



# Smithsonian

*National Air and Space Museum*

## National Aeronautics and Space Administration X-15 Transparency Collection

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2025

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## Collection Overview

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|-------------------------|--|
| <b>Repository:</b>      | National Air and Space Museum Archives   |
| <b>Title:</b>           | National Aeronautics and Space Administration X-15 Transparency Collection   |
| <b>Date:</b>            | circa 1961-1968  |
| <b>Identifier:</b>      | NASM.2006.0050   |
| <b>Creator:</b>         | United States. National Aeronautics and Space Administration   |
| <b>Extent:</b>          | 0.05 Cubic feet (1 folder; 13 color transparencies (70mm glass mounted slides))  |
| <b>Language:</b>        | English .  |
| <b>Summary:</b>         | This collection consists of 13 glass-mounted 70mm (2.75 x 3.5 inch) color transparencies of National Aeronautics and Space Administration (NASA) North American X-15 hypersonic research aircraft operations and pilots. |
| <b>Digital Content:</b> | <a href="#">Image(s): [NASM2006-12828] 70mm glass-mounted slides from the collection North American X-15 Glass-Mounted Color Transparencies (NASA), NASM.2006.0050. Photo by Mark Avino.</a>                             |

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## Administrative Information

### Acquisition Information

Unknown, found in collection, 2006, NASM.2006.0050

### Related Materials

North American X-15A-1 (s/n 56-6670) in Smithsonian National Air and Space Museum collection: [North American X-15, A19690360000](#) .

See related collection [North American X-15 Stereo Color Slides, NASM.2022.0007](#) .

### Processing Information

Arranged and partially described by Allan Janus, 2006; revised, updated and encoded by Melissa A. N. Keiser, 2025.

Digital images presented online were scanned, cropped, and color corrected by NASM photographer Mark Avino in June 2006. Also included in this collection are three born digital studio photographs (NASM2006-12828 through NASM2006-12830) taken by Mark Avino on June 20, 2006, to show the physical disposition of the original glass-mounted slides. Several of the slides were found with broken cover plates at the time of processing; the film has since been remounted in cardboard mounts.

### Preferred Citation

National Aeronautics and Space Administration X-15 Transparency Collection, NASM.2006.0050, National Air and Space Museum, Smithsonian Institution.

## Restrictions

No restrictions on access

## Conditions Governing Use

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## Biographical / Historical

First flown in 1959, the North American X-15 hypersonic research aircraft bridged the gap between human flight in the atmosphere and spaceflight. Three airframes were built by North American Aviation, Inc. for the X-15 program (serial numbers 56-6670, 56-6671, and 56-6672) each using liquid rocket engines built by the Reaction Motors Division of the Thiokol Chemical Corporation. Based at the National Aeronautics and Space Administration (NASA) Flight Research Test Center at Edwards Air Force Base, California, the X-15 was the first winged aircraft to fly Mach 4, 5, and 6 and to operate at altitudes above 30,500 m (100,000 ft). Eight of the twelve test pilots received astronaut wings for X-15 high-altitude flights.

Film slides were used extensively in the 20th century for illustrated talks and presentations. The same still picture images were often reused for multiple presentations in business, education, and scientific settings. While cardboard (and later plastic) mounts were the most common, metal-edged glass slide mounts such as those found in this collection helped protect the film in high-use slides from both frequent handling and the high heat generated by the high-intensity incandescent light bulbs used in film projectors.

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## Scope and Contents

This collection consists of 13 glass-mounted 70mm (2.75 x 3.5 inch) color transparencies of National Aeronautics and Space Administration (NASA) North American X-15 hypersonic research aircraft operations and pilots. Subjects include the three X-15 aircraft: X-15A-1 (s/n 56-6670), X-15A-2 (s/n 56-6671), and X-15A-3 (s/n 56-6672); the Boeing NB-52A Stratofortress mothership (s/n 52-0003); a NASA Northrop T-38 chase plane; and various personnel. Research (test) pilots pictured include Neil A. Armstrong (NASA), H. "Bill" Dana (NASA), Joseph H. "Joe" Engle (USAF), William J. "Pete" Knight (USAF), Robert A. "Bob" Rushworth (USAF), John B. "Jack" McKay (NASA), Forrest S. Petersen (US Navy), Milton O. Thompson (NASA), and Joseph Albert "Joe" Walker (NASA). The photographs were made at the NASA Flight Research Test Center at Edwards Air Force Base (now NASA Dryden Flight Research Center), Edwards, California, circa 1961-1968.

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## Arrangement

Images are arranged numerically by National Air and Space Museum (NASM) image number, NASM2006-12587 through NASM 2006-12599.

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## Names and Subject Terms

This collection is indexed in the online catalog of the Smithsonian Institution under the following terms:

Subjects:

Aeronautics  
Air pilots  
Airplanes  
Astronautics  
Research aircraft  
Supersonic planes  
Test pilots -- United States

Names:

Armstrong, Neil, 1930-2012  
North American Aviation, Inc.

## Container Listing

| Folder 1         | Color Transparencies  |
|------------------|---|
| Folder 1, Item 1 | <p>NASM2006-12587: <a href="#">North American X-15 in climbing flight ("Sunburst"), April 30, 1962</a></p> <p>Notes: Distant view of North American X-15 #1 (s/n 56-6670) piloted by research pilot Joe Walker beginning its climb after launch on flight no. 1-27-48, April 30, 1962; NASA Flight Research Center, Edwards, California. The aircraft's contrail is seen arcing across the sky from right to left, with the sun causing a "sunburst" effect at lower center; camera reflection artifact in upper left quadrant.</p> |
| Folder 1, Item 2 | <p>NASM2006-12588: <a href="#">Boeing NB-52A Stratofortress taking off with North American X-15 on underwing pylon</a></p> <p>Notes: Long one-half right front view of Boeing NB-52A Stratofortress mothership (s/n 52-0003) taking off with North American X-15 mounted on pylon under the NB-52's starboard wing root; NASA Flight Research Center, Edwards, California, circa mid 1960s.</p>   |
| Folder 1, Item 3 | <p>NASM2006-12589: <a href="#">North American X-15 on the ground</a></p> <p>Notes: Three-quarter left front view of North American X-15 on the ground at the NASA Flight Research Center, Edwards, California, circa mid 1960s.</p>   |
| Folder 1, Item 4 | <p>NASM2006-12590: <a href="#">NASA research pilot Joe Walker with North American X-15</a></p> <p>Notes: Full-length view of NASA research pilot Joseph A. "Joe" Walker posed standing beside the cockpit of North American X-15 #2 (s/n 56-6671) on the ground at the NASA Flight Research Center, Edwards, California, probably following his 169,000-foot altitude flight (no. 2-14-28) on March 30, 1961.</p>   |
| Folder 1, Item 5 | <p>NASM2006-12591: <a href="#">North American X-15 in flight</a></p> <p>Notes: Long one-quarter rear left side view of North American X-15 #3 (s/n 56-6672) in powered flight; NASA Flight Research Center, Edwards, California, circa mid 1960s.</p>   |
| Folder 1, Item 6 | <p>NASM2006-12592: <a href="#">Boeing NB-52B Stratofortress flies past North American X-15 on the ground</a></p> <p>Notes: One-half left front view of North American X-15 on the ground, being secured by crew members after a research flight; in background, one-half left front view of Boeing NB-52B Stratofortress mothership making a low fly-by overhead; September 1961.</p>   |
| Folder 1, Item 7 | <p>NASM2006-12593: <a href="#">Oblique aerial view of Edwards, California, area</a></p>   |

Notes: Oblique aerial view of the area near the NASA Flight Research Center, Edwards, California, circa mid 1960s; photograph taken as part of the North American X-15 flight research program.

Folder 1, Item 8

NASM2006-12594: [North American X-15A-2 after release from Boeing NB-52 Stratofortress, 1967](#)

Notes: One-quarter rear left side view from below of North American X-15A-2 (s/n 56-6671), with MA-25S exterior ablative coating material and external tanks, shown just after release from its Boeing NB-52 Stratofortress mothership; a dummy ramjet engine is seen mounted under the X-15's lower fin. NASA Flight Research Center, Edwards, California, 1967.

Folder 1, Item 9

NASM2006-12595: [Six North American X-15 research pilots pose in pressure suits](#)

Notes: Six research test pilots pose standing in pressure suits, each with helmet under his arm, in front of North American X-15 #2 (s/n 56-6671) on the ground at the NASA Flight Research Center, Edwards, California; 1965. Left to right: Captain Joseph H. "Joe" Engle (USAF), Major Robert A. "Bob" Rushworth (USAF), John B. "Jack" McKay (NASA), Major William J. "Pete" Knight (USAF), Milton O. Thompson (NASA), and William H. "Bill" Dana (NASA). Three-quarter left front view from slightly above of aircraft.

Folder 1, Item 10

NASM2006-12596: [North American X-15 with external fuel tanks after launch from Boeing NB-52 Stratofortress](#)

Notes: Distant left side view of North American X-15 (center, with external fuel tanks mounted) in flight shortly after launch from its Boeing NB-52A Stratofortress mothership (s/n 52-0003), seen in flight at top; a NASA Northrop T-38 chase plane is seen in flight at lower right midground. NASA Flight Research Center, Edwards, California, circa mid 1960s.

Folder 1, Item 11

NASM2006-12597: [Close-up view of North American X-15 mounted on underwing pylon of Boeing NB-52 Stratofortress](#)

Notes: One-quarter front left side view of forward portion of a North American X-15 #2 (s/n 56-6671) mounted on an underwing pylon affixed to the starboard wing root of a Boeing NB-52B Stratofortress, in flight prior to an air launch; circa 1962. This photo was taken from one of the observation windows in the B-52 shortly before dropping the X-15.

Folder 1, Item 12

NASM2006-12598: [North American X-15A-2 in flight](#)

Notes: One-quarter rear left side view from slightly above of North American X-15A-2 in flight near Edwards, California; released 1968.

Folder 1, Item 13

NASM2006-12599: [Seven research pilots pose casually with North American X-15](#)

Notes: Seven research pilots pose standing beside nose of North American X-15 #2 (s/n 56-6671) on the ground at the NASA

Flight Research Center, Edwards, California; circa early 1960s.  
Left to right: Robert "Bob" Rushworth (USAF), John B. "Jack"  
McKay (NASA), Forrest S. Petersen (US Navy), Joe Walker  
(NASA), Neil Armstrong (NASA), Robert M. "Bob" White (USAF).  
One-quarter front left side view, close up, of forward half of  
aircraft.

## Digital Images

NASM2006-12828: [Group of 70mm glass-mounted color transparencies \(North American X-15 program\)](#)

Notes: Studio photograph on light table showing an assortment of 70mm glass-mounted slides from the collection North American X-15 Glass-Mounted Color Transparencies (NASA), NASM.2006.0050. Smithsonian National Air and Space Museum (NASM), Washington, D.C., June 20, 2006. [Photo by Mark Avino.]

NASM2006-12829: [Three 70mm glass-mounted color transparencies \(North American X-15 program\)](#)

Notes: Studio photograph on light table showing three 70mm glass-mounted slides, part of the collection North American X-15 Glass-Mounted Color Transparencies (NASA), NASM.2006.0050. Top left: NASM2006-12595; top right: NASM2006-12587; bottom center: NASM2006-12589. Smithsonian National Air and Space Museum (NASM), Washington, D.C., June 20, 2006. [Photo by Mark Avino.]

NASM2006-12830: [Components of a 70mm glass-mounted color transparency \(North American X-15 program\)](#)

Notes: Studio photograph on light table showing the components of 70mm glass-mounted slide NASM2006-12597, part of the collection North American X-15 Glass-Mounted Color Transparencies (NASA), NASM.2006.0050. Clockwise from left: metal frame, two clear glass cover slips, 70mm color transparency in silver cardboard mat. Smithsonian National Air and Space Museum (NASM), Washington, D.C., June 20, 2006. [Photo by Mark Avino.]