pilot Logs, and Flight Logs, 1930-1968 (1 cubic foot). Due to the unique nature of the logs, notebooks and day planners, they have been separated into their own series. Included are Johnson's United States Army, Air Corps, pilot's books (1930-1936) which include Johnson's grades from The Air Corps Advanced Flying School and application for extended active duty with a tactical unit of the Air Corps, along with pay and expense vouchers. There are several notebooks which contain Johnson's engineering designs and notations, along with a 1942 pilot's training log from United Air Lines, and day planners, circa 1960s-1980s.

Series 4. Artifacts, circa 1930s-2008 (2 cubic feet). This series includes Johnson's flight bag and flight plan log (indicates time period as test pilot); plaques (awards); medals; pilot's license; tools, flight goggles, compass kit, cockpit checklist, along with other miscellaneous items. Also included is the hood from when Johnson received his honorary doctorate from Purdue University in 2008.

Series 5. Photo Albums, Photographs, and Scrapbooks, 1924-2008 (3 cubic feet). The photo albums include an album featuring family, Purdue, and Post-Purdue events and memorabilia. One album titled, "Pictures and story of my trip to and eight months training as a flying cadet, at March Field, Riverside, California, June 22, 1930 – June 22, 1931," which includes descriptive text by Johnson. Another album, "Graduating at March Field," Riverside, California, 1931, includes certificate of graduation and program from graduation exercises, aerial shots taken over major cities and air fields during training and bomber formation shots, program from visiting United States Air Corps, commemorating the dedication of the New York City Municipal Airport, Floyd Bennett Field, May 27, 1931. One can also find a scrapbook containing clippings and photographs from his early career, and an album from events surrounding Johnson's honorary doctorate from Purdue.

Many of the photographs show the numerous aircraft that Ralph S. Johnson flew during his career, along with photographs of air fields and aerial shots.

Series 6. Oversized Material, 1944-2010 (2.8 cubic feet). The oversized material was separated out for preservation purposes. Included are awards, certificates, engineering designs, photographs and two 8mm films.

## **Descriptive Rules**

Describing Archives: A Content Standard

## **Processing Information**

All materials have been housed in polyester sleeves, acid-free folders, and acid-free boxes. Some clippings containing images of people, color graphics or front pages of newspapers have been preserved for display purposes, with photocopies made available for research. Oversized items have been separated and grouped into their own series for preservation purposes.



## DETAILED DESCRIPTION OF THE COLLECTION

### Series 1. Papers, Engineering Drawings and Articles, 1929-2009 (3.25 cubic feet)

#### Box 1 Engineering Drawings, Papers, Articles and DVD, 1941-1948

##### Folder

##### 1. Engineering Drawings and Paper, 1942-1944

###### Item

1. Approach and Landing Procedure, Technique, and Equipment for Proficient Landing of Aircraft During Blacked-Out Conditions -- Incorporating the All-Weather Approach and Landing Technique, April 16, 1942
2. Centrifugally Operating Grounding Switch, July 15, 1944
3. Throttle Landing Power Limiter-Indicator, July 22, 1944
4. Throttle Landing Power Limiter (Mounted on Carburetor Body), July 25, 1944

##### 2. Articles and Papers, circa 1940-1948

###### Item

1. Possibility of Increasing Airplane Utility by Use of the All Weather Landing Descent Test, undated, circa 1940s (detailed letter from Ralph Johnson to W. C. Mentzer and R.D. Kelly)
2. "All Weather Flight Methods," written and directed by Ralph S. Johnson, Engineering Department of United Air Lines, United Air Lines Transport Corporation, 1941 (script and dvd, b&w; sound; length: 37 minutes, 48 seconds; file size: 1.28 GB, plays with Windows Media Player, 2 copies)
3. Co-Ordination of Flight Deck Duties on Large Airplanes, by Ralph S. Johnson Chief Test Pilot, United Air Lines, Inc., paper presented before the Society of Automotive Engineers, Los Angeles, California, October 6, 1944 (includes photographs of flight deck coordinator instrument and engine)

All of the following articles are in one spiral bound notebook, listed as they appear.

4. All-Weather Landing Descent, Air Transport, November, 1947
5. Get Better Landings with All-Weather Roll-Ons, Air Transport, March, 1948
6. Cross-Wind Takeoffs, Air Transport, July, 1947
7. Cross-Wind Landings, Air Transport, June, 1947
8. Exposure—The Key to Flight Safety, Air Transport, April, 1947
9. When Vulnerable Be Vigilant, Air Transport, October, 1947
10. Buzzing is Bad Business, Air Transport, May 1947
11. An All-Weather Approach and Landing Technique for DC-3 Airplanes, May 2, 1941

Folder

3. Newspaper Clippings, Certificate, Honorary Doctorate of Engineering, 1992-2008

Item

1. Aviation Industry Finally Recognizing Pioneer's Feats, newspaper clipping from Scottsdale Progress, July 11, 1992
  2. Goodland Native, 100, is 'Part of the History of Flight' Wyoming declares: June 26 was Captain Ralph S. Johnson Day (newspaper clipping from Lafayette Journal and Courier, Sunday, July 2, 2006)
  3. Jack Knight's Long Night: The Mail Went Through, newspaper clipping, source and date unknown (notation states one of Ralph's friends and his favorite newspaper article, a hero to Ralph)
  4. Certificate, Wyoming Aviation Hall of Fame - Ralph S. Johnson, undated
  5. Purdue University College of Engineering School of Mechanical Engineering And School of Aeronautics and Astronautics Co-Nominated with Purdue University Libraries, nomination for Doctorate of Engineering, honoris causa, Fall, 2007
  6. Itinerary for Ralph S. Johnson, Commencement Weekend, May 8-11, 2008
  7. Invitation to Westwood, The President and Trustees of Purdue University cordially invite you to dinner celebrating those receiving honorary doctorates at Spring Commencement, Saturday, May 10, 2008
  8. Invitation to luncheon in the Café and John Purdue Room – Stone Hall, Saturday, May 10, 2008
4. Aviation: The Early Years, spiral bound publication compiled by Jacqueline McBrien Morgan from the respective memoirs of: Ralph S. Johnson, test pilot, United Airlines and Richard L. McBrien, Engineer, United Airlines, undated
5. Biographical Information, 1977-2006

Item

1. Spiral bound book, "The Best Of Times: Memoirs of Ralph Johnson," as told to his niece, Jacqueline McBrien Morgan, during his 99<sup>th</sup> year, 2005
2. Spiral bound biography, "Captain Ralph S. Johnson" sent to Wyoming Aviation Hall of Fame, by Captain Billy Walker, 1992
3. "Fait pour Valour", by Billy Walker, circa 2006 (biographical pages for Captain Ralph S. Johnson, compiled and clipped together)
4. Interview with Ralph S. Johnson, by Red Kelso, Cheyenne, Wyoming, transcript, November 16, 1977
5. Excerpts from an article on Ralph Johnson in RUPANEWS, November, 2002 (pages 3-4 of a what appears to be a fax transmission, other pages missing)

## **Box 2** Papers, 1929-2008

### Folder

1. National Advisory Committee For Aeronautics, list of aircraft circulars, beginning with No. 97, 1929
2. Certificate declaring Ralph Samuel Johnson, Cadet Captain, Purdue University Reserve Officers' Training Corps, February 1, 1930
3. Biographical information and articles about Ralph S. Johnson, 1930s-2000s (includes photograph of Johnson in front of Acacia House Fraternity at Purdue University)
4. U.S. Mineral Survey, Doris Ruby Mining Group, circa 1930s
5. Radio Procedure, Air Corps Primary Flying School, Department of Ground Instruction, circa 1930s (includes telegraph codes)
6. "Sketches," circa 1930s and 1940s (includes correspondence and engineering designs done by Johnson)
7. "Impact-Resistant Windshield Construction," George L. Pigman, Civil Aeronautics Administration and "Development of Stall Warning Indicators," James George, Civil Aeronautics Administration, circa 1930s
8. The National Army Air Maneuvers of 1931 (manuscript by Johnson)
9. Various newspaper clippings related to aviation that Johnson collected, 1931-1935 (Significant articles about plane crash that killed Will Rogers and Wiley Post, articles about other accidents and historical aviation events from the time period)
10. Certificate of technical training, Air Corps Technical School, Chanute Field, Illinois, June 30, 1933 (includes various documents from the United States War Department)
11. "Airplane Accidents," October 17, 1933 – May 4, 1937
12. United Air Lines Inter-Company Correspondence; Subject: Weather Service – Reports, May 17, 1934
13. New release from Post Office Department in regards to air mail contracts, May 4, 1934
14. "Proposed De-Icer, designed by Ralph S. Johnson, United Air Lines," April 19, 1934
15. National Advisory Committee for Aeronautics, list of reports with prices, March 1934
16. Various newspaper clippings related to aviation that Johnson collected, 1935-2008 (predominately from 1935, other odds and ends)

## **Box 3** Papers, 1935-1941

### Folder

1. Letter of Recommendation for Ralph Johnson, from Walter J. Addems, Chief Pilot, "Eastern Division," February 12, 1935
2. "Letters Personal," 1935-1941
3. Memorandum to all employees of United Air Lines, by newly appointed

- president, W.A. Patterson, April 12, 1935
4. Accident Report, Plane 317, Trip 4 of October 6, 1935
  5. Accident Report, #NC-13323, Cheyenne, Wyoming, October 30, 1935
  6. Correspondence in regards to aileron control system and an ice incident in the elevator hinge gap, 1936
  7. "Airplane Accidents," May 5, 1937 – July 27, 1938
  8. Edited transcript, National Parks Series, Rocky Mountain Park, First Draft, Sunday, April 25, 1937 (Ralph Johnson was the pilot, while this interview was taking place)
  9. Study on Master Rod Bearing Lubrication/Failures, completed by Johnson, 1938
  10. Annual Report of United Air Lines Transport Corporation, 1939 (correspondence from Hartley Rowe, Vice President, United Fruit Company, June 6, 1940, inside report)
  11. Civil Aeronautics Authority Bureau of Federal Airways, Airways Operation Division, Manual of Operations, Chapter B – Communications Section, part 4, section 3 – "Q" signal abbreviations, June 1, 1939
  12. Ice Accumulation Studies/De-Ice Issue, circa 1940s
  13. "Aileron Work, Douglas Airplanes," circa 1940s
  14. "Exposure – The Key to Flight Safety," circa 1940s (includes designs by Johnson)
  15. "Carburetor Preheat Tests," circa 1940
  16. "Letters General," 1940-1941 (includes a passenger discomfort report)
  17. Correspondence in regards to Ralph Johnson's reemployment with United Air Lines in Cheyenne, Wyoming, 1940
  18. How to use the Douglas Sky Rule, by A.A. Manoff, circa 1940s
  19. Test Flight Policy and Procedure, 1940-1941
  20. United Airlines Transport Corporation Technical Bulletins, 1940-1941
  21. "Letters – W.A. Patterson," 1940-1941
  22. "Letters – Outside Air Company," 1940-1941 (includes correspondence in regards to an instrument to detect ice accumulation during flight and a process to metallize the leading edges of propeller blades)
  23. "Compass Investigation," 1941
  24. "First Quarterly Report, Engineering Research Department, United Air Line Transport Corporation, Chicago, Illinois," 1941
  25. "Operations, United Airlines Transport Corporation," 1941 (information dealing with thunderstorm procedures/reports by flight officers)
  26. "Communications, United Airlines Transport Corporation," 1941 (information dealing with radios/navigational aids)
  27. "RSJ Drawings, E-58, App. A," circa 1941

**Box 4** Papers, 1941-1945

Folder

1. United Air Line annual reports, 1941-1944

2. "Accidents – Planes," 1941-1945
3. "An All-Weather Approach and Landing Technique for DC-3 Airplanes, 1941 (includes comments about the technique in correspondence from Hugh Coleman)
4. "An All Weather Approach and Landing Technique for DC-3 Airplanes," 1942 (includes Johnson's notations)
5. "All Weather Flight Methods - Military," 1942-1943 (includes correspondence written by Johnson and from Johnson's colleagues concerning all-weather approach and landing technique with DC-3 airplanes and the creation of a training film)
6. "All Weather Flight Techniques," 1941-1945 (contains correspondence to and from Ralph Johnson, United Airlines, in regards to the all-weather flight techniques, along with some notations and designs by Johnson)
7. National Advisory Committee for Aeronautics, Heated-Wing De-Icing System, Lockheed 12 Airplane, 1941
8. "E-74-2, National Advisory Committee for Aeronautics," De-Icing Strategies Sub-Committee, 1941-1944
9. Flight Principals, War Training Institute, 1942
10. "Aircraft Radio Direction Finding, reports #1 - #5," circa 1942
11. "United Air Lines, Radio Range Orientation Procedures," circa 1942

**Box 5** Papers, 1942-2009

Folder

1. "Design Alternatives," 1942 (sketches by Johnson, with focus on Direction Computing and Indicating Instrument with inventor documentation)
2. "Procedures Manual for the Cheyenne and San Francisco Flight Test Sections," circa 1942
3. "Physical Exams," 1941-1942
4. Communication Instructions for Reporting Enemy Sightings: For aircraft operated by Army Air Transport Command, the Naval Air Transport Service and Commercial Air Lines, June 1943
5. United Air Lines Transport Corporation, Chicago, Illinois, Flight Officers – Seniority List, January 1, 1943
6. "Pilot Technique for Short Field Operations – T621E," 1943
7. Certificate for Johnson's membership in "Domain of Neptune Rex," November 22, 1943
8. Miscellaneous items, includes certificates, clippings and correspondence, 1943-2009
9. "A discussion of the idea of increasing the cross weight of an airplane and reducing the stall speed by the use of power throughout the descent to landing," 1944 (includes designs by Johnson)
10. "Personal – Pacific Operations," September 21, 1943- March 31, 1945 (folder 1 of 2)
11. "Personal – Pacific Operations," April 3, 1945 – July 7, 1945 (folder 2 of 2)

12. "Power-Controlled Landings; from Crash Critiques," September 1944
13. "Co-Ordination of Flight Deck Duties on Large Airplanes, by Ralph S. Johnson, chief test pilot, United Airlines, Inc. for Society of Automotive Engineers," October 6, 1944
14. Pilot's Flight Operating Instructions For Army Model B – 17F, British Model Fortress II, June 20, 1944
15. Performance Data Manual, Model C-87 Airplane, 1944

**Box 6** Papers, 1944-2000

Folder

1. "Standardized Verbal and Visual Signals For Use by Pilots on Large Airplanes, Report Number CX – 64," prepared by Ralph S. Johnson, Chief Test Pilot, United Air Lines, Inc., November 1, 1944
2. "E-57-6, Society of Automotive Engineers, Aircraft Activity Committee (National), 1944-1946
3. Correspondence with W.A. Straith, Aero Insurance Underwriters on the hand signal, "Flaps Zero," May 1945
4. "The Mail Must Go," delivered before the 25<sup>th</sup> anniversary dinner, first air mail flight, Cheyenne, Wyoming, September 8, 1945
5. "The Flying Cadet (after 15 years), bits and pieces of information on what has happened to members of the Kelly Field Class of June 1931," compiled by W. McC. Wood, Draper, Virginia, February 1946
6. Press release, News Bureau, United Air Lines, Sperry-Equipped Plane, September 11, 1946 (includes document on demonstration of Sperry Model A-12 Gyropilot)
7. Hughes, Albert D. (September 14, 1946). Instruments Put Planes on Landing Beam. *The Christian Science Monitor*, p. 8A.(features Johnson and information on Sperry automatic flight instruments)
8. Pilot's check list, correspondence from Vern L. Carstens, chief test pilot for Beech Aircraft Corporation to Mr. Dillard Walker, Plains Airways, August 29, 1946 in regards to edited check list.
9. Articles by Ralph S. Johnson published in *Air Transport*, 1947-1948 (many deal with all-weather landing descent)
10. "Reading File," July 1947 (includes correspondence, often dealing with obtaining air plane parts)
11. "Reading File," August 1947 (includes correspondence, often dealing with obtaining air plane parts)
12. "Reading File," September 1947 (includes correspondence, often dealing with obtaining air plane parts)
13. "Reading File," October 1947 (includes documents from Plainsair Survey Corporation)
14. "Reading File," November 1947 (includes correspondence, often dealing with obtaining air plane parts and documents in regards to Plainsair Survey Corporation)

15. "Reading File," December 1947 (includes correspondence, often dealing with obtaining air plane parts and documents in regards to Plainsair Survey Corporation)
16. "Reading File," January 1948 (includes correspondence, often dealing with obtaining air plane parts and documents in regards to Plainsair Survey Corporation and Aeronautic Services Corporation)
17. "Reading File," February 1948 (includes correspondence about withdrawal of Aeronautic Services Corporation (ASCO) stock from the market and documents about wing flaps)

**Box 7** Papers, 1949-1990s

Folder

1. Operating manual for AN/ART-13, Airborne Radio Equipment, October 25, 1949
2. Civil Aeronautics Board, Accident Investigation Reports, December 16, 1948, September 7, 1955, October 4, 1955, April 17, 1957
3. Payroll Book, Plainsair Survey Corporation, 1950-1955
4. "Aircraft Titles," circa 1950s-1990s (folder 1 of 2)
5. "Aircraft Titles," circa 1950s-1990s (folder 2 of 2)
6. Miscellaneous business correspondence, 1951
7. "Letters General," 1952-1953 (as noted by Johnson, contains general business correspondence)
8. Beckman Instruments Instruction Manual, Beckman Model B Spectrophotometer and Accessories, 1954

**Box 8** Papers, 1955-2000

Folder

1. "PV2 Lockheed information," circa 1955-1965
2. Air Agency Certificate issued by The United States of America Department of Commerce, Civil Aeronautics Administration to Aeronautics Services Corporation, Cheyenne, Wyoming, January 23, 1956
3. "Jokes," circa 1960s-2000 (various jokes pulled from reading material and highlighted by Johnson)
4. Pratt and Whitney R2000 Engines and C54 Specifications, 1960
5. Air Transport Association of America – Release of Updated Requirements for All-Weather Operations – No. 60-205, December 30, 1960
6. "New Ideas," circa 1960-1979 (includes "Dispensing Design" and fire ant bombing information)
7. Civil Air Patrol, 1961-1969
8. Miscellaneous documents and articles, 1963
9. Flyer and card from Johnson's running for seat as State House Representative, November 3, 1964

10. "Pilot Correspondence," 1964-1978

**Box 9** Papers, 1966-1978

Folder

1. "Pilot Qualifications," RALCO, 1966-1973
2. Department of the Air Force, Headquarters 90<sup>th</sup> Strategic Missile Wing (SAC), Francis E. Warren Air Force Base, Wyoming; Special Order T-335, March 10, 1967
3. "Salaries-Agreements," 1967-1974 (also includes a "Mountain States Aviation, Inc. Stapleton Field - Denver DU 8-4195" very small leather pouch with metal device inside)
4. Correspondence and information in regards to purchase and sale of DC-6s, also includes a document on Western Air Lines, Inc., DC-6B Descriptive Data, 1969-1972
5. "Engines and Props," circa 1970s
6. Pneumatic Feed System, 1970 (includes designs by Johnson)
7. Correspondence in regards to C-54 Slurry Tank purchases and installation and document on Field Inspection of Air Tankers for Compliance with Step No. 4 of "Air Tanker Requirements and Criteria," 1971-1978
8. Correspondence in regards to purchase and sale of C-54s, 1972-1978 (predominately RALCO transactions, folder 1 of 2)
9. Correspondence in regards to purchase and sale of C-54s, 1972-1977 (predominately RALCO transactions, folder 2 of 2)
10. Correspondence in regards to Johnson's light weight contact aircraft jack, 1974
11. United States of America Patent No. 3,860,202; Method and Apparatus for Dispensing Granular Material from Aircraft, Johnson, January 14, 1975
12. Nuclear Exploration and Development Company, Lander, Wyoming, June 30, 1975

**Box 10** Papers, 1975-2000s

Folder

- 1.. "Master Equipment Company, Preliminary Instructions, Continuous Inspections Program," 1975-1976
2. Miscellaneous documents, 1975-1979 (includes RALCO Lockheed PV-2 pilot general information questionnaire and a memo to all agricultural operators regarding operations over congested areas)
3. RALCO Lockheed PV-2 pilot general questionnaire and standardized verbal and visual signals for use by pilots on large airplanes, 1976
4. Engineering design by Johnson, Suction Barrel No Leak Drain, June 11, 1976
5. William Littlewood Memorial Lecture, "Our Amazing Air Transportation



- System," Raymond D. Kelly, Senior Associate, R. Dixon Speas Associates, Incorporated, 1977 (presented by Ray, a friend of Johnson's at the AIAA 13<sup>th</sup> Annual Meeting and Technical Display Incorporating the Forum on the Future of Air Transportation, includes correspondence)
6. *focus*, 509<sup>th</sup> bomb wing, Pease Air Force Base, New Hampshire, Summer 1978
  7. Booklet, addresses and telephone numbers, 1978-1979
  8. "404 and PV2," 1979-1989
  9. Kelso, Red. (March 30, 1980). Ralph Johnson: The Early Years. *SunDAY Magazine*, p. 8-9, 23. Kelso, Red. (April 6, 1980). Ralph Johnson: Part II: The War Years And After. *SunDAY Magazine*, p. 18, 22- 23.
  10. Aircraft title report from FAA records search, "for William Riner," circa 1980
  11. Miscellaneous items, circa 1980s-2000s
  12. "Electric," circa 1980s-1990s (includes designs by Johnson and reading material on electric automobiles that he had gathered)

#### **Box 11** Papers, 1981-2004

##### Folder

1. Invitation to President Regan's inauguration and various certificates, including one awarded to Johnson by United States Justice Foundation, 1981-2004
2. Executive summary, preliminary assessment of minerals recovery, South Brawley Project, Imperial Valley, California, September 1983
3. The Orange County Section of the American Institute of Aeronautics and Astronautics, Seventh Annual Aviation Historical Symposium; "History of the Douglas DC-1, DC-2, DC-3 Aircraft; United Airlines DC-3 Aircraft, Projects and Tests, Raymond D. Kelly (section about Johnson on page 4), Saturday, May 14, 1983
4. Booklet, addresses and telephone numbers, 1984
5. Membership certificate, The Newcomen Society of the United States For The Study Of Material History, issued to Johnson on August 27, 1986
6. Newspaper clippings in regards to the Cheyenne Municipal Airport's 70<sup>th</sup> anniversary, one article mentions Johnson, September, 1990
7. *My Life, Times, And Career In Aviation*, Memoirs of Richard L. McBrien, United Air Lines colleague of Ralph Johnson, as written by McBrien's children for his 50<sup>th</sup> wedding anniversary, October 12, 1990
8. Personal correspondence, circa 1990s
9. National Aeronautic Association news releases and newsletters, includes information about Ralph Johnson receiving The National Aeronautic Association's Certificate of Honor in March, 1991 and an award from the Airlines Pilot Association for his lifelong commitment to aviation safety, March 8, 1991-September 27, 1993
10. "Save A Connie, Incorporated," 1993-1994 (mainly deals with transfer of ownership of a plane)

11. "Captain Ralph S. Johnson," nomination material for Wyoming Aviation Hall of Fame, submitted by Billy Walker, 1995
12. *The Best of Times*, memoirs of Ralph S. Johnson, circa 2000
13. "The John W. Johnson Family," circa 2000
14. American Aviation Historical Society information/newsletters and Los Angeles Department of Airports Historical Review, 1995-2002

**Box 12** Papers, 2004-2010

Folder

1. Membership Roster - OX5 Aviation Pioneers, 49<sup>th</sup> anniversary 1955-2004, April, 2004
2. Announcement and program for the Fiftieth Laura Taber Barbour Award for flight safety for which Johnson was the recipient, 2005
3. "Introduction to Kiwanis Club Talk on Aviation's Early Days," October 2005
4. Correspondence between Federal Aviation Administration and Johnson in regards to airplane repossession certificates, 2005
5. Menu from Ralph's 100<sup>th</sup> birthday party, Saturday June 24, 2006 (features two photographs of Johnson)
6. Program and Invitation – Arizona Aviation Hall of Fame, Eighteenth Annual Induction Ceremony/Dinner, Saturday, April 8, 2006 and April 7, 2007 (Johnson inducted in 2006)
7. Personal cards given to Ralph and Ruth, 69<sup>th</sup> anniversary, congratulations on induction into Arizona Hall of Fame and 100<sup>th</sup> birthday, 2006
8. Calendars with notations, 2008-2009
9. Diploma; Honorary Doctorate and program from Purdue University's 204<sup>th</sup> Commencement, spring 2008 (inside the diploma is a photograph dated, April 26, 1930, "photo by P.N. White, Attica, IND.")
10. Certificate in folder, "Ralph S. Johnson, In Recognition of Your 103<sup>rd</sup> Birthday, June 26, 1906-June 26, 2009 (signed by Dave Freudenthal, Governor, State of Wyoming)
11. Memorial programs, Ruth Bond Johnson, 1912-2009; Ralph S. Johnson, 1906-2010 and obituary for Ralph from *The Arizona Republic*, Wednesday, January 27, 2010, p. B6

**Series 2. Aeronautical Publications and Patent Information, 1929-2009**

(2 cubic feet)

**Box 13** Aeronautical Publications and Patent Information, 1934-1975

Folder

1. *United Air Lines News*, April 1934; November, 1934 (2 photocopied)

- copies); February, 1935; September, 1940; December, 1940; May, 1941; August, 1944
2. *Society of Automotive Engineers Transactions (S.A.E.)*, volume 35, 1940
  3. 50<sup>th</sup> TR C Wing Training Directive, 1942 (sections were written by Ralph Johnson)
  4. Engineers in Theater Operations, reports of operations, United States Army Forces in the Far East, Southwest Pacific Area, Army Forces, Pacific, 1947
  5. Documents concerning Johnson's patents and files from his patent attorney, John E. Reilly, circa 1966-1975

**Box 14** Aeronautical Publications and Patent Information, 1972-2002

Folder

1. "Patent Forms," circa 1972
2. Johnson's United States patent, 3,860,202; Method and Apparatus For Dispensing Granular Material From Aircraft, January 14, 1975
3. Patent information in regards to Johnson's Map Vending Machine, 1975-1977
4. Newspaper clippings, magazine articles, and manuscripts concerning aviation history, 1976-1988 (the manuscripts are original copies and may have been written by Johnson, no notations to verify)
5. Tank Design Guide for Fire Retardant Aircraft, by D.H. Swanson and A.D. Luedecke, Honeywell, Inc., September 1978
6. The Antiques and the Classics: A portfolio of fine aviation photographs, by William B. Bullock, © 1979 (signed by author)
7. Folder labeled, "Duplicates – Wilkinson – RALCO," 1979-1983 (deals with a lien on a house)
8. Memory Engines, Historical Reference Handbook, The Venerable Curtiss OX-5 from the cradle of aviation, 1980
9. Correspondence from the Order of Daedalians, Ft. Warren Flight #54, F.E. Warren AFB, Wyoming, in regards to Johnson becoming an honorary member, 1982 and two issues of *The Fort Warren Express*, February 1984 and December 1984
10. OX5 News, Published by and for Members of the OX5 Aviation Pioneers, December 1984 – December 1995 (does not include all issues in the time period)
11. OX5 News, Published by and for Members of the OX5 Aviation Pioneers, February 1996 – October 1997 (does not include all issues in the time period)

**Box 15** Aeronautical Publications and Patent Information, 1991-2002

Folder

1. *For the Record: Official publication of the National Aeronautic Association*, May-June, 1991
2. OX5 Aviation Pioneers, 30<sup>th</sup>, 36<sup>th</sup>, 37<sup>th</sup>, 42<sup>nd</sup> annual reunions, 1985, 1991, 1992, 1997 (4 brochures listing members, some biographical information and event information]
3. OX5 Aviation Pioneers, membership roster booklet, 1992
4. 39<sup>th</sup> Annual Reunion, "Engine O-X5, This is the one that made it all possible," Van Nuys, California, 1994
5. *OX5 Aviation Pioneers and Silver Wings Fraternity of Arizona*, 1993 – April 2001, includes membership rosters for 1991, 1993 and Board of Governors for 1992 [does not include every issue during this time period]
6. National Aeronautic Association, membership directory, 1997
7. 43<sup>rd</sup> Annual Reunion, San Diego, California, 1998
8. Correspondence and programs from Johnson being awarded the "Mr. OX5 Award," 1998 and induction into the OX5 Aviation Pioneer Hall of Fame, 2000
9. *OX5 News*, Published by and for Members of the OX5 Aviation Pioneers, February, 2000 – October 2002 [does not include all issues in the time period]

**Box 16** Aeronautical and Miscellaneous Publications, 1929-2009

Item

1. *Debris*, Volume XLI (1929). Lafayette, Indiana: The Senior Class of Purdue University.
2. Leather-bound binder inscribed with R.S. Johnson on the front, contains information on pressure patterns existing in front of a jet engine, circa 1950s
3. Agricultural Aircraft Operations information, 1962-1964 (folder 1 of 2)
4. Agricultural Aircraft Operations information, 1965-1966 (folder 2 of 2)
5. United Flying Octogenarians (UFO) correspondence in regards to membership, membership certificate and *U-F-O- News*, April 1992-October 1993

**Box 17** Aeronautical and Miscellaneous Publications, 1996-2009

Item

1. Server, Dean (1996). *The Golden Age of Steam*. New York, New York: SMITHMARK Publishers.
2. Caoimh, Fia O. (2006). *The Aviation Book: A survey of the world's aircraft*. San Francisco, California: Chronicle Books LLC.
3. *rupanews: Journal of the Retired United Pilots Association*, July 2009 – December 2009 (does not include every issue during that time period)

### Series 3. Day Planners, Notebooks, Pilot Logs, and Flight Records, 1930-1968

(1 cubic foot)

#### Box 18 Day Planners, Notebooks, Pilot Logs, and Flight Records, 1930-1945

##### Item

1. Pilot's Book, Air Corps, United States Army, 1930-1936 (includes Johnson's grades from The Air Corps Advanced Flying School and application for extended active duty with a tactical unit of the Air Corps)
2. Pilot's Book, Air Corps, United States Army, 1933-1936 (includes log of pilot's pay and expense voucher)
3. "Branch of the Department of Commerce, Improved Pilot's Log," 1939
4. Pilot's Training Log from United Airlines, 1942
5. Pilot Flight Record and Log Book, 1953-1954
6. Flight Record, 1960-1981
7. Spiral bound notebook, 4" x 6 ¼", 1939-1940 (includes various notations)
8. Bound notebook, 5" x 7 ¾", 1941-1945 (includes engineering designs by Johnson with notations on the design ideas)
9. Bound notebook, 4" x 6 ¼", 1944-1945 (includes reflections by Johnson and various notations)

#### Box 19 Day Planners, Notebooks, Pilot Logs, and Flight Records, 1954-1975

##### Folder

1. Notebook, 4" x 6 ¼", 1954 (includes various notations, cover off, but 1954 appears in book)
2. Bound notebook, 5" x 7 ¾", 1958-1968 (includes engineering designs by Johnson with notations on the design ideas)
3. Day planner, spiral bound notebook, 5 ½" x 8 ¼", 1960
4. Day planner, bound notebook, 2 ¾" x 4", 1966
5. Spiral bound notebook, 6" x 9", 1967-1969 (includes stock and life insurance information)
6. Day planner, bound notebook, 2 ¾" x 4", 1967
7. Day planner, spiral bound notebook, 5 ½" x 8 ¼", 1971
8. Day planner, bound notebook, 3 ½" x 5 ¾", 1974 (three, one labeled "telephone calls and aerial applicators")
9. Day planners (2), bound notebooks, 3 ½" x 5 ¾" and 7" x 9", 1975
10. Day planner, spiral bound notebooks, 5 ¼" x 8", 1975 (2 notebooks)

**Box 20** Day Planners, Notebooks, Pilot Logs, and Flight Records, 1976-1990

Folder

1. Day planner, bound notebook, 3 ¼" x 6 ½", 1976
2. Day planner, spiral bound notebook, 5 ¼" x 8", 1979
3. Day planner, bound notebook, 7" x 9", 1981
4. Day planner, bound notebook, 7" x 9", 1982
5. Day planner, spiral bound notebooks, 5 ¼" x 8", 1984-1985 (2 notebooks)
6. Day planner, spiral bound notebook, 5 ¼" x 8", 1988-1990
7. Business card file and address book, circa 1980s

**Series 4. Artifacts, circa 1930s-2008**

(2 cubic feet)

**Box 21** Flight Bag, Flight Plan Log, Miscellaneous Notebooks, Plaques, circa 1940s-2006

Item

1. Flight bag, circa 1940s
2. Flight plan log, circa 1940s (indicates time period as test pilot)
3. Plaque presented to Captain Ralph S. Johnson
4. Plaque, Purdue University, presented to Ralph S. Johnson – "To mark with congratulations and well-wishing the sixty-fifth anniversary of your graduation from the University" April 23, 1995
5. Plaque presented to Johnson, "a pioneer in aviation," by the Arizona Hall of Fame, 2006
6. Miscellaneous notebooks, 3" x 5", includes one with "Baltimore Colts" on the front, no dates [in artifact box on bottom of box, miscellaneous notations by Johnson]

**Box 22** Honorary Doctorate Hood, Miscellaneous Artifacts and Tools, circa 1930s-2008

Item

1. Small box containing numerous business cards, membership cards, name tags from events Johnson attended, pilot's license, name plates, small slide rule, small bag of tools, small paperweight with book encased in it; "Overthrust Oil Royalty Corporation," PIMA Air and Space Museum scarf and "autodex" address book, circa 1930s-1990s
2. Hood (black and gold) received when Johnson received his honorary doctorate from Purdue University, 2008
3. Artifact box containing flight goggles, calculator, compass kit, C-54 Natops abbreviated cockpit checklist, various medals including Aviation Hall of Fame, wing pins, coordinators (M-100 and M-100-1) and pieces of ore,

- undated
4. Plastic sign, "Wyoming's Louisiest Shot," undated
  5. Rulers and plastic radius tools, undated

## **Series 5. Photo Albums, Photographs, and Scrapbooks, 1924-2008** (3 cubic feet)

**Box 23** Photo Albums, Programs, Correspondence – Letters of Congratulations, and Miscellaneous Mementos, 1978-2008

### Item

1. Album, "Tent Caterpillar Project," Clayton, New Mexico, July 1978 [includes photographs of project with notation: 14 twin engine aircraft, 4 single engine aircraft]
2. Family photo album, circa 1980s-1990s [features some of Ruth's certificates and awards]
3. Album featuring Johnson's National Aeronautic Association Elder Statesman of Aviation award, 1991 [contains many letters of congratulations]
4. Album from events surrounding Johnson's honorary doctorate from Purdue University, 2008 [contains photographs of Johnson with President Cordova and other Purdue faculty]

**Box 24** Photo Albums, Clippings and Certificates, 1924-1960s

### Item

1. Family, Purdue and Post-Purdue Album, 1924 - circa 1930s (includes various Purdue photographs, dance and event memorabilia)
2. "Pictures and story of my trip to and eight months training as a flying cadet, at March Field, Riverside, California, June 22, 1930 – June 22, 1931" (descriptive text by Johnson)
3. Album containing certificate of commissioning as 2<sup>nd</sup> Lieutenant in the United States Air Corps, June 26, 1931; enlistment record, June 16, 1930; honorable discharge, post training, June 30, 1931; letters of recommendation, since there was not a position for Johnson in the military after completion of training; aerial shots of different military fields in early 1930s
4. Photo album containing impressive aerial shots taken during Johnson's Air Corp training, includes aerial shot over Chicago's Soldier Field during construction, clippings about Muncie Airport's Sikorsky amphibian on passenger service between Lake Wawasee and Chicago World's Fair, where Johnson was employed, post Air Corps training, circa 1930s
5. Photo album, "Graduating at March Field," Riverside, California, 1931 (includes certificate of graduation and program from graduation exercises,

includes aerial shots taken over major cities and air fields during training and bomber formation shots, program from visiting United States Air Corps, commemorating the dedication of the New York City Municipal Airport, Floyd Bennett Field, May 27, 1931)

6. Scrapbook containing photographs and clippings from Johnson's early career, circa late 1930s-1940s
7. Album, United Air Lines – Pacific Operations, WWII, circa 1940's (gift from Johnson's colleague, not original photographs)
8. Photographs of converted cargo planes, Master Equipment Company, Cheyenne, Wyoming (where Johnson was an employee) and clippings dealing with aerial grasshopper spraying, fire ants and forest fire extermination, for which Johnson played a big role, circa 1950s-1960s

**Box 25** Photographs, Negatives, and Interview Audiotape, circa 1930s-2000s

Folder

1. Photographs of Ralph, Ruth, family, friends, a vacation to Yellowstone and miscellaneous photos, circa 1930s-2010 (includes Ralph's memorial booklet)
2. Photographs of colleagues, some with Ralph, 1930s-2000s
3. Box of negatives relating to "All-Weather Flight Methods," and folder containing photographs and text, along with photos of ice accumulations/tests, circa 1940-1942
4. Photographs of airplane parts, circa 1930s-1960s (folder 1 of 2)

**Box 26** Photographs, Negatives, and Interview Audiotape, circa 1930s-2000s

Folder

1. Photographs of airplane parts, circa 1930s-1960s (folder 2 of 2)
2. Photographs of air fields and aerial shots, circa 1940s-1960s (folder 1 of 2)
3. Photographs of air fields and aerial shots, circa 1940s-1960s (folder 2 of 2)
4. Photographs of airplanes, circa 1930s-1990s (folder 1 of 2)
5. Photographs of airplanes, circa 1930s-1990s (folder 2 of 2)
6. Photographs and Photographs on CD, 1935-2005

Item

2. Captain Ralph S. Johnson, Chief Test Pilot, United Airlines, 1935-1947 (8"x10" photograph, in United Airlines uniform)
3. Ralph S. Johnson, Aviation History, twenty photos on CD, jpegs, 35.3 mb, along with a sheet with notations on the significance of each photograph

Item

1. B-18 Loading Up: taken in the mid-1950s



2. Captain Ralph, United Airlines: taken in the late 1930s early 1940
3. Douglas DC-5: Ralph test flew this aircraft while on loan from United, undated
4. Flight Deck Coordinator: Ralph's Master Equipment Company manufactured thousands of these scrolling checklist aids for the airlines and military from the 1950s to the 1970s
5. Firebomber test: one of Ralco's PV-2 Harpoons converted to borate bomber use, undated
6. Flight Safety Foundation citation – Ralph was honored with the Laura Taber Barbour Air Safety Award in November, 2005
7. Long Island Newsday Zero Vix Landing Spread, undated

**Box 27** Photographs, Negatives, and Interview Audiotape, circa 1940s-1980s

Item

1. Box containing miscellaneous negatives, Sony recorder, cassette tape marked, "Ralph Johnson Memoirs: How hired at United," dated June, 1, 1988, circa 1940s-1980s

**Series 6. Oversized Material, 1930-2010**  
(2.8 cubic feet)

**Box 28** Awards, Certificates and Airplane Photograph, 1930-2006

Folder

1. Photograph, Group of young men and women, "photo by P.N. White, Attica, Ind.," April 26, 1930 (photo in mounted)
2. Photograph, C-82 dispersing insecticide, Ralph Johnson's plane, Ralco, CO, photograph mounted on board, undated
3. Photograph, Ford plane, with Johnson (?) standing by it, undated, mounted on a board
4. Photograph of Fairchild C82 aircraft on a spray run near Kay Cee, Wyoming, 10 ½" x 14", circa 1950s
5. The Secretary of Commerce Regional Export Expansion Council certificate, July 1, 1969-June 30, 1971
6. The Board of Directors of the National Aeronautic Association Elder Statesman of Aviation award certificate, October 29, 1991
7. The Laura Taber Barbour Air Safety Award by the Flight Safety Foundation, presented to Captain Ralph S. Johnson, 2005
8. "Goodland native, 100, is 'part of history of flight,'" encased and enlarged

- column, June 26, 2006
9. Film negative, "From the desk of Ralph S. Johnson," undated

**Box 29** Awards, Certificates, Photo Boards, and Plane Designs, 1906-2010

Folder

1. Photograph of Johnson, 10 ½" x 14" circa 1950s
2. Framed certificate, "The President of the United States presents this certificate of appreciation to Ralph S. Johnson for support of the National Program to bring about a New Prosperity," signed Richard Nixon, October 1, 1971
3. Framed copy of the Wyoming Aviation Hall of Fame award, 11" x 8 1/2", 1995
4. Governor's Proclamation of "Captain Ralph S. Johnson Day"– Dave Freudenthal, Wyoming, June 26, 2006
5. Photo board to commemorate Johnson on his 100<sup>th</sup> birthday, June 24, 2006
6. Photo board "Celebrating Ralph S. Johnson, 1906-2010"

**Individual Oversized Items, 1944-1945**

Item

1. "Flight Techniques," 8 mm film, 13 ½" reel, 1944
2. Oversized plane designs drawn by Johnson, 1945 (housed in separate tube)
3. Jackson Hole Wildlife, 8 mm film, 13 ½" reel, undated