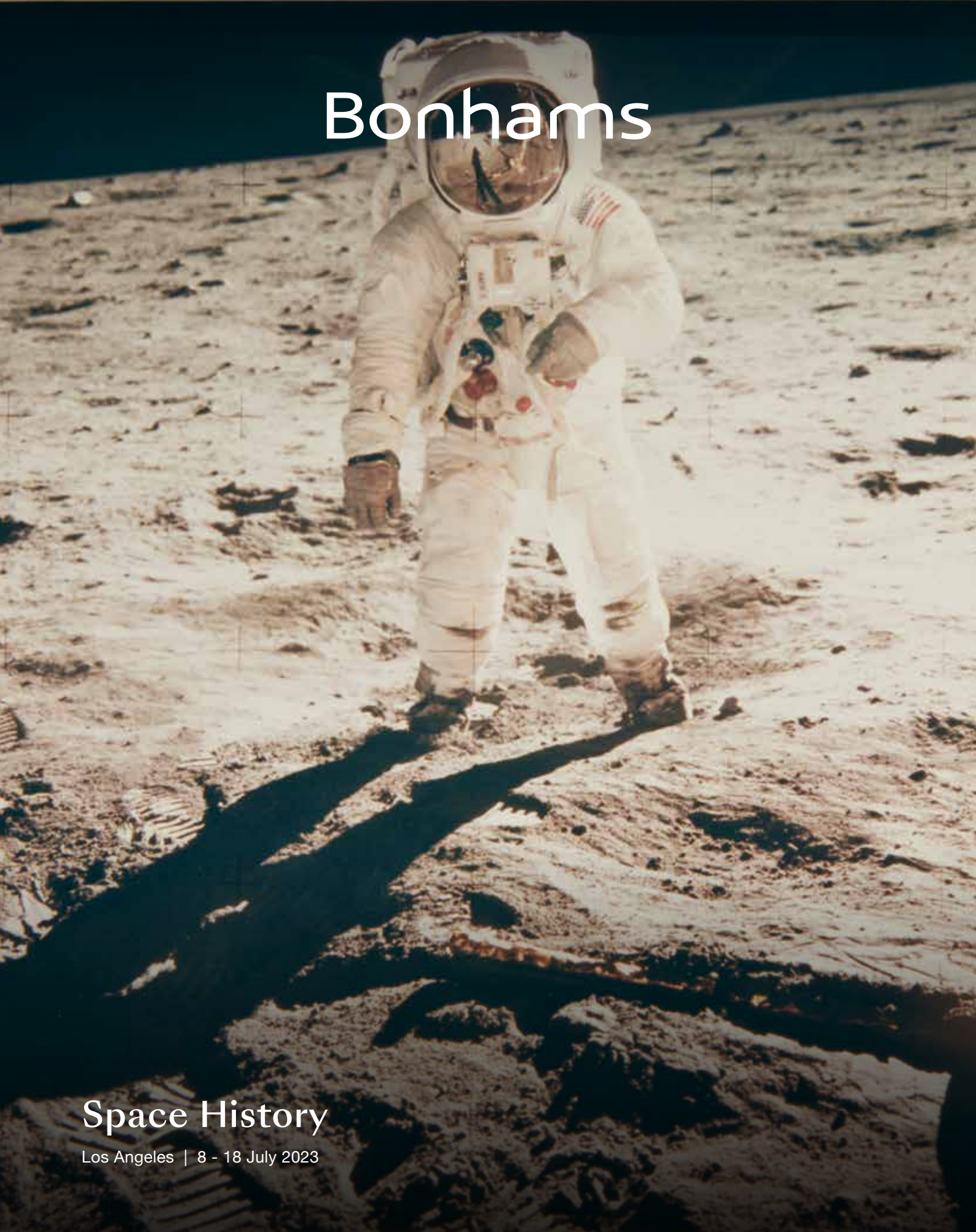
Bonhams



Space History

Los Angeles | 8 - 18 July 2023

P40 DPS THRUST

GUID CONT	-PGNS
THRUST CONT	-AUTO
MAN THROTTLE	-CDR
BAL CPL	-ON
ENG GIMBAL	-ENABLE
DES ENG CMD OVRD	-Verify OFF
THROTT/JETS(LMP)	-THROTT(MIN SETTING)
THROTT/JETS(CDR)	-THROTT(MIN SETTING)
PRPLNT QTY MON	-DES 1
PRPLNT TEMP/PRESS MON	-DES 1
HELIUM MON	-SUP CRIT PRESS
DAP	-SET

V37E 40E
*F 05 09 01706 LM Staged *
* (Term) V37E42E , or Reload DAP*

1 F 50 18 REQUEST MNVR TO FDAI RPY ANGLES (.01°)
(TO ADJUST YAW)
MNVR
MODE CONT: PGNS - ATT HOLD
PRO To 1
(AUTO) GUID CONT - PGNS
MODE CONT: PGNS - AUTO
PRO
(MAN) MODE CONT: PGNS - ATT HOLD
MNVR
MODE CONT: PGNS - AUTO
PRO
(BYPASS) ENTR To 3

2 06 18 AUTO MNVR TO FDAI RPY ANGLES (.01°)
MON AUTO MNVR To 1

3 06 40 TFI,VG,ΔVM (min-sec,.1fps)
MASTER ARM - ON (1st BURN)
SET EVENT TIMER TO TFI

*PROG LT - ON *
V05 N09E 01703 TIG SLIPPED
* RSET *
* KEY REL *

CARRIED IN EAGLE TO THE LUNAR SURFACE ON APOLLO XI

Basic Date May 29, 1969
Changed July 5 A

LM-5

P40 - P47

Space History

Los Angeles | 8 - 18 July 2023

AUCTIONEER

BONHAMS

7601 W. Sunset Boulevard
Los Angeles CA 90046
bonhams.com

SALE NUMBER

29177
Lots 1 - 217

AUCTION INFORMATION

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ILLUSTRATIONS

Front Cover: lot 173 (detail)
Inside Front Cover: lot 63
Back Cover: lot 123

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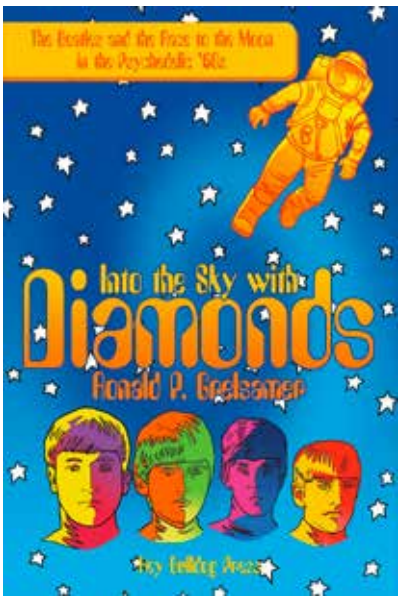
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Introduction



This year's Space History auction contains a wide range of material from the early days of rocketry powered by Operation Paperclip to Apollo 11, the first crewed mission to the Moon, the long term missions to the space station Mir and through the outer reaches of our solar system and beyond with NASA's robotic probes. The auction is anchored by the Dr. Ronald P. Grelsamer *Into the Sky with Diamonds* Collection. Dr. Grelsamer has brought together his two collecting interests: the U.S. Space Program and the Beatles, and has published a fictional account that cleverly intertwines the concurrent histories. The auction also features material from many other consignors and includes a large section of vintage space photography as well.

The auction is ordered chronologically and highlights are found throughout. Early lots of interest include the rare Army Intelligence-issued *The Story of Peenemunde of What Might Have Been,* (lot 1) which was a restricted publication only produced in limited numbers. Lot 10 is a contractor's model of one of the early spy satellites, the SOLRAD 1.

Another of the collections in the auction originally comes from longtime NASA employee Marilyn Bockting, who served as Administrative Assistant to MSC Deputy Director James C. Elms, to Apollo Program Manager George Low and to Director of Flight Crew Operations Deke Slayton. She seems to have had a close relationship with many of the astronauts and her collection includes rare large format signed photographs such as the group portrait of the New Nine (lot 27).

The scope of Dr. Grelsamer's collection is wide and include highlights from throughout the U.S. Space program including signed photographs of the Mercury Seven, the Apollo 1 crew, material from the personal collections of Fred Haise (including a Moon-flown mission patch from Apollo 13 - lot 95), Wally Schirra (including his pilot sunglasses – lot 41), Gordon Cooper, Gus Grissom, a particularly nice lunar surface-flown sheet from the Apollo 11 Lunar Module Guidance & Navigation Dictionary (lot 63) used for the LM descent and which Buzz Aldrin considers "one of the most significant pages from the entire dictionary."

The auction includes highlights from other consignments as well including a Moon-flown star chart from Apollo 11 (lot 65) that was used to guide the spacecraft back to Earth. Continuing with the Apollo 11 section, there is also a Moon-flown flag and Beta Cloth insignia presented by Buzz Aldrin.

The first half of the catalogue concludes with some special material. One lot is rare pair of 4000 Series Space Shuttle EVA glove assemblies (lot 121) and another is Cosmonaut Anatoly Solovyev's Apollo XI Anniversary Omega Speedmaster Professional (lot 123) worn in space for 6 months aboard the space station Mir and also on 2 emergency spacewalks, during one of which Solovyev had to use brute force to close a deformed airlock hatch, scratching the watch's crystal in the process.

The second half of the auction is Vintage Space Photography and provides a wonderful photographic overview of the U.S. space program from Mercury through Apollo and including photographs transmitted from robotic probes to the Moon and distant planets. Highlights include a NASA "red number" issue of the classic Apollo 11 "Visor Shot" of Buzz Aldrin at Tranquility Base taken by Neil Armstrong (lot 173), the first photograph of the whole Earth from the Moon taken by a human - a NASA "red number" issue of William Anders Apollo 8 photograph (lot 155), several large format photographs of Apollo 11 lunar EVA activity and a sizable collection of photographs from the 5 Lunar Orbiter missions to map the Moon including some stunning multi-print panoramas such as the first Earth rise over the Moon (lot 137).

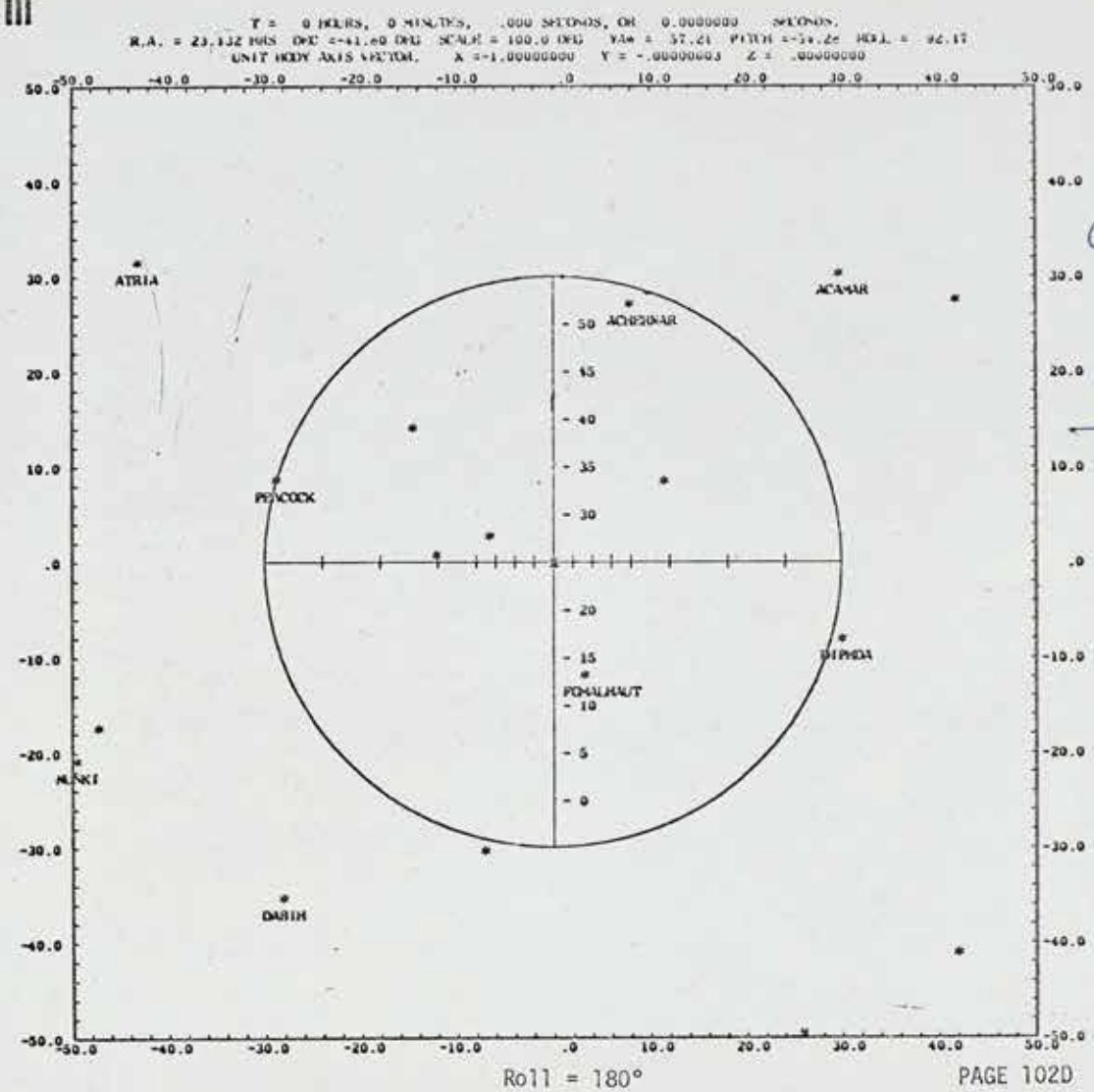
You are always welcome to reach out to me directly should you have any questions – and if you are in the Los Angeles area, please let me know and we can arrange a preview of the items.

Best,

Adam Stackhouse
Senior Specialist
310-623-2084
Space.us@Bonhams.com

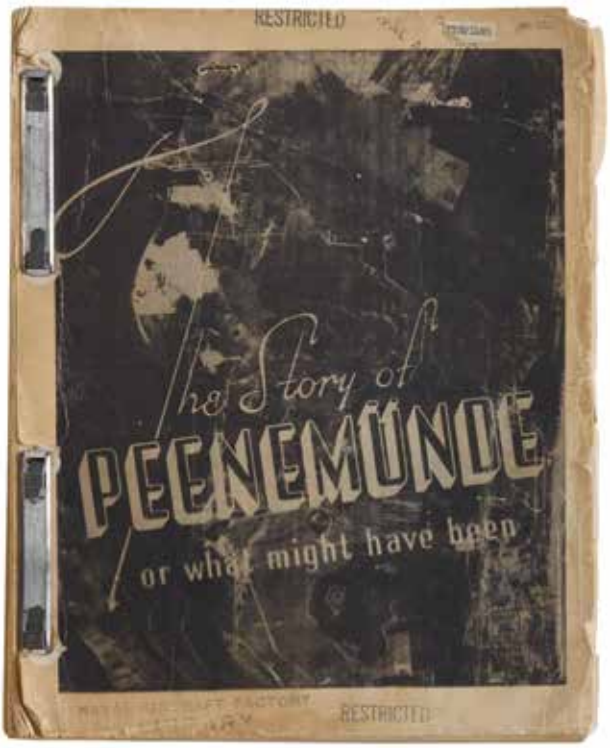
Space History

Lots 1 - 124



CARRIED TO THE MOON ON APOLLO XI

T Bugg Aldrin



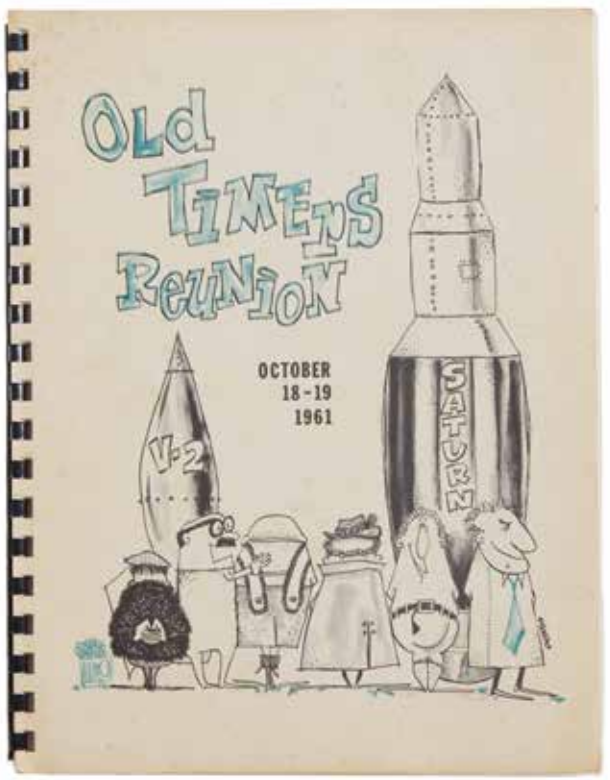
1

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

1
OPERATION PAPERCLIP: WERNHER VON BRAUN & PEENEMUNDE.
The Story of Peenemunde or What Might Have Been. [U.S. Army, Research and Intelligence] c.1945. 6pp stapled index, 749pp. Printed wrappers bound with metal brads, stamped "RESTRICTED." *Provenance:* Naval Aircraft Factory Library (stamps).

Operation Paperclip was the secret U.S. Army Intelligence program took over 1,600 German scientists, engineers and technicians under "temporary, limited military custody" according to the official directive approved by President Truman. Key targets were those at Peenemunde as well as about 100 V2 rockets and equipment housed there. The German personnel became a key component of the U.S. Space Program.
This rare report on the German rocket research at Peenemunde was only printed in limited numbers after it was downgraded to restricted from secret. The work is divided into 119 sections and includes accounts from Wernher von Braun, accounts of rocket components, guidance systems, fuels (liquid and solid), ballistics reports, A9 and A10 long range rockets, notes on interrogations conducted by U.S. Army Intelligence, biographies of the rocket scientists, etc. It is illustrated throughout with half-tone photographs and diagrams.

$1,000 - 2,000



2

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

2
OPERATION PAPERCLIP: FORT BLISS OLD TIMERS REUNION BOOK.
Old Timers Reunion. Huntsville, AL, Brown Engineering Company, 1961. 39 pp. Stiff paper wrappers, comb bound.

Rare and curiously light-hearted commemorative book for the Old Timers Reunion held October 18-19, 1961 for the team that was originally brought to Fort Bliss, Texas during Operation Paperclip to develop rockets. Top personnel like Wernher von Braun, Hermann Oberth, Walter Dornberg, Ernst Stuhlinger and others attended. This copy appears to have been inscribed by Walter Wiesman next to his photograph. The book concludes with the names and addresses attendees.

$500 - 700

3 W

DELTA J CONTRACTOR'S MODEL.
Mixed materials, approximately 22 tall, [mid-1960s], with engraved metal plaque on base reading: "Douglas / Improved Delta."

The Delta J, very similar to the Delta G, was a unique rocket that launched the Explorer 38 into orbit, the first satellite to study radioastronomy.

$800 - 1,200



3



4

4 W

DELTA M ROCKET CONTRACTOR'S MODEL.
Mixed materials, approximately 19 inches tall, McDonnell Douglas, [late 1960s], label on wooden base reads: "McDonnell Douglas / DSV-3L / Long Tank Delta."

The Delta L, M and N are all closely related long tank Thor rockets all with 3 Castor 2 boosters. The Delta M was the most flown of the group with 12 successful launches from 1968-1971.

$800 - 1,200



5

5 W

AIR-TO-AIR MISSILE CONTRACTOR'S MODEL.
Mixed materials, approximately 16 x 13 x 24 inches, [1970s?], on metal stand, painted green, gray and black with "United States" and U.S. Air Force logo labels.
Unidentified U.S. Air Force missile with a distinctive split air inlet duct.

$1,000 - 2,000

6 W

DOUGLAS DC-7C SEVEN SEAS CUTAWAY CONTRACTOR'S MODEL.
Mixed materials, 8 x 24 inches, Douglas, [mid-1950s], with cutaway displaying standard and first class passenger areas as well as restrooms.

Douglas DC-7 was, in 1953, the first commercial airplane to fly a regular non-stop transatlantic flight. The DC-7C Seven Seas was an update of the original DC-7.

$500 - 700



6



7

7
LIGHTWEIGHT FIGHTER PROGRAM: PAIR OF NORTHROP IN-HOUSE MODELS.
2 models, mixed materials, Northrop, 1970s, both 1:40 scale, approximately 500 and 435 mm long, each on wooden base with Northrop metal plaque.
Provenance: From the estate of Haig Asdurian, former head of engineering at Northrop.

Two models of prototypes, the XF-17 and the F-18L Cobra, were produced for the United States Air Force's Lightweight Fighter (LWF) technology evaluation program. Both were derived from the Northrup N-300 project, evolving into the P-530 Cobra Concept. The F-18L was a land-based version of the F-18 Hornet and the XF-17 was a variation of the YF-17. Neither aircraft made it to market. Northrop in-house models are rarely seen.

$1,000 - 1,500



8

8
HIGH ALTITUDE FLIGHT SUIT WITH HELMET.
High Altitude Flight Suit Cover Assembly, CSK-9A/P22S-6, October, 1972; High Altitude Helmet, HGK-19/P22S-4, November, 1973; Helmet Cushion Assembly 16556G-05ALCYO, July 1972, all David Clark Co. Inc. , orange cloth suit with collar assembly to integrate with helmet, various zippered, Velcro and snap openings and pockets, size "medium long"; molded fiberglass helmet with movable visor and independently movable sunshade, communication lines, microphone.

THE IMPROVED VERSION OF THE A/P22S-2, which had been used by pilots of high altitude aircraft such as the North American X-15 and the Lockheed U-2. The A/P22S-6 included a number of improvements that were made to satisfy Military Airlift Command (MAC) requirements. See: Jenkins, Dennis R. *Dressing for Altitude: U.S. Aviation Pressure Suits - Wiley Post to Space Shuttle.* Washington: NASA, 2012.

$6,000 - 8,000



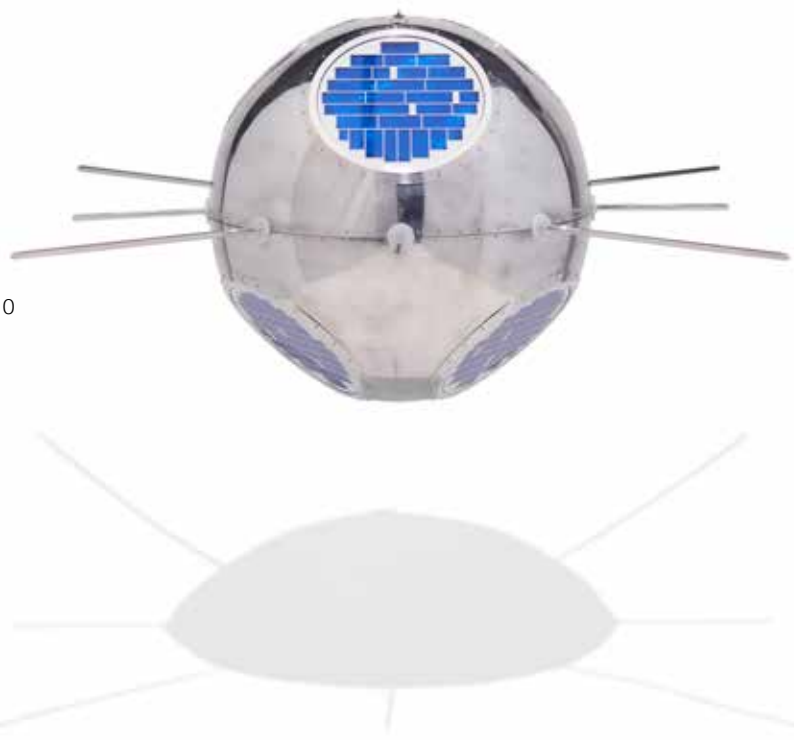
9

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

9
SPUTNIK PROGRAM: ORIGINAL POSTER FOR SPUTNIK 1, 2 & 3.
Lithographed poster in colors, Moscow, July 19, 1958, after V. Victorov, 35 1/4 x 22 inches (900 x 562 mm), titled: [In Cyrillic:] *Otchizna! ... Slava nauke, slava trudu! Slava sovetskomu stroju! [Homeland! Glory to science, glory to work! Glory to the Soviet system!]* Framed. 2-inch tear at head, some creases.

The USSR and the Soviet Red Star are the backdrop to Sputniks 1, 2, and 3 shooting into outer space in this poster celebrating Soviet success in space.

$800 - 1,200



10

10
SOLRAD/GREB SPY SATELLITE FULL-SIZE CONTRACTOR'S MODEL.
Full-size contractor's model, polished aluminum and mixed materials, circumference approximately 1680 mm, with 8 antennae, the longer 4 approximately 415 mm, the shorter 4 approximately 180 mm, and 6 simulated solar array assemblies each approximately 275 mm diameter.

Although officially described by the U.S. Naval Research laboratory and NASA as scientific satellites intended to report on solar radiation, SOLRAD's use as SIGINT (signals intelligence) spy satellites has been widely accepted by the general public. Nonetheless, SOLRAD 1 produced some important scientific data regarding the effects of solar radiation on the Earth's atmosphere. SOLRAD 1 was launched June 22, 1960, and is still in orbit. This full-size model was purchased as surplus amongst the Southern California aviation industry.

$5,000 - 7,000

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

11

THE MECURY SEVEN: PHOTOGRAPH SIGNED BY ALL 7 ASTRONAUTS.

Silver gelatin print photograph, 1959, approximately 8 x 10 inches (204 x 254 mm).

THE ORIGINAL SEVEN, SIGNED: "Alan B. Shepard Jr.," "Walter M. Schirra Jr.," "John H. Glenn, Jr.," "Virgil I. Grissom," "M. Scott Carpenter," "Donald K. Slayton," and "Leroy G. Cooper, Jr."
Classic publicity shot of the Mercury Seven astronauts examining a model of the Atlas launch vehicle while Gordon Cooper demonstrates the separation of the Mercury capsule.

$6,000 - 8,000



11

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

12

THE MERCURY SEVEN: LARGE FORMAT SIGNED BY ALL.

Original photograph, January 1961, 9 15/16 x 13 3/8 inches (252 x 340 mm), mounted to board, 16 x 20 inches, being NASA ID S-61-1250.
Provenance: Roy Neal (inscribed to him). Neal was the longtime NBC television news correspondent who covered the American space program from Mercury through the early Shuttle missions. Judging from the inscription, the astronauts had a lot of respect for him.

SIGNED BY ALL SEVEN ASTRONAUTS & INSCRIBED: "To Roy Neal with warmest personal regards from The Astronauts."
A Convair F-106B fighter jet used for flight training is the back-drop for the seven Mercury astronauts, each wearing their respective military service flight suits. This single photograph was a major factor that prompted NASA to standardize flight suits to the now well-known light blue fabric. Standing left to right are Scott Carpenter, Gordon Cooper (signed "Leroy G. Cooper"), John Glenn, Virgil "Gus" Grissom, Wally Schirra, Alan Shepard, and Donald "Deke" Slayton.

$1,500 - 3,000



12



13

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

13
YURI GAGARIN SIGNED VOSTOK 1 FIRST DAY COVER.
Pictorial cover, April 12, 1961, 4 3/8 x 5 1/8 inches (111 x 156 mm), stamped and cancelled on the day of the Vostok 1 flight, and featuring an illustration of a cosmonaut looking to space with a rocket and Sputnik satellite in his view, the date of Vostok 1 is printed to the bottom left and in the top right: "ТРУДУ И НАУКЕ СЛАВА! [GLORY TO WORK AND SCIENCE!]"

SIGNED by GAGARIN at bottom right.

$800 - 1,200



14

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

14
VOSTOK 1: YURI GAGARIN SIGNED FIRST DAY POSTCARD.
Printed postcard, April 12, 1961, 5 13/16 x 4 1/8 inches (148 x 105mm), stamped and cancelled on the day of the Vostok 1 flight, and featuring a portrait of Gagarin in flight cap superimposed on a globe being orbited by a red star with the date of the Vostok 1 mission printed on the pathway, a stalk of wheat bears the dates of past Soviet space successes, "СЛАВА! [GLORY!]" printed at the bottom of the postcard.

SIGNED by Gagarin below his portrait.

$800 - 1,200

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

15
YURI GAGARIN SIGNED POSTCARD.
Printed postcard, c.1961, 4 1/8 x 5 13/18 inches (105 x 147 mm), featuring an image of Gagarin and Gherman Titov looking over a newspaper.

SIGNED by GAGARIN across the lower right corner.

$800 - 1,200



15

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

16
THE MERCURY SEVEN: LARGE FORMAT PHOTOGRAPH SIGNED BY ALL 7 ASTRONAUTS.
RALPH MORSE. Large format silver gelatin print photograph, May 2, 1961, 11 x 14 (280 x 353 mm), "LIFE" credit stamp on verso, with "R. Morse" in pencil also on verso.

SIGNED BY EACH OF THE SEVEN: "Walter M. Schirra Jr.," "John H. Glenn, Jr.," "Donald K. Slayton," "Virgil I. Grissom," "Alan B. Shepard Jr.," "M. Scott Carpenter," and "Leroy G. Cooper, Jr." Great Ralph Morse photograph of the 7 astronauts in civilian clothes gathered around a Mercury test capsule at NASA's Langley Research Center in Virginia. Their wives would also pose around the very same capsule - although that image was apparently taken at a different time as the capsule had the Antenna section still attached at the top.

$6,000 - 8,000



16



17



18

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

17
THE MERCURY SEVEN IN THEIR SPACESUITS SIGNED BY ALL ASTRONAUTS.
Printed illustration, 9 3/8 x 7 inches (238 x 177 mm), mounted to board.

SIGNED BY ALL 7: (front row) "Walt Schirra," "D. K. Slayton," "John Glenn," "Scott Carpenter," (back row) "Alan B. Shepard Jr.," "Virgil I. Grissom," and "Leroy G. Cooper, Jr."
The classic image of the Seven in their silver space suits taken at NASA's Langley Research Center during training.

$3,000 - 5,000

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

18
YURI GAGARIN SIGNED & INSCRIBED POSTCARD.
Postcard, 1961, 5 7/8 x 4 1/8 inches (149 x 104 mm), being a portrait of Gagarin in his Soviet Air Force uniform.

SIGNED & INSCRIBED by Gagarin.

$800 - 1,200

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

19
MERCURY-REDSTONE 4: VIRGIL GRISSOM SIGNED PHOTOGRAPH.
Silver gelatin print photograph Signed ("Virgil I. Grissom'), c.1961, 4 x 5 inches, being a head and shoulders portrait of Grissom in his Mercury spacesuit.

Grissom is shown here after his (mostly) successful Mercury-Redstone 4 flight on the telephone, possibly receiving his post-flight debriefing. Surprisingly, if this is the case, Grissom is pictured smiling despite the difficult recovery after the Mercury capsule's hatch blew up mysteriously, leading to its sinking.

$600 - 800



19

20
MERCURY-ATLAS 6: JOHN GLENN SIGNS ONE OF THE FIRST HUMAN-CAPTURED PHOTOGRAPHS FROM SPACE.
Chromogenic color photograph, February 20, 1962, 11 1/8 x 13 1/2 inches (282 x 343 mm), affixed to backing board, 16 x 20 inches.
Provenance: From the collection of Marilyn Bockting, Administrative Assistant to Deputy Director of MSC James C. Elms 1963-1967; Administrative Assistant to Apollo Program Manager George Low 1967-1970; Administrative Assistant to Director of Flight Crew Operations Donald K. "Deke" Slayton 1970-1973; Assistant Manager of the Program Administration Office 1973-1975 and promoted to Manager in 1975.

SIGNED & INSCRIBED by John Glenn on the backing board: *"Best regards to Marilyn, and I assure you a picture can never reproduce the brilliance of the actual view. / Thanks for all the help - J.H. Glenn, Jr."*
John Glenn was the first astronaut to take a camera into space when he convinced NASA officials to allow him to take a Ansco Autoset (a repackaged Minolta Hi-Matic) camera he had purchased at a Cocoa Beach drug store. NASA modified the Ansco and also sent him with a Leica equipped with a special lens that enabled spectrographic photography. The present image, which seems to show some of the "fireflies" mentioned by Glenn and Alan Shepard before him, has rarely been reproduced.

$700 - 900



20



21

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

21
MERCURY-ATLAS 6: JOHN GLENN SIGNED ITEM GROUP.
1-3. Mercury-Atlas 6 Launch Day covers, SIGNED by Glenn. Postmarked February 20, 1962, the day of the launch.
4. Mercury-Atlas 6 15th Anniversary cover, SIGNED by Glenn. Postmarked February 20, 1977.
5. Color Photograph Signed ("John Glenn"), 8 x 10 inches, featuring Glenn in his Mercury spacesuit.
6. *The Times Recorder* New Concord, Ohio, February 1962. Special edition dedicated to John Glenn. 40pp. 16 1 /2 by 12 inches. With a letter stating that this paper was presented by Glenn's parents.
7. Glenn, John and Nick Taylor. *John Glenn, A Memoir.* New York: Bantam Books, [1999]. First edition, SIGNED by Glenn on the half-title.
8. *Baltimore News-Post.* February 20, 1962. 12pp. 22 1/2 x 15 inches. SIGNED by Glenn besides his image on the first page.

$800 - 1,200



22

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

22
MERCURY-ATLAS 8: WALLY SCHIRRA'S PERSONAL ACHIVE OF DOCUMENTS RELATED TO HIS FLIGHT.
A group of items belonging to Wally Schirra and relating to Mercury Atlas 8 (MA-8) which was the NASA designation for his Sigma 7 Mercury flight, comprising:
1. Manuscript notes by Schirra, 3 1/2 pp, one leaf listing over 20 flight sequence steps from Booster Engine Cut-off ("BECO") to "Retro Att[itude]," another with 6 steps of "Yaw Checks," with "Chimp config" and several other steps crossed-out, the last a "Return from Drift" page with 9 steps and with additional "Chimp config" steps crossed-out. The first leaf with old tape at corners and apparently used during training.
2. A memo, 10 pp, December 12, 1961, describing observations through the MA-6 capsule window. "Wally" written at the top of the first page.
3. A 2pp McDonnell weight change listing detailing spacecrafts 13, 16, 18 and 19, 3 pp, June 29, 1962.
4. 3 copies of a sheet listing MA-8 retrosequence information, July 10, 1962.
5. Schirra's distribution copy of the MA-8 Flight Test Reports, approximately 100 pp. "W. Schirra" written at top of first page, autograph notes to a few pages including an emphatic "NO!" to a section on the misreading of the manual fuel gauge during MA-8.
6. An orbital map for MA-8, color lithograph, 32 by 9 inches. Includes a couple of penciled notes along orbit 3.
Contained together in a folder titled by Schirra in pencil "MA-8 Data."
Provenance: Wally Schirra, with his ownership signatures and notes; Bonhams *The Space Sale,* July 16, 2009, lot 27.

"Chimp configuration" was Wally Schirra's name for a free drift that tested the Mercury's autopilot system. Much to his frustration, the majority of the flight time of MA-8 was spent in this state.

$1,000 - 2,000



THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

23

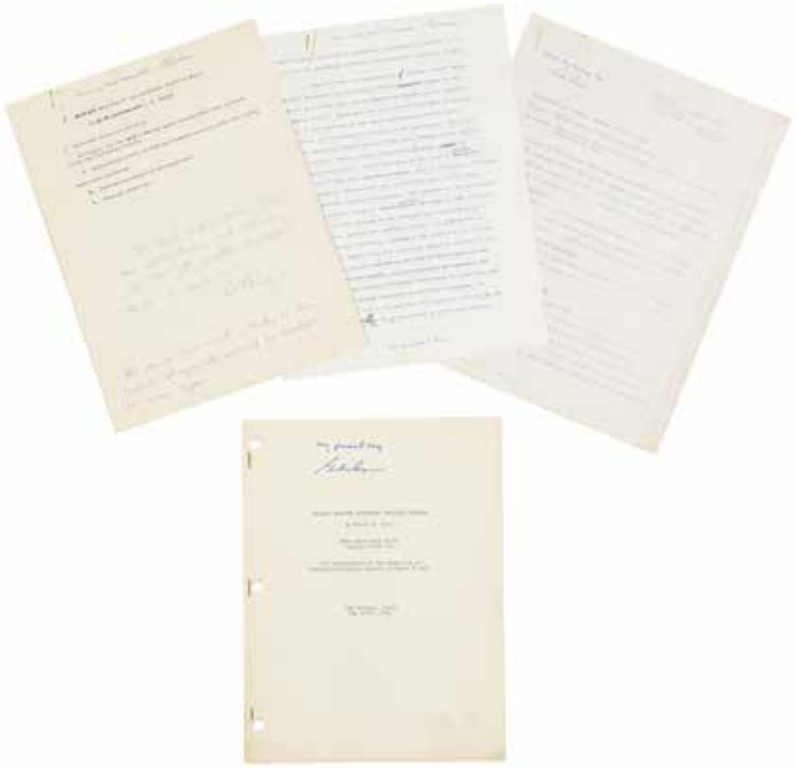
PROJECT MERCURY: WALLY SCHIRRA'S PERSONAL COLLECTION OF SOUVENIRS.

A Large group including:

1. *Mercury-Atlas MA-8 Launch Information and Notebook.* General Dynamics, 1961. SIGNED on the cover and INSCRIBED with the Sigma 7 symbol.
2. Chromogenic color photograph, Signed ("Wally Schirra") and Inscribed with Sigma 7 symbol, 8 x 10 inches, "A KODAK PAPER" watermark on verso, being an official NASA portrait (S-62-5526) of Schirra in Mercury spacesuit.
3. Silver gelatin photograph, Signed ("Wally Schirra") and Inscribed with Sigma 7 symbol, 8 x 10 inches, being an official NASA photograph (NASA ID in black: S-62-5142) of Schirra in training for MA-8.
4. Group of 4 silver gelatin print photographs, September 1962, 8 x 10 inches, each with General Dynamics press release attached (or formerly attached) to verso. Period photographs covering the Mercury Atlas rocket.
5. 3 Silver gelatin print photographs, c.1962, 4 x 5 inches, being snapshots of Mercury "party" activities.
6. Signed cover, being a Mercury-Atlas-8 commemorative cover featuring a portrait of Schirra. Postmarked November 16, 1962.
7. 4 NASA color photolithographs of Mercury subject matter.
8. *MA-8: Tracking and Communications Networks.* Greenbelt, MD: Goddard Space Flight Center, c.1961. Large folding chart, 27 by 22 inches, SIGNED and INSCRIBED with the Sigma 7 symbol.
9. Group of 4 NASA publications: "Liberty Bell 7"; "Results of the Second U.S. Manned Suborbital Space Flight"; "Astronaut M. Scott Carpenter: Aurora 7"; "The Six Orbits of Sigma 7: Walter M. Schirra's Space Flight"
10. A handful of other printed items including General Dynamics press releases, official NASA handouts, including one marked "CONFIDENTIAL," contained together in a folder titled *"Souvenirs"* in Schirra's hand.

*Provenance:*Wally Schirra, contained in his folder; Bonhams *The Space Sale* July 16, 2009, lot 29.

$1,000 - 2,000



24

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

24
MERCURY-ATLAS 9: GORDON COOPER'S POST FLIGHT REPORT & FILES.
2 Typescripts and 2 additional items, each 8 1/2 x 11 inches:
1. Original Typescript, 5 pp, January 23, 1963, headed *"The following is a list of operational discrepancies by the pilot in the pre-flight activities preceding the launch of MA-9,"* with over 20 manuscript corrections and amendments by Cooper, as well as several pointed comments (*"This is absolutely ridiculous* [related to the addition of a last minute experiment] *and it is my opinion that if a crew is going to fly a spacecraft and a Project Office is to run the Project, then there must be authority given to them to adhere to these cutoff dates"*), the first leaf SIGNED & INSCRIBED by Cooper *"From my personal files ... My working draft, corrections by Gordon Cooper."*
2. Original Typescript, 9 pp, no date, headed *"MA-9 Postflight Astronaut Training Report by Cooper"* with references to MA-8 and Schirra crossed out in the title, including several corrections in Schirra's hand (*"Go ahead on this Gordo, I buy the whole thing but I think you can get a better audience than I now - Wally"*), the report addressing pilot training via aircraft, engineering education, and physical training, and with an additional Cooper note reading *"Redo para on gym to read - Funding has been approved, but apparently will not be available for approx. 1 year,"* the title SIGNED & INSCRIBED by Cooper *"From my NASA Mercury Files, Gordon Cooper."*
3. Distribution copy on Astronaut's Post-Recovery Activities for MA-9, 14 pp, including a list of topics for Cooper's debriefing after the flight, SIGNED & INSCRIBED at the top of the first page: *From my Mercury File / Gordon Cooper."*
4. Printed booklet, stiff wrappers, 22 pp, May 26-27, 1960, titled *Project Mercury Astronaut Training Program."* Disbound, wrappers detached. SIGNED & INSCRIBED on the front wrapper: *"My personal copy / Gordon Cooper."*
These papers give a possible insight as to why Cooper never flew again after Gemini 5.

$600 - 900



25

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

25
PROJECT MERCURY: CONTRACTOR'S MODEL.
Injection-molded plastic model, early 1960s, approximately 6 x 3 3/4 inches, made by Topping of Akron, OH for McDonnell Aircraft, with three viewing ports in the white section and raised lettering in the gray areas, reading "NASA - McDonnell" twice and "Project Mercury Manned Satellite Capsule" twice, the bottom heat shield area being black.

Early contractor's model in form of a paperweight. McDonnell, who manufactured the Mercury capsule, would go on to also manufacture the Gemini capsule.

$400 - 600

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

26
PROJECT MERCURY: BOOK SIGNED BY 3 MERCURY ASTRONAUTS.
SWENSON, LOYD, S., JAMES GRIMWOOD & CHARLES ALEXANDER. *This New Ocean: A History of Project Mercury.* Washington, D.C.: GPO, 1966. Original wrappers, folding charts. Front wrapper detached.

SIGNED & INSCRIBED on the half-title by: SCOTT CARPENTER *"Aurora 7"* / WALLY SCHIRRA *"Σ7"* / GORDON COOPER *"Faith 7."*

$400 - 600



26

27
LARGE FORMAT SIGNED PHOTOGRAPH OF THE "NEW NINE."
Large formt chromogenic color photograph, September 17, 1962, 10 7/8 x 13 5/8 inches (277 x 346 mm), NASA ID: [S-62-6759] affixed to mat (16 x 20 inches overall).
Provenance: From the collection of Marilyn Bockting, Administrative Assistant to Deputy Director of MSC James C. Elms 1963-1967; Administrative Assistant to Apollo Program Manager George Low 1967-1970; Administrative Assistant to Director of Flight Crew Operations Donald K. "Deke" Slayton 1970-1973; Assistant Manager of the Program Administration Office 1973-1975 and promoted to Manager in 1975.

Exceptionally rare large format group portrait introducing the second group of NASA astronauts during the September 17th press conference *SIGNED* by each of the new astronauts: Edward White, II, James McDivitt, John Young, Elliot See, Jr., Charles Conrad, Jr., Frank Borman, Neil Armstrong, Thomas Stafford and James Lovell. Judging from the rarity of signed examples, it's likely that signed large format examples of this photograph were only acquired by high level employees. Marilyn Bockting, who worked for James C. Elms, George Low, Deke Slayton and seems to have been beloved by the astronauts, was an obvious candidate.

$1,500 - 2,000



27

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.



28

28
SOVIET COSMONAUTS SIGNED PHOTOGRAPH.
Silver gelatin print photograph, July 1965, 5 1/2 x 7 11/16 inches (140 x 195 mm), with cosmonauts identified in pencil on verso.

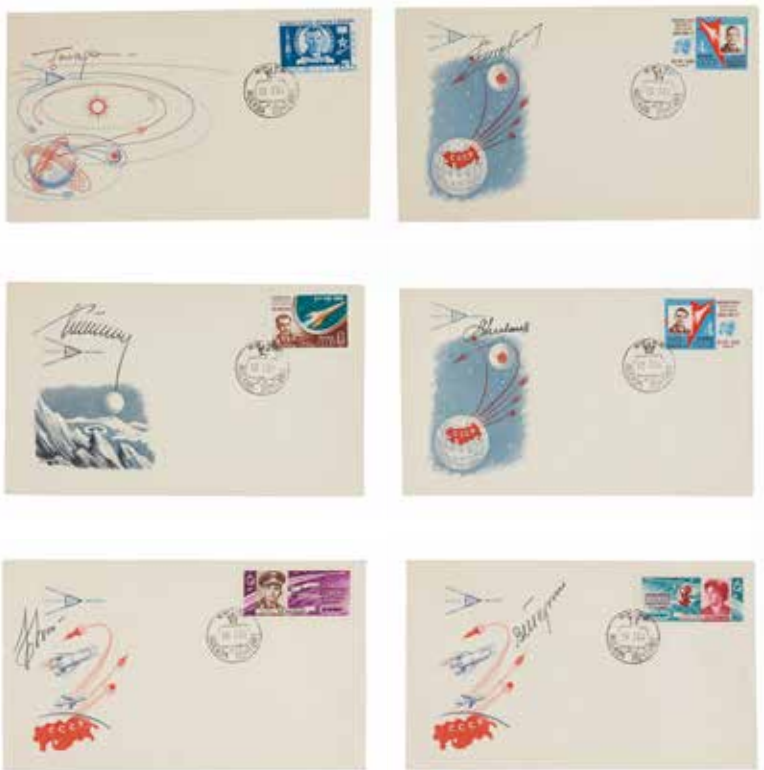
SIGNED by the first 11 cosmonauts including: YURI GAGARIN (Vostok 1), GHERMAN TITOV (Vostok 2), VALENTINA TERESHKOVA (Vostok 6), PAVEL POPOVICH (Vostok 4), ANDRYAN NIKOLAYEV (Vostok 3), VALERY BYKOVSKY (Vostok 5), ALEXEY LEONOV (Voskhod 2), BORIS YEGOROV (Voskhod 1), VLADIMIR KOMAROV (Voskhod 1), KONSTANTIN FEOKTISTOV (Voskhod 1), PAVEL BELYAYEV (Voskhod 2).

$2,000 - 3,000

29
VOSTOK 1-6: COSMONAUT-SIGNED KNIGA 6-COVER SET WITH GAGARIN, ETC.
Set of 6 covers, Moscow, January 10, 1964, 94 x 164 mm each, each stamped with corresponding mission postage stamp and each postmarked, with Mezhdunarodnaja Kniga signed and stamped certificate.

SIGNED by the first 6 cosmonauts: YURI GAGARIN (Vostok 1); GHERMAN TITOV (Vostok 2); ANDRIYAN NIKOLAYEV (Vosktok 3); PAVEL POPOVICH (Vostok 4); VALERY BYKOVSKY (Vostok 5); and VALENTINA TERESHKOVA (Vostok 6).

$800 - 1,200



29



30
PROJECT GEMINI: ROCKETDYNE SE-6 ROCKET ENGINE ON CONTRACTOR'S DISPLAY.
Mixed materials, mid-1960s, 250 mm long, 208129-02602-04989 and PN208915-6l SN 409l479 on rocket body, seated on contractor's stand, with composite base, 202 x 180 mm, Chrome label on base with Rocketdyne "R" and "SE-6 25LP / GEMINI REENTRY CONTROL." With plastic case.

Rocketdyne was involved with NASA's space program from the beginning, supplying engines for the Atlas rocket, all of the major engines for the Saturn rocket and later the Space Shuttle Main Engine. The present SE-6 was used on the Gemini Program, beginning with Gemini II (GT-2) as the Re-Entry Control System (RCS). They were used on the Gemini re-entry module forward of the astronaut's pressurized cabin in two banks of 8 engines. Each engine provided 25 pounds of thrust.
The SE-6-powered RCS was most famously used by Neil Armstrong during the Gemini VIII emergency when the spacecraft began to tumble dangerously (later found to be due to an Orbital Attitude Maneuvering System (OAMS) thruster sticking) after undocking from the Agena Target Vehicle (ATV). Armstrong, cool under pressure, shut down the OAMS and used the RCS to stop the tumbling. Dave Scott, Pilot on the mission later said "The guy was brilliant. He knew the system so well. he found the solution, he activated the solution, under extreme circumstances ... it was my lucky day to be flying with him."

$3,000 - 5,000

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.



30

31
GEMINI III: VIRGIL GRISSOM'S OWN MISSION PATCH.
Embroidered cloth crew mission emblem, 1965, circular form, 3 1/2 inches (89 mm) diameter, with the full names of astronauts Grissom and Young surrounding a Gemini spacecraft floating on water, mounted on a Typed Letter Signed by Mrs. Betty Grissom.
Provenance: The Virgil I. "Gus" Grissom Collection (accompanying letter).

Betty Grissom's letter reads in part: *"Gus had lost his Mercury capsule after a short circuit blew the hatch. 'Molly Brown,' the unsinkable heroine from the Broadway musical, seemed the best choice by my husband for the name of his Gemini spacecraft. NASA never officially named Gemini 3 'Molly Brown,' but the name was enthusiastically used by the press during coverage of the March 23, 1965 flight."*
Gemini III was the first crewed mission of Project Gemini and was a key test of spacecraft maneuverability necessary for the planned flights to the Moon.

$1,500 - 2,500


The Virgil I. "Gus" Grissom Collection

The attached cloth emblem is one of the originals made at the request of my husband for his Gemini 3 flight. Gus had lost his Mercury capsule after a short circuit blew the hatch. *Molly Brown*, the "unsinkable" heroine from the Broadway musical, seemed the best choice by my husband for the name of his Gemini spacecraft.

NASA never officially named Gemini 3 *Molly Brown*, but the name was enthusiastically used by the press during coverage of the March 23, 1965 flight.

Betty Grissom

31



32

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

32
GEMINI IV: ED WHITE & JIM MCDIVITT-SIGNED SPACEWALK PHOTO PRESENTATION.
Group of 4 chromogenic color photographs, June 3, 1965, matted together, framed to 13 1/2 x 38 inches. Sealed in mat.
Photographs include:
1. NASA ID: S-65-30431. Ed White with the Earth visible below, his visor reflecting Gemini spacecraft.
2. NASA ID: S65-30428. Ed WHite over El Paso, Texas.
3. NASA ID: S-65-30430. Ed White over Southern California. He holds a Hand-Held Maneuvering Unit (HHMU) in his right hand and is secured to the Gemini capsule by a 25-foot umbilical line and a 23-foot tether line.
4. NASA ID: S-65-30427. Full-body shot of Ed White over a cloud-covered Earth.

SIGNED & INSCRIBED on the mat by ED WHITE & JIM MCDIVITT to Chuck Strea(r?). Fantastic presentation piece including 4 breathtaking images of Ed White on the first extravehicular activity (EVA) by an American astronaut. Along with Command Pilot James McDivitt, the two orbited the Earth 66 times during the 4-day Gemini IV mission. The EVA was a highlight for Ed White who was reluctant to return to the spacecraft when his time was up and said upon entering: "I'm coming back in ... and it's the saddest moment of my life."

$2,000 - 3,000

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

33
GEMINI V: GORDON COOPER'S FLOWN MISSION PATCH.
Flown embroided cloth crew mission emblem, August 21-29, 4 inches (102 mm) diameter, 1965, featuring a covered wagon with *"8 DAYS OR BUST"* embroided on the wagon cover. Mounted onto a Typed Letter Signed by Gordon Cooper.
Provenance: Gordon Cooper (accompanying letter).

This was the very first manned space flight crew-designed mission emblem or "patch" to be worn on astronauts' space suits.
Gordon Cooper's letter reads in part: *"This patch flew in space on the Gemini 5 flight during August 21 to 29, 1965 ... The idea of the covered wagon came from a wooden model a family member had whittled. I felt it was the best way to symbolize the pioneering spirit of this early Gemini flight. The eight days or bust wording was a natural addition. However, NASA Administrator James Webb wanted the wording removed because any flight time short of eight days could be seen as a mission failure. We were directed to cover the wording with cloth on our flight space suits. Our mission completed all eight days and Gemini 5 marked the beginning of the US lead in manned space exploration."*
Gemini V was the longest space flight to that time, double the previous U.S. record of Gemini IV and about 3-days longer than the previous record set by the Soviets in Vostok 5 in 1963. This would be Cooper's second and final mission although he didn't retire from NASA until 1970. His extra-curricular activity of car racing upset NASA officials and after he was ordered to withdraw from the 24 Hours of Daytona, he complained to the press: "NASA wants astronauts to be tiddlywinks players." He served as back-up commander for Apollo 10, but no assignments thereafter.

$3,000 - 5,000

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

34
GORDON COOPER'S GEMINI COLLECTION.
A collection of about 20 items from Gordon Cooper's Gemini Collection comprising:

1. "Manned Space Flight Team." NASA EP-11. 12 pp. Provides short biographies of the Mercury and Gemini astronauts.
2. 3 period 8 x 10 inch photolithographs of Gemini activities.
3. A 32 x 21 inch "NASA Facts – Launch Vehicles" poster illustrating NASA's launch vehicles of the 1960s.
4. "Gemini 4 Extravehicular Activity, A Walk in Space." 24 pp. Describes the first US EVA and flight of Gemini
5. A 3½ x 2½ inch marble-base paperweight with the Gemini logo and the dates *"1961 – 1966."*
6. An Eastern Test Range circular 1½ inch diameter tile clip, together with an information booklet on the Air Force Space Museum (16 pp, illustrated).
7. A hinged display box containing one Gemini tie tack, two sets of Gemini capsule cufflinks (one in gold metal and one in silver metal), and two space-walking astronaut lapel pins in gold metal.
8. "Space Data." 98 pp. A technical mini-booklet with information on the space environment issued by TRW.
9. Two Gemini 5 postal covers cancelled on the Gemini 5 launch date, each *SIGNED* by GORDON COOPER and CHARLES CONRAD.

The above are all listed on GORDON COOPER'S signed provenance note, included.

$800 - 1,200



33



34

35
PROJECT GEMINI: PAIR OF FLOWN HEAT SHIELD FRAGMENTS IN LUCITE.
Each approximately 35 x 40 mm pie slice-shaped fragment, 1964-1966, encased in Gemini capsule-shaped Lucite, 98 x 48 mm.

The present heat shield fragments display the characteristic charred surface layer and provides a cross-sectional view of the honeycomb form of the silicone elastomer material of the deeper layers. At some point the Lucite-encased heat shield fragments were each separated from their base, which would have identified from which mission they originated.

$1,200 - 1,800



35



36



37

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

36
GEMINI PROGRAM: SIGNED LAUNCH DAY COVER GROUP.
3 pictorial covers, each 3 5/8 x 6 1/2 inches (93 x 165 mm):
1. Gemini VI-A. Cancelled at Cape Canaveral, December 15, 1965. *SIGNED* by WALLY SCHIRRA and TOM STAFFORD as ("PLT").
2. Gemini IX-A. Cancelled at Cape Canaveral, June 3, 1966. *SIGNED* by TOM STAFFORD and GENE CERNAN.
3. Gemini XII. Cancelled at Cape Canaveral, November 11, 1966. *SIGNED* by BUZZ ALDRIN and JIM LOVELL.

$600 - 800

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

37
APOLLO PROGRAM: NORTH AMERICAN AVIATION CONTRACTOR'S MODEL OF APOLLO SPACECRAFT.
Mixed materials, North American Rockwell, mid 1960s, 530 mm (20 3/4 inches) tall on base, spacecraft removable from base and with Command Module removable from Service Module and escape tower also removable.

$1,000 - 2,000

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

38
APOLLO 1: LARGE FORMAT SIGNED PHOTOGRAPH OF THE CREW IN TRAINING.
Large format chromogenic color photograph, August 1966, 11 x 13 11/16 inches (279 x 347 mm), mounted to board. Matted and framed.

SIGNED BY THE ENTIRE CREW: GUS GRISSOM, ROGER CHAFFEE and ED WHITE. The crew in full spacesuits while training with the Apollo spacecraft at the North American Aviation plant in Downey. NASA had announced the crew selection on March 21, 1966. As the Apollo Command and Service Module were bigger and more complex than any previous crewed spacecraft, the crew participated in extensive training. The present image shows the astronauts at NAA's Downey plant before the completed spacecraft was delivered to Kennedy Space Center on August 26 of that year. The crew had expressed concern over the amount of flammable material in the cabin, but changes weren't made before the tragic January 27, 1967 launch simulation which resulted in fire that took their lives.

$8,000 - 12,000



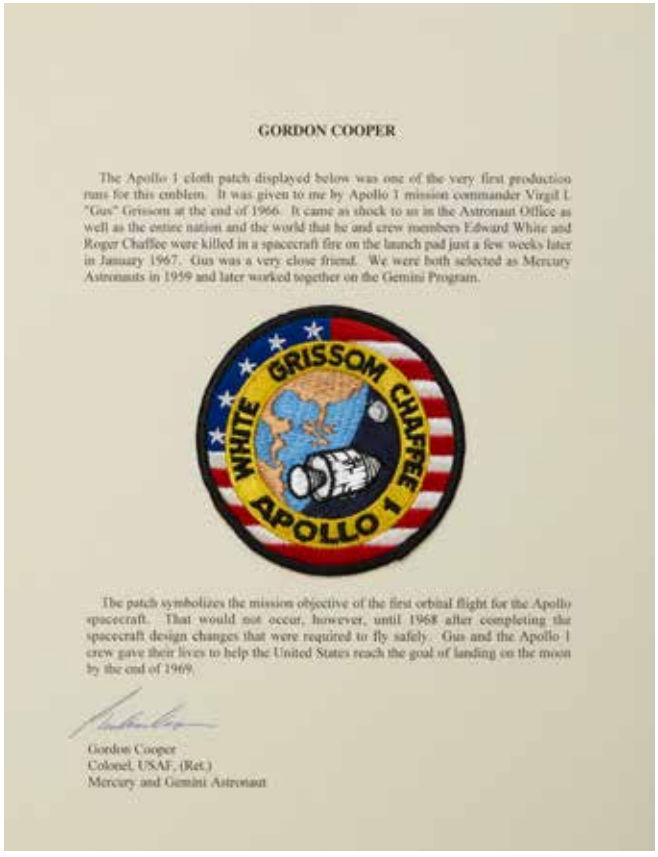
38

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

39
APOLLO 1: CREW PATCH FROM THE COLLECTION OF GORDON COOPER, GIVEN TO HIM BY GUS GRISSOM.
Circular cloth crew emblem, [1966], 3 1/2 inches (87 mm) diameter, features a CSM in orbit over Earth with the moon in the distance. Mounted onto a Typed Letter Signed by Gordon Cooper.
Provenance: Gordon Cooper (accompanying letter).

Conrad's letter reads in part: *"The Apollo 1 cloth patch displayed below was one of the very first production runs for this emblem. It was given to me by Apollo 1 mission commander Virgil I. "Gus" Grissom at the end of 1966. It came as a shock to us in the Astronaut Office as well as the entire nation and the world that he and crew members Edward White and Roger Chaffee were killed in a spacecraft fire on the launch pad just a few weeks later in January 1967 ... Gus and the Apollo 1 crew gave their lives to help the United States reach the goal of landing on the moon by the end of 1969."*

$600 - 900


GORDON COOPER

The Apollo 1 cloth patch displayed below was one of the very first production runs for this emblem. It was given to me by Apollo 1 mission commander Virgil I. "Gus" Grissom at the end of 1966. It came as shock to us in the Astronaut Office as well as the entire nation and the world that he and crew members Edward White and Roger Chaffee were killed in a spacecraft fire on the launch pad just a few weeks later in January 1967. Gus was a very close friend. We were both selected as Mercury Astronauts in 1959 and later worked together on the Gemini Program.

The patch symbolizes the mission objective of the first orbital flight for the Apollo spacecraft. That would not occur, however, until 1968 after completing the spacecraft design changes that were required to fly safely. Gus and the Apollo 1 crew gave their lives to help the United States reach the goal of landing on the moon by the end of 1969.

Gordon Cooper
Colonel, USAF, (Ret.)
Mercury and Gemini Astronaut

39



40

APOLLO 1-ERA PRESSURE GARMENT ASSEMBLY (PGA) ADAPTER WITH SURPLUS TAG.

Mixed materials, approximately 490 mm (19 1/4 inches) long, North American Aviation, c.1967, part no V16-601557-31, with Temporary Parts Removal Tag dated 1-31-67.

REMOVED DAYS AFTER APOLLO 1 DISASTER.

The Apollo 1 crew were wearing A1C full pressure suits, a modification of the Gemini G4C suit, during training and it was to also be used for the launch. The tragic launch rehearsal test on January 27, 1967, which was determined to be an electrical fire that spread rapidly because of combustible nylon material in combination with the high-pressure pure oxygen cabin atmosphere, instigated many changes including the end of the A1C suit which contained nylon. The present piece, part of the Pressure Garment Assembly, the life support system for the thermal and vacuum conditions of space, likely contained flammable material and would have been replaced as a consequence. Judging from the date on the tag, just four days after the disaster, NASA wasted no time before making the changes.

$2,000 - 3,000





THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

41

WALLY SCHIRRA'S PILOT SUNGLASSES.

Standard-issue military sunglasses by General Optical, c.1965, 5 5/8 x 1 3/4 x 5 1/2 inches, gold-colored metal with straight-prong supports and green-gray lenses.

WITH: Photograph Signed ("Wally Schirra") and inscribed, 8 x 10 inches, featuring Schirra in a blue Chevrolet Corvette wearing the above sunglasses and inscribed: *"The Need for Speed."*

Provenance: Wally Schirra, with Typed Letter Signed by him attesting to his ownership.

SCHIRRA ON SPORTS CARS AND MORE! Standard-issue military sunglasses by General Optical, in gold-colored metal with straight-prong supports and green-gray lenses. With a Typed Letter Signed by WALLY SCHIRRA on his personal Rancho Santa Fe, CA, letterhead.

WALLY SCHIRRA'S signed provenance, which is on his personal Rancho Santa Fe, CA letterhead, reads: *"Enclosed with this letter is my pair of straight prong sunglasses I wore during training during the days of Gemini and Apollo. I also wore them while driving various sports cars. We had access to 'loaner' cars such as the Chevrolet Corvette. I remember a crew photo session prior to my Apollo 7 flight driving a Corvette and wearing a long white scarf. A lot of jokes were being exchanged but I topped them all with a 'well hung' remark. Personally, my preference in sports cars was for an Austin-Healy which I owned prior to driving the 'loaner.' I liked the light touch feel of the Austin, it was a lot like flying a fighter aircraft or nimble spacecraft like the Gemini and Apollo. I later bought a second hand Maserati. I liked it a lot more that a used Ferrari I owned in 1963, a year after my Mercury flight. I kept the Ferrari for less than a year. Most of us in the Astronaut Corps had the itch to keep moving on the ground as fast as we were able to fly in orbit."*

Schirra, ever the pilot's pilot, was the first to assume manual control of the Mercury spacecraft during his Mercury-Atlas 8 mission. He managed with such precision that he landed just 5 miles from the recovery ship, in full view of the crew and journalists aboard.

Schirra had another opportunity to demonstrate his abilities with a far more agile spacecraft when he piloted Gemini VI-A and achieved the first crewed space rendezvous with Jim Lovell and Frank Borman in the Gemini VII spacecraft.

Schirra became the only astronaut to fly a Mercury, Gemini and Apollo mission when commanded Apollo 7. This was the first crewed mission after the Apollo 1 tragedy over a year and a half earlier and the first crewed Apollo flight. The mission was a technical success with Schirra and crew guiding the CSM to a rendezvous with the Saturn S-IVB rocket stage despite lacking a rendezvous radar. The success of the mission put the Apollo Program back on track for the Moon landing less than a year later, but Schirra had already made the decision to retire after the flight.

$2,500 - 3,500

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.



42

42
APOLLO 7: CREW-SIGNED "RED NUMBER" PHOTOGRAPH.
Color chromogenic color photograph, October 11, 1968, 8 x 10 inches (202 x 253 mm), NASA ID in red: S-68-33744; MSC press slip and "A KODAK PAPER" watermark to verso.
Provenance: From the collection of Marilyn Bockting, Administrative Assistant to Deputy Director of MSC James C. Elms 1963-1967; Administrative Assistant to Apollo Program Manager George Low 1967-1970; Administrative Assistant to Director of Flight Crew Operations Donald K. "Deke" Slayton 1970-1973; Assistant Manager of the Program Administration Office 1973-1975 and promoted to Manager in 1975.

SIGNED by all three members of the crew: DON EISELE, WALLY SCHIRRA and WALT CUNNINGHAM. The Apollo 7 crew were credited with saving crewed space flight by completing a successful mission after the Apollo 1 tragedy.

$500 - 700

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.



43

43
APOLLO 8: FLOWN FLAG & EMBLEM PRESENTED TO FRED HAISE.
Flown U.S. Flag, silk, 3 3/4 x 6 inches (97 x 152 mm) & flown Apollo 8 crew emblem, cloth, 4 x 4 1/2 inch (115 x 103 mm) triangular form, mounted together on a printed certificate. Framed to 13 x 16 inches.
Provenance: Astronaut Fred Haise, presented to him and inscribed by him on the verso: "*From my personal collection, Fred Haise, Apollo 8 Back-Up LMP.*"

The certificate reads: "*Presented to Apollo 8 back-up Lunar Module Pilot Fred Haise from the Apollo 8 flight crew.*" It is *SIGNED* by FRANK BORMAN, JAMES LOVELL, and BILL ANDERS.
Fred Haise served as backup Lunar Module Pilot for Apollo 8 and as such trained with the primary crew for this first crewed mission to the Moon.

$6,000 - 8,000

44

APOLLO 8: MOON-FLOWN SILVER ROBBINS MEDALLION.

Gilded sterling silver triangular form medallion, 1 1/2 x 1 3/8 inches (38 x 25 mm) with jump ring, obverse with Apollo 8 insignia, reverse with *"DEC 21-27, 1968"* and no "279." Later gold gilding and addition of jump ring to complete conversion to pendant.

Apollo 8 was the first crewed spacecraft to leave low Earth orbit and the first human spaceflight to reach the Moon. It was an essential step on the way to the Moon landing half a year later. The present medallion was carried on that mission and bears the triangular mission insignia. The shape is that of the Apollo Command Module and it shows a figure 8 looping around the Earth and Moon with the three crew members' names on the lower portion. Crew member Jim Lovell designed the insignia after learning it was to be a lunar-orbital mission. This example was gold plated and a jump ring was attached to enable it to hang as a pendant. The Robbins medallions were designed with input from the flight crew and only those directly affiliated with the NASA Astronaut Flight Office were eligible to purchase them. The gold gilding/plating and the pendant conversion leads one to believe that this was presented by an astronaut to one of their very close friends or family.

$3,000 - 5,000



44

45

APOLLO 8: LARGE FORMAT EARTH RISE SIGNED & INSCRIBED BY FRANK BORMAN.

Large format color photograph, 30 x 29 1/2 inches, excellent condition.

SIGNED by Frank Borman and with a substantial inscription providing some of the transcript when the Apollo 8 Earthrise sequence was originally taken. In part: *"025:47:46 Anders: 'Hand me that roll of color quick, will you ...' / 025:47:48 Lovell: 'Oh man, that's great!'*
A fantastic inscription on a powerful image.

$1,000 - 2,000



45



46

46
APOLLO 8: FLOWN COMMAND MODULE HEAT SHIELD FRAGMENT IN LUCITE.
Cylindrical heat shield fragment, 1968, approximately 15/16 x 1 9/16 inches (24 x 41 mm), encased in cylindrical-form Lucite mold, 2 7/8-inch (72 mm) diameter, 2 1/8 inches (54 mm) tall, "Apollo VIII / Dec. 21-27, 1968" incised in bottom. Some surface wear.
Provenance: From the collection of Marilyn Bockting, Administrative Assistant to Deputy Director of MSC James C. Elms 1963-1967; Administrative Assistant to Apollo Program Manager George Low 1967-1970; Administrative Assistant to Director of Flight Crew Operations Donald K. "Deke" Slayton 1970-1973; Assistant Manager of the Program Administration Office 1973-1975 and promoted to Manager in 1975.

Period heat shield fragment from the first crewed mission to the Moon. The Apollo Command Modules were covered on the blunt end with this multi-layered protective shield of a honeycomb steel structure and a further honeycomb fiberglass structure filled with phelonic epoxy resin. This heat shield protected the spacecraft as it entered the Earth's atmosphere blunt end first. This fragment shows the characteristic charring from that process.

$800 - 1,200



47

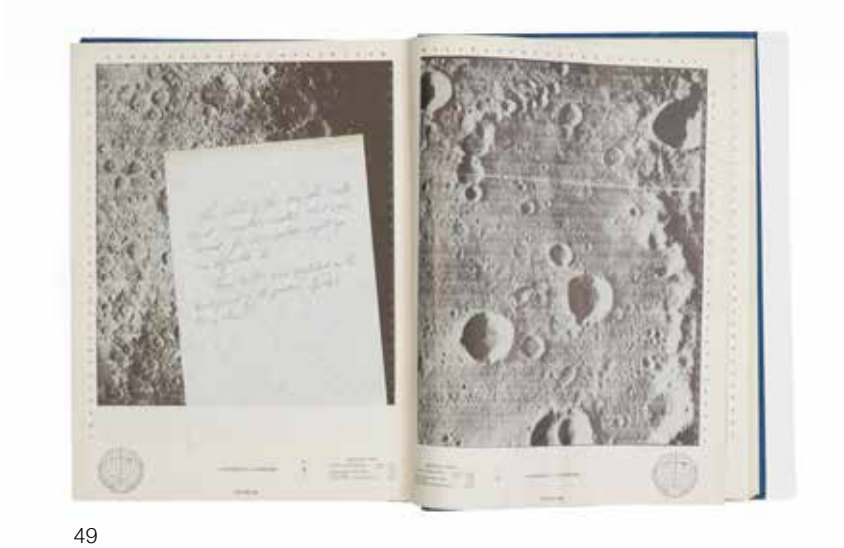
47
APOLLO 8: CREW-SIGNED "RED NUMBER" PHOTOGRAPH.
Chromogenic color photograph, November 1, 1968, 8 x 10 inches (203 x 253 mm), NASA ID in red: S-69-53187, "A KODAK PAPER" watermark on verso.
Provenance: From the collection of Marilyn Bockting, Administrative Assistant to Deputy Director of MSC James C. Elms 1963-1967; Administrative Assistant to Apollo Program Manager George Low 1967-1970; Administrative Assistant to Director of Flight Crew Operations Donald K. "Deke" Slayton 1970-1973; Assistant Manager of the Program Administration Office 1973-1975 and promoted to Manager in 1975.

SIGNED by the crew: JAMES LOVELL, BILL ANDERS and FRANK BORMAN. The suited Apollo 8 crew photographed beside the gondola in Building 29 at Manned Spaceflight Center ready for centrifuge training.

$500 - 700



48



49

48
APOLLO 8: FLOWN KAPTON FOIL WITH CONTRACTOR'S LUCITE MISSION EMBLEM PAPERWEIGHT.
2 items:
1. Kapton foil, 1968, Approximately 7/8 square inch (24 square mm), encased in Lucite, 1969, 2 5/16 diameter x 15/16 inch high (58 x 25 mm), labeled in black on the bottom: "Apollo 8 Mylar / Command Module Thermal Coating."
2. Apollo 8 mission emblem Lucite paperweight, 1968, 2 13/16 (72 mm) diameter x 3/4 inches (22 mm) tall, issued by Guidance and Navigation, AC Electronics Division of General Motors.
Both with light surface wear.
Provenance: From the collection of Marilyn Bockting, Administrative Assistant to Deputy Director of MSC James C. Elms 1963-1967; Administrative Assistant to Apollo Program Manager George Low 1967-1970; Administrative Assistant to Director of Flight Crew Operations Donald K. "Deke" Slayton 1970-1973; Assistant Manager of the Program Administration Office 1973-1975 and promoted to Manager in 1975.

Period Lucite-encased Apollo 8 Kapton Foil paperweight given to George Low's secretary. The foil was part of the Apollo 8 Command Module and flew in space from December 21-27, 1968.

Kapton polymer film was developed by DuPont in the 1960s and has been used in printed circuits and as insulation for satellites and spacecraft. It remains stable under an extremely wide range of temperature conditions and was used on the Lunar Modules and Command Modules on the Apollo lunar missions.

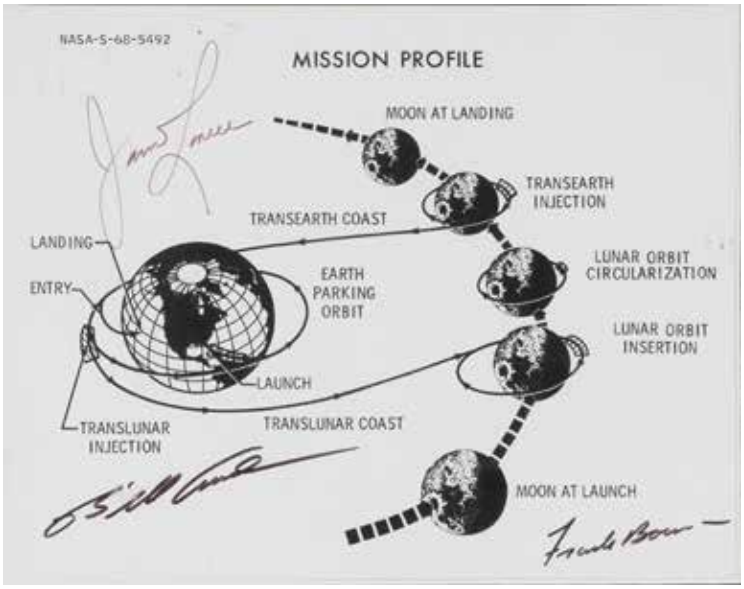
$800 - 1,200

49
APOLLO 8: JIM LOVELL ON THE NAMING OF MOUNT MARILYN.
2 volumes from Jim Lovell's personal collection with his notes:

1. Gutschewski, Gary L., Danny C. Kinsler & Ewen Whitaker. *Atlas and Gazetter of the Near Side of the Moon.* Washington, D.C.: NASA, 1971. Folio. WITH: 1p Autograph Manuscript by Jim Lovell referring to plate 66-1 in the present work regarding his naming of Mt. Marilyn for his wife.

2. Bowker, David E. & J. Kenrich Hughes. *Lunar Orbiter Photographic Atlas of the Moon.* Washington, D.C.: NASA, 1971. Folio. Stains to lower cover. WITH: two 1pp Autograph Manuscripts, one of which is Signed ("JAL").
First manuscript discusses Mt. Marilyn: *"Photo of Mt. Marilyn ... used as an initial point for Apollo 11's landing"* and also clarification on the lunar mountain Secchi Theta.
Second manuscript mentions the keyhole crater that was used as the background for Robert T. McCall's painting "Apollo 8 Coming Home."
Provenance: James A. Lovell, purchased at the estate sale at his Lake Forest home.

$600 - 800



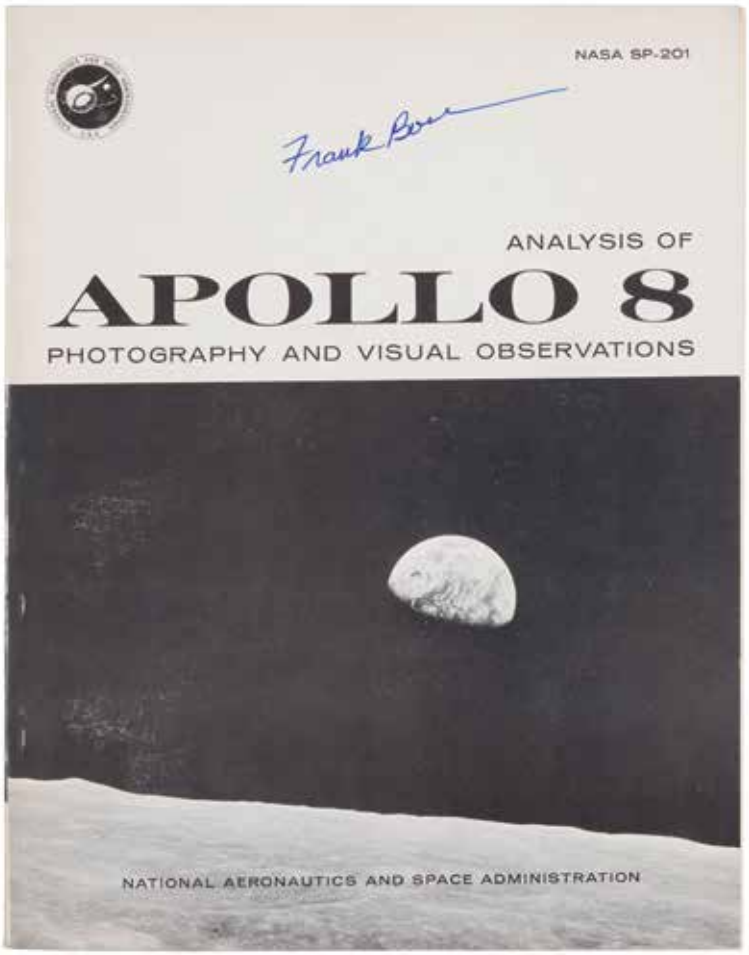
50

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

50
APOLLO 8: CREW-SIGNED MISSION PROFILE. Silver gelatin print photograph, August 1968, 8 x 10 inches (204 x 254 mm), NASA ID in black: S-68-5492, NASA MSC Houston press information printed on verso, framed.

SIGNED by the crew: FRANK BORMAN, JAMES LOVELL and WILLIAM ANDERS. Apollo 8 was originally planned to be the second crewed Apollo Lunar Module and Command Module test in medium Earth orbit, delays with the Lunar Module led to a late mission profile change. Apollo 8 became the first crewed mission to the Moon, albeit without the Lunar Module. The present chart provides a clear overview of the mission with a diagram of the spacecraft's and the Moon's location at each stage.

$600 - 800



51

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

51
APOLLO 8: LUNAR ORBIT PHOTOGRAPHY CATALOGUE SIGNED BY FRANK BORMAN. *Analysis of Apollo 8 Photography and Visual Observations.* NASA SP-201. Washington: 1969. 337 pp. 4 folding lunar orbit photo index maps in pocket at rear. 8 1/2 by 11 1/8 inches (216 x 284 mm). Original printed wrappers. Excellent.

SIGNED BY APOLLO 8 COMMANDER FRANK BORMAN on the cover. SP-201 is a valuable resource that gives the flight crew's report on observations with photographic experiment descriptions. All lunar images and frame numbers from Hasselblad magazines A through G are illustrated and the 4 maps in the rear pocket are particular helpful.

$300 - 500



52
APOLLO CONTRACTOR 16MM FILMS: NORTH AMERICAN ROCKWELL.
2 films, each on 9 1/4 diameter metal reels and with metal cannister:
1. “Apollo - 1968,” June 1968, ID no SD 68-306, 12 1/2 minutes long, North American Rockwell Space Division label to cannister lid and listed as copy # 10.

2. “The Apollo 9 Mission,” April 1969, ID no SD 69-171, 12 minutes long, North American Rockwell Space Division label to cannister lid and listed as copy # 20.

The first film features the Apollo 6 launch and the preparation for Apollo 7 including the construction and testing of the Apollo Command Module with emphasis on the improvements since the Apollo 1 tragedy. The second film doesn’t seem to be available online.

$1,000 - 1,500





53 Ω

ROBBINS MEDALLION FLOWN ON APOLLO 9.

Sterling silver circular form medallion, March 1969, 1 inch (25 mm) diameter, features the crew emblem of a Saturn V, CSM and LM and the Roman numeral IX and the reverse has the crew names around the rim and is engraved with mission dates of "March 3-13, 1969" and serial number "229," sealed in NGC enclosure.

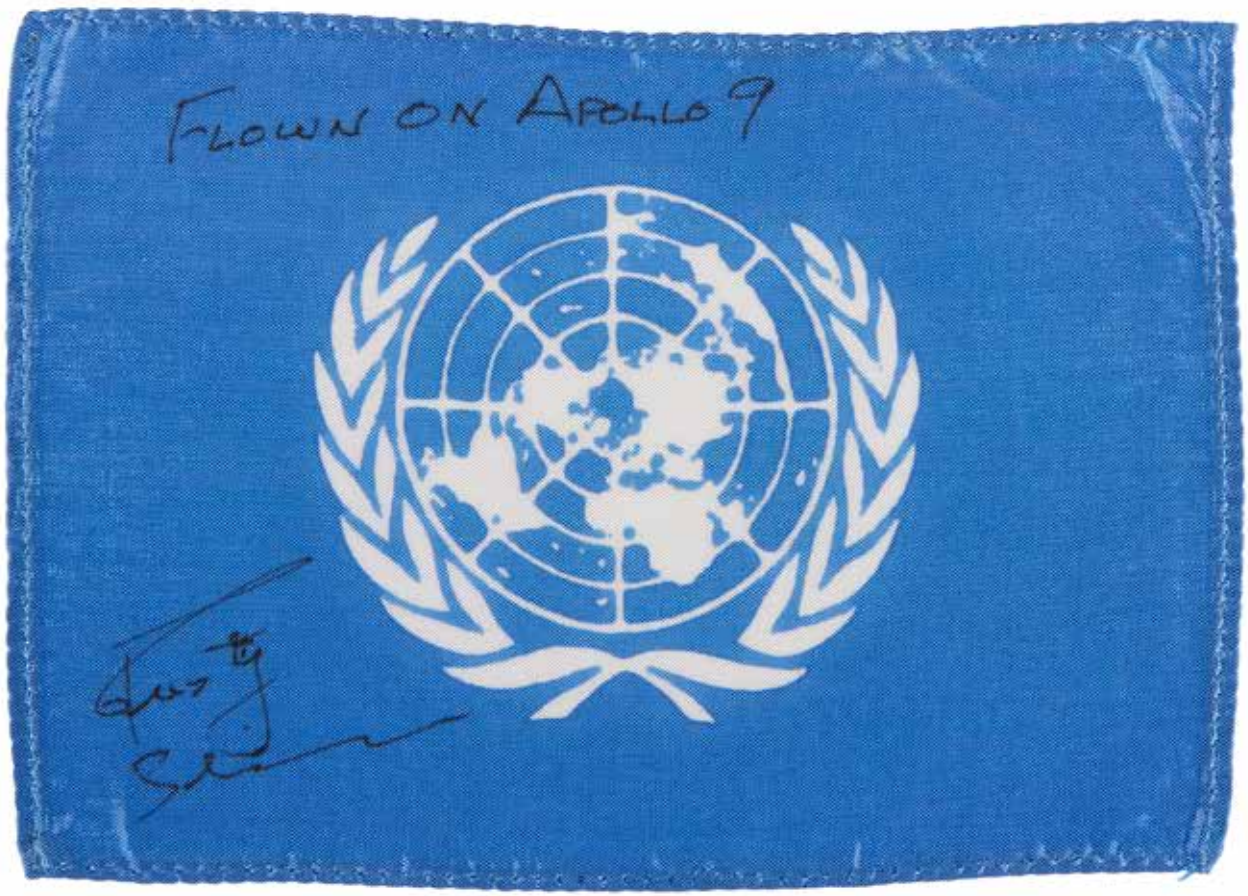
Provenance: Jim McDivitt, with signed certificate illustrating this example and attesting that this was flown aboard Apollo 9.

Apollo 9 marked the first flight of the full Apollo spacecraft as it was the first outing of the newly completed Lunar Module (LM). The crew of Jim McDivitt as Commander, Dave Scott as Command Module Pilot and Rusty Schweickart filling the role of Lunar Module Pilot, tested the LM in medium Earth orbit demonstrating its descent and ascent propulsion systems and performing a rendezvous and docking with the Command and Service Modules. On his EVA, Rusty Schweickart carried the Extravehicular Mobility Unit (EMU) which included the Portable Life Support System (PLSS). This provided oxygen and water for the Liquid Cooling Garment (LCG) which allowed for greater freedom during EVAs.

The Robbins medallions were designed with input from the flight crew and only those directly affiliated with the NASA Astronaut Flight Office were eligible to purchase them.

$5,000 - 7,000

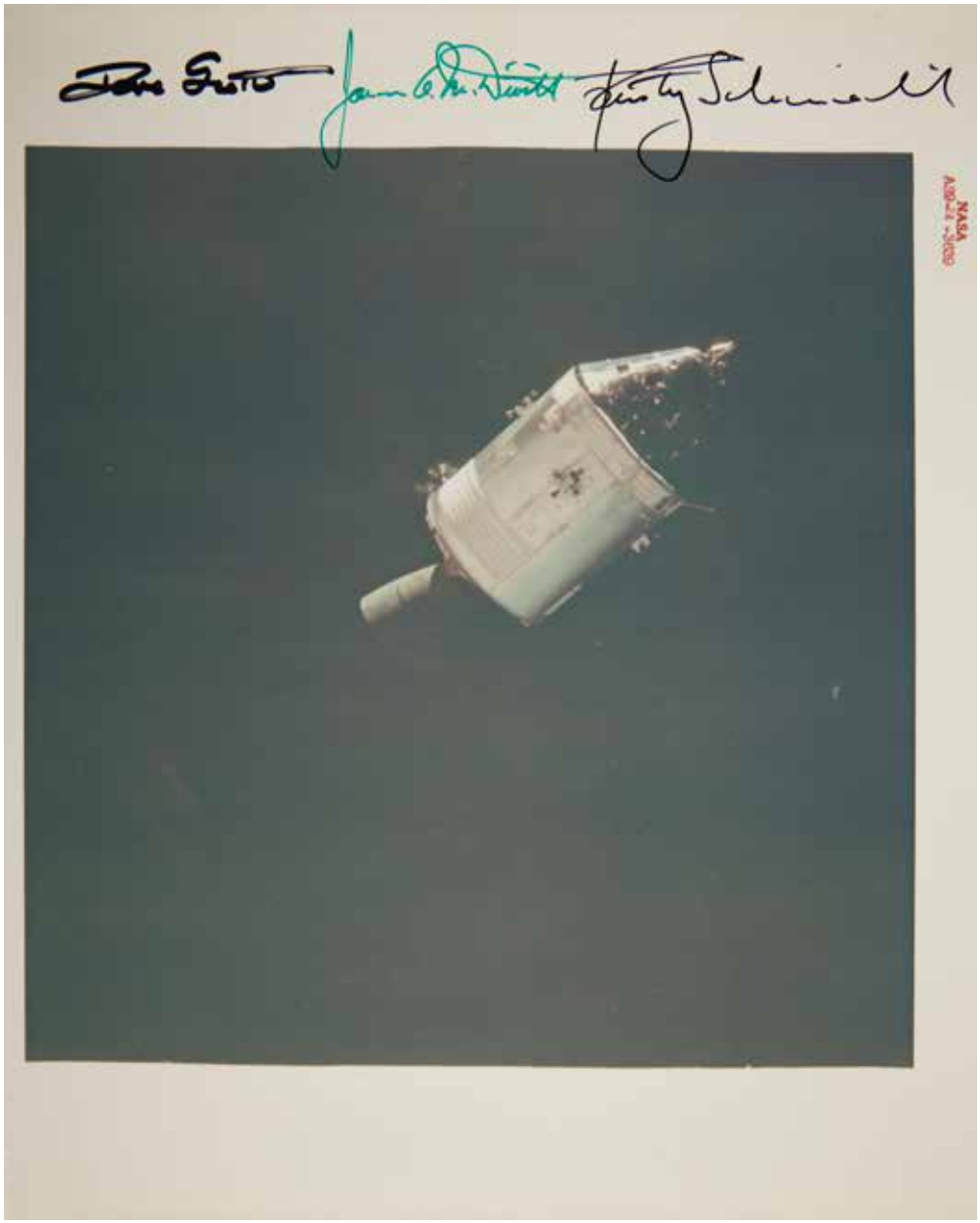

APOLLO 9 ROBBINS MEDAL
1969 FLOWN #229
MEDAL MS 64
EX. JAMES A. McDIVITT
4068608-001
NGC
IX



54 Ω
APOLLO 9: FLOWN UNITED NATIONS FLAG SIGNED BY SCHWEICKART.
Flown UN Flag, 4 x 5 3/4 inches (100 x 145 mm), signed and annotated as flown by Schweickart.

SIGNED by Apollo 9 Lunar Module Pilot RUSTY SCHWEICKART and INSCRIBED: *Flown on Apollo 9.*
Apollo 9 marked the first flight of the full Apollo spacecraft as it was the first outing of the newly completed Lunar Module (LM). The crew of Jim McDivitt as Commander, Dave Scott as Command Module Pilot and, of course Schweickart filling the role of Lunar Module Pilot, tested the LM in medium Earth orbit demonstrating its descent and ascent propulsion systems and performing a rendezvous and docking with the Command and Service Modules. On his EVA, Rusty Schweickart carried the Extravehicular Mobility Unit (EMU) which included the Portable Life Support System (PLSS). This provided oxygen and water for the Liquid Cooling Garment (LCG) which allowed for greater freedom during EVAs.
Bringing the United Nations flag on the mission sent an important message to the world with the olive branches embracing the map of the world, that the space program was about more than American dominance, but it was about advancing science for humankind and also the human affinity for exploration.

$2,500 - 4,000



THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

55
APOLLO 9: CREW-SIGNED "RED NUMBER" PHOTOGRAPH.
Chromogenic color photograph, March 7, 1969, 8 x 10 inches (204 x 254 mm), NASA ID in red" AS9-24-3639, NASA MSC Houston printed press information and "A KODAK PHOTO" watermark on verso.

SIGNED BY THE CREW: JAMES MCDIVITT, DAVE SCOTT and RUSTY SCHWEICKART. Image of the Command and Service Module as seen from the Lunar Module. Apollo 9 was the LM's first outing and one of the main objectives was to qualify the spacecraft for lunar orbit operations.

$500 - 700





56
APOLLO 9: FLOWN HEAT SHIELD PLUG.
Ablative heat shield plug specimen, March 1969, approximately 38 mm long, encased in Lucite, 75 x 91 mm, molded into the form of the Apollo Command Module from which it came, with explanatory text on verso, imperfection in Lucite.
Provenance: Beverly Joan Gresham, Customer Relations at North American Rockwell/Rockwell International, Space Systems Division, 1954-1999.

A specimen from one of the threaded plugs used to provide access points in the heat shield.

$600 - 900



57
APOLLO 9: CREW-SIGNED PHOTO TO GEORGE LOW'S SECRETARY.
"Red Number" Chromogenic Color Photograph, February 23, 1969, 8 x 10 inches, NASA ID in red: S-69-25478, NASA MSC press information and "A KODAK PAPER" watermark on verso. Offset from mat to upper right marginal corner recto/verso, light stain to image over McDivitt's figure.
Provenance: From the collection of Marilyn Bockting, Administrative Assistant to Deputy Director of MSC James C. Elms 1963-1967; Administrative Assistant to Apollo Program Manager George Low 1967-1970; Administrative Assistant to Director of Flight Crew Operations Donald K. "Deke" Slayton 1970-1973; Assistant Manager of the Program Administration Office 1973-1975 and promoted to Manager in 1975.

SIGNED by RUSTY SCHWEICKART, DAVE SCOTT and JAMES MCDIVITT, and INSCRIBED by McDivitt: *"To Marilyn / Thanks for Keeping the Boss in Line!"* Excellent association to Bockting, who seems to have been an astronaut favorite.

$500 - 700



THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

58

APOLLO PROGRAM & SNOOPY: OMEGA "SILVER SNOOPY AWARD" SPEEDMASTER & APOLLO 10 SIGNED SNOOPY DOLLS.

Omega "Speedmaster Professional" wristwatch, 2020, 42mm diameter, white dial with luminous blue baton markers, subsidiary dials at 3, 6 and 9 for seconds, 30-minute and 12-hour recording, white pointed baton hands with luminous inserts, center chronograph hand, stainless steel case, tachymetric calibrations to bezel, NAIAD caseback with view of the Moon decorated on the sapphire crystal using micro-structured metallisation, animated Snoopy in Command and Service Module shown on a magical hand, which rotates when the chronograph function is used, behind, an Earth disc rotates once per minute in sync with the watch's small seconds hand, caseback inscribed "Silver Snoopy / Award Oct.5, 1970 / Apollo XIII / April 1970," coated nylon strap backed in leather, in original Omega blue cloth case, manual.

WITH: Pair of Snoopy Astronaut dolls, produced by Determined Distributions of San Francisco for United Feature Syndicate, 1969, plastic and textile, each 9 inches tall. In original boxes.

The Peanuts comic strip character in a space suit—with the helmets INSCRIBED *"Snoopy, LM-4 Call Sign, Tom Stafford, Apollo X Cdr, May 69,"* and *"Snoopy LM-4 Gene Cernan, Apollo X LMP."*

The Apollo 10 crew chose "Charlie Brown" and "Snoopy" as call signs for their Command Module and Lunar Module - with the approval of *Peanuts* creator Charles Schulz. Snoopy had been long been associated with the space program. NASA workers were awarded silver Snoopy pins for outstanding performance and there were safety posters that featured Snoopy on NASA premises with the character graduating from World War I flying ace to astronaut complete with a space helmet. Schulz even had Snoopy journey to the Moon earlier in 1969 becoming the "First Beagle on the Moon," who "beat the Russians ... [and] even beat that stupid cat who lives next door!" Although some in NASA management urged a name change as they felt "Snoopy" and "Charlie Brown" undignified, Gene Cernan pointed out "the names were embraced in a public relations bonanza." Watchmaker Omega was also awarded the Silver Snoopy Award post Apollo 13 for its contribution to space exploration as well as the Speedmaster's role in saving the mission. The Apollo spacecraft had slowly drifted off course after transearth injection about 70 nautical miles due to the Lunar Module's guidance system being shut down following the PC+2 (two hours after pericynthion) burn. The crew resorted to using the line between night and day on the Earth to guide them and timed the 14-second Decent Propulsion System (DPS) burn on Command Module Pilot's Jack Swigert's Omega Speedmaster. The Speedmaster's accuracy in all conditions was more than welcome in that moment and many others throughout the Apollo program.

$40,000 - 60,000


OMEGA
Speedmaster
SNOOPY
ASTRONAUT
SNOOPY
ASTRONAUT
SNOOPY
ASTRONAUT


Snoopy
LM-4
Apollo X - Lm
"SNOOPY"
LM-4 CALL SIGN
Jim Hafford
Apollo XI
MAY 69



59

59
APOLLO 10: FLOWN COMMAND MODULE HEAT SHIELD FRAGMENT IN LUCITE.
Pie-shaped heat shield fragment, 1969, approximately 5/8 x 1 3/4 inches (15 x 45 mm), encased in cylindrical-form Lucite mold, 3-inch (76 mm) diameter, 2 1/2 inches (63 mm) tall, "Apollo X / May 18-26, 1969" incised in bottom. Some surface wear.
Provenance: From the collection of Marilyn Bockting, Administrative Assistant to Deputy Director of MSC James C. Elms 1963-1967; Administrative Assistant to Apollo Program Manager George Low 1967-1970; Administrative Assistant to Director of Flight Crew Operations Donald K. "Deke" Slayton 1970-1973; Assistant Manager of the Program Administration Office 1973-1975 and promoted to Manager in 1975.

Period heat shield fragment from the "dress rehearsal" for the Moon landing. The Apollo Command Modules were covered on the blunt end with this multi-layered protective shield of a honeycomb steel structure and a further honeycomb fiberglass structure filled with phelonic epoxy resin. This heat shield protected the spacecraft as it entered the Earth's atmosphere blunt end first. This fragment shows the characteristic charring from that process.

$800 - 1,200



60

60
APOLLO 10: CREW-SIGNED PHOTO TO GEORGE LOW'S SECRETARY.
"Red Number" Chromogenic Color Photograph, 8 x 10 inches, November 13, 1968, NASA ID in red: S-68-42906, MSC press information and "A KODAK PAPER" watermark on verso. Offset from former mat to upper right marginal corner, verso of corner skinned.
Provenance: From the collection of Marilyn Bockting, Administrative Assistant to Deputy Director of MSC James C. Elms 1963-1967; Administrative Assistant to Apollo Program Manager George Low 1967-1970; Administrative Assistant to Director of Flight Crew Operations Donald K. "Deke" Slayton 1970-1973; Assistant Manager of the Program Administration Office 1973-1975 and promoted to Manager in 1975.

SIGNED by GENE CERNAN, JOHN YOUNG and TOM STAFFORD; inscribed by Cernan: *"To Marilyn - Our Best Wishes - Apollo X."* Excellent association on this image of an early dress rehearsal for the "Dress Rehearsal for the Moon."

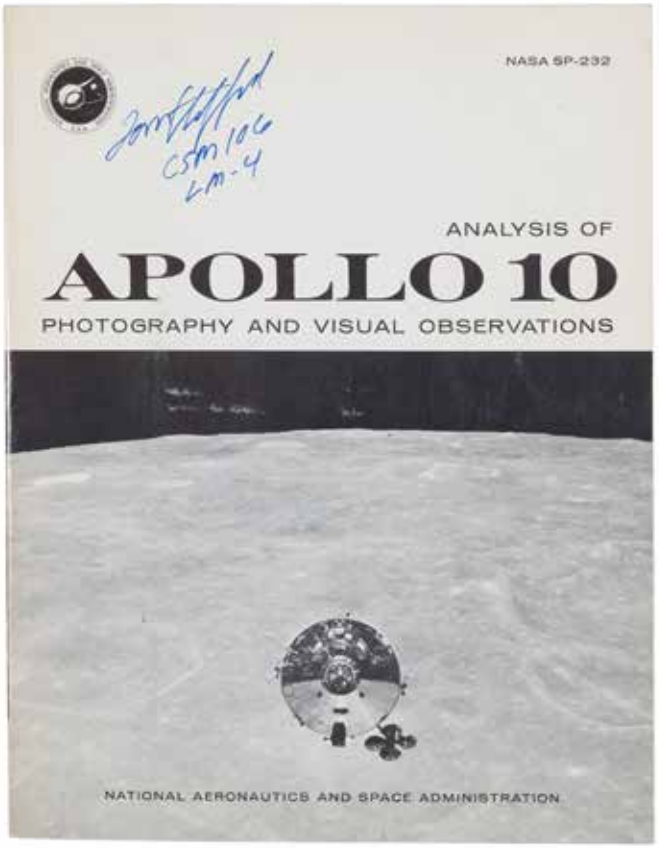
$500 - 700

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

61
APOLLO 10: LUNAR PHOTOGRAPHY CATALOGUE SIGNED BY TOM STAFFORD.
Analysis of Apollo 10 Photography and Visual Observations. NASA SP-232. Washington: 1969. 226 pages. 6 folding lunar orbit photo index maps in rear pocket. 8 1/2 x 11 1/16 inches (216 x 282 mm). Original wrappers.

SIGNED & INSCRIBED BY APOLLO 10 COMMANDETR TOM STAFFORD: "CSM 106, LM 4" on front cover. Includes crew descriptions made after the flight. All lunar images from eight Hasselblad magazines are illustrated and the 6 folding maps are particularly helpful to placing the location of the images. The Apollo 10 mission was the "dress rehearsal for the Moon," but it also provided useful data on lunar topography for Apollo 11.

$300 - 400



61



62

62
APOLLO 11: NEIL ARMSTRONG GAUGES HIS PROSPECTS FOR SUCCESS IN A SIGNED LETTER.
Autograph Letter Signed, ("Neil Armstrong") as Commander, Apollo XI, Houston, June 2, 1969, 10 1/2 x 8 inches, on NASA Manned Spacecraft Center letterhead, to Stephen J. Burge.

ARMSTRONG WRITES TO A YOUNG BOY ABOUT THE APOLLO 11 MISSION A MONTH AND A HALF BEFORE THE LAUNCH.
An wonderful letter from Armstrong regarding Apollo 11's prospects for success. In part: *"Our previous flights have been highly successful and we are encouraged to believe that we can reach our goal this summer."* Armstrong must have been moved by the young British space enthusiast's letter to reply himself. Pre-launch letters as such are exceptionally rare.

$2,500 - 4,000

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

63

APOLLO 11: LUNAR SURFACE-FLOWN PGNS SHEET USED TO LAND "EAGLE" ON THE MOON.

Double-sided sheet from the Apollo 11 Lunar Module Guidance & Navigation Dictionary, NASA/MSC, May 29-July 5, 1969, 8 x 5 1/2 inches, pp PGNS-32/PGNS-33, with original three-holes punched in margin. With a Typed Letter Signed by Buzz Aldrin.

THE STEPS ENABLING THE START OF EAGLE'S ENGINE TO BEGIN THE LANDING.

The present sheet from the Primary Guidance and Navigation Section of the Lunar Module Guidance & Navigation Dictionary lists the exact steps Neil Armstrong and Buzz Aldrin performed to place Lunar Module Eagle into the proper flight configuration to ignite the large descent engine. Two of these engine burns were performed during the complicated trajectory sequence designed to accomplish the goal of the Apollo Program: landing humans on the moon.

Accompanied by BUZZ ALDRIN'S two-page letter, which reads in part: *"Enclosed with this letter is a sheet numbered PGNS-31 and PGNS-32 from the Apollo 11 LM G and N Dictionary ... This sheet is from the Primary Guidance and Navigation (PGNS) Section and has critical flight procedure steps. It is one of the most significant pages from the entire dictionary.*

Side PGNS-31 lists the P40 DPS THRUST or Descent Propulsion Section Program which were the steps that Neil Armstrong and I used to ignite our large descent engine on Lunar Module Eagle. The first 12 steps are switch or configurations settings to be done each time prior to entering the V37E (enter) 40E (enter) commands to start the P40 program. The next steps were to verify the FDAI or Flight Director Attitude Indicators checked out properly both in automatic and manual modes.

Side PGNS-32 has the countdown sequence for a DPS burn starting at minus 35 seconds down to minus 5 seconds and the ignition proceed command. The next steps allowed monitoring the start of the burn plus provided failure procedures. We first used the descent engine for the DOI or Descent Orbit Insertion burn which lower Eagle's orbit to about 50,000 feet above the Moon. This occurred on the back side of the Moon while out of radio contact with Mission Control. Once we came into contact and reported our successful burn, we waited for a go ahead to perform the actual landing during the same orbit. After Mission Control verified our flight status, they gave us a 'GO' for PDI or Powered Descent Initiation which was our long descent engine burn to lower us to the lunar surface.

Our lunar landing was an experience I will never forget. All was going well until Neil and I saw our instrument panel flash a '1202' program alarm. We both queried Mission Control about this alarm because we had never seen it before in any simulation. After a few very tense moments, Houston radioed us that we were 'GO on that alarm.' That was good news, yet a few seconds later the same alarm occurred again. We were getting behind on our checklist tasks with these alarm distractions and I was concerned that we might have to abort the landing. About 3 minutes later, an additional alarm '1201' flashed. Mission Control told us that it was of the same type as the '1202' and that we were still 'GO' for landing. The alarms were telling us that the computer had too many tasks to perform and was overloaded. Our focus shifted back to our flying, trusting Mission Control's 'GO' decision.

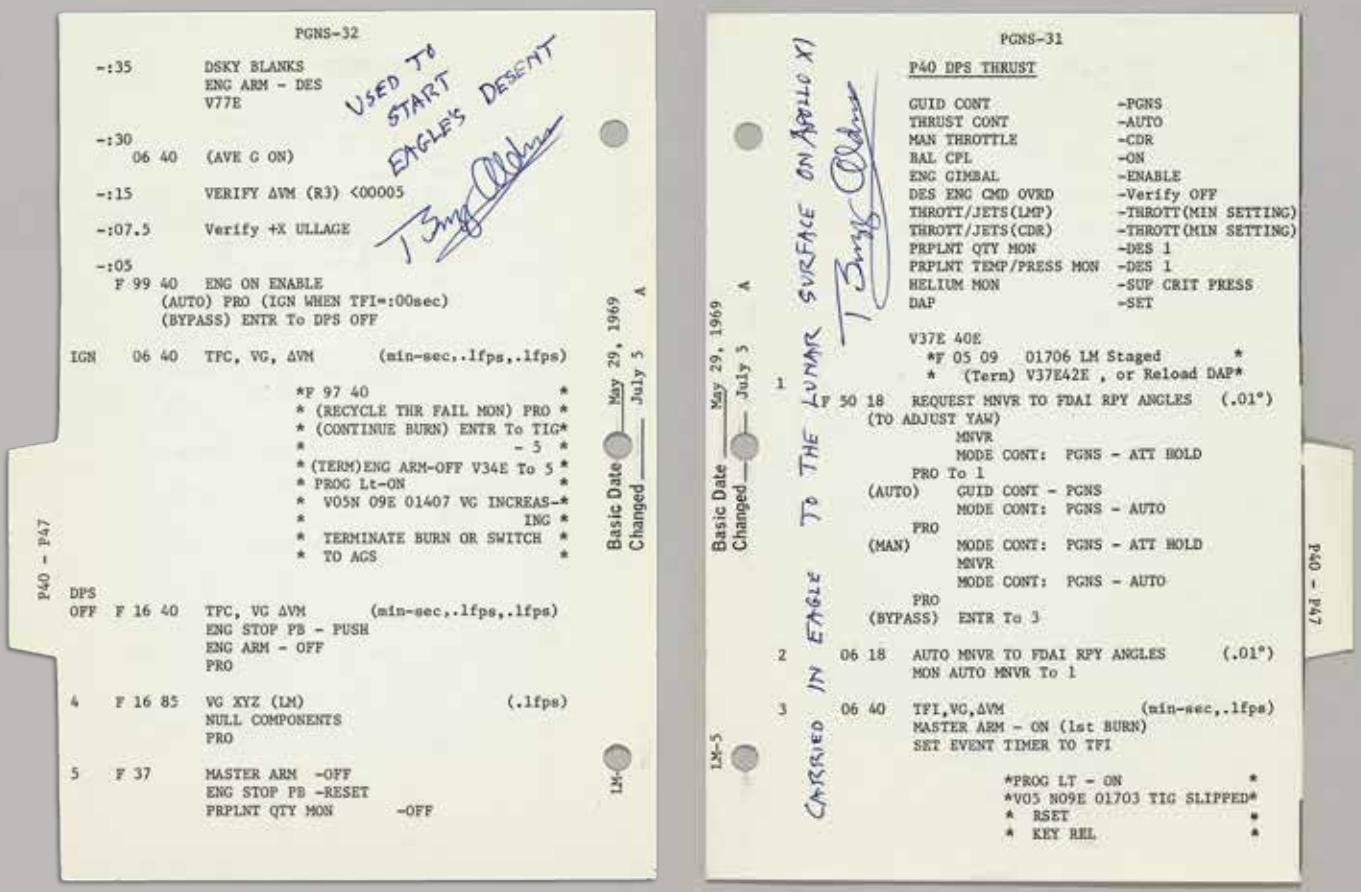
Around 8 minutes into our descent engine burn, we started the approach phase of the landing sequence. Neil was monitoring our instruments and the visual view out his window plus cross-checking our descent rate with the descent grid from our LM Timeline Book. We had just pitched over which allowed our first good view of the general landing area. I was focused on the computer descent readouts as Neil monitored the area the computer was targeting for landing. Neil became increasingly concerned as the computer was sending us toward a large crater surrounded by boulders. At around 500 feet above the moon, Neil entered the commands to manually fly Eagle to the lunar surface with computer support. He slowed the descent rate to just a few feet per second and studied the surrounding terrain. Neil asked me about our fuel status and I indicated we had 8 percent remaining. I then had a chance to glance outside and began to understand the situation, craters and large rocks seemed to be everywhere.

As I continued to relay our altitude and descent rate to Neil, Mission Control radioed we had '60 seconds' of fuel remaining. I made more descent data calls. Then we heard '30 seconds' ring in our headsets. Neil was almost to the surface when a haze of dust was kicked up by engine exhaust. Neil lost his ability to see the surface and had to locate something just above the dust cloud. Finally, Neil was able to see a rock that appeared fixed in the stream of dust. This gave him a surface reference and he expertly nulled out a slight backward drifting motion and corrected for a small sideways drift. Just as Neil placed Eagle gently on the lunar surface, I spoke the first words from the Moon: 'CONTACT LIGHT!' This was the indicator light on our control panel that told us that Eagle had touched the lunar surface. We had only about 20 seconds of fuel remaining onboard.

We immediately called out and performed the engine stop, safety commands, and secured our attitude control equipment. Then Neil radioed the words most people remember hearing from the Moon: 'Tranquillity Base here, the Eagle has landed.' Neil and I shook hands." Aldrin then describes the plans for the moon walk and his observations from the lunar surface that he and only eleven others experienced during the Apollo Program.

Along the side of page PGNS-31, Aldrin has INSCRIBED AND SIGNED: *"Carried in Eagle to the lunar surface on Apollo XI, Buzz Aldrin."* On side PGNS-32 he INSCRIBED: *"Used to start Eagle's Desent [SIC]"* and SIGNED that page.

$50,000 - 70,000



PGNS-32

-:35 DSKY BLANKS
ENG ARM - DES
V77E

USED TO START EAGLE'S DESENT

-:30
06 40 (AVE G ON)

-:15 VERIFY ΔVM (R3) <00005

-:07.5 Verify +X ULLAGE

-:05
F 99 40 ENG ON ENABLE
(AUTO) PRO (IGN WHEN TFI=:00sec)
(BYPASS) ENTR To DPS OFF

IGN 06 40 TPC, VG, ΔVM (min-sec,.1fps,.1fps)

*F 97 40 *
* (RECYCLE THR FAIL MON) PRO *
* (CONTINUE BURN) ENTR To TIG*
* - 5 *
* (TERM)ENG ARM-OFF V34E To 5 *
* PROG Lt-ON *
* V05N 09E 01407 VG INCREAS-*
* ING *
* TERMINATE BURN OR SWITCH *
* TO AGS *

DPS
OFF F 16 40 TPC, VG ΔVM (min-sec,.1fps,.1fps)
ENG STOP PB - PUSH
ENG ARM - OFF
PRO

4 F 16 85 VG XYZ (LM) (.1fps)
NULL COMPONENTS
PRO

5 F 37 MASTER ARM -OFF
ENG STOP PB -RESET
PRPLNT QTY MON -OFF

Basic Date May 29, 1969
Changed July 5 A

LM-5

P40 - P47

PGNS-31

P40 DPS THRUST

GUID CONT	-PGNS
THRUST CONT	-AUTO
MAN THROTTLE	-CDR
BAL CPL	-ON
ENG GIMBAL	-ENABLE
DES ENG CMD OVRD	-Verify OFF
THROTT/JETS(LMP)	-THROTT(MIN SETTING)
THROTT/JETS(CDR)	-THROTT(MIN SETTING)
PRPLNT QTY MON	-DES 1
PRPLNT TEMP/PRESS MON	-DES 1
HELIUM MON	-SUP CRIT PRESS
DAP	-SET

V37E 40E
*F 05 09 01706 LM Staged *
* (Term) V37E42E , or Reload DAP*

1 F 50 18 REQUEST MNVR TO FDAI RPY ANGLES (.01°)
(TO ADJUST YAW)
MNVR
MODE CONT: PGNS - ATT HOLD
PRO To 1
(AUTO) GUID CONT - PGNS
MODE CONT: PGNS - AUTO
PRO
(MAN) MODE CONT: PGNS - ATT HOLD
MNVR
MODE CONT: PGNS - AUTO
PRO
(BYPASS) ENTR To 3

2 06 18 AUTO MNVR TO FDAI RPY ANGLES (.01°)
MON AUTO MNVR To 1

3 06 40 TFI,VG,ΔVM (min-sec,.1fps)
MASTER ARM - ON (1st BURN)
SET EVENT TIMER TO TFI

*PROG LT - ON *
V05 N09E 01703 TIG SLIPPED
* RSET *
* KEY REL *

CARRIED IN EAGLE TO THE LUNAR SURFACE ON APOLLO XI

Basic Date May 29, 1969
Changed July 5 A

LM-5

P40 - P47

"This sheet is from the Primary Guidance and Navigation (PGNS) Section and has critical flight procedure steps. It is one of the most significant pages from the entire dictionary."

Buzz Aldrin in the accompanying letter.

64

APOLLO 11: MOON-FLOWN U.S. FLAG AND INSIGNIA PRESENTED BY BUZZ ALDRIN.

Vintage Large format chromogenic color photograph in linen finish, 13 3/4 x 10 7/8 inches, mounted to board with 4 1/8 x 5 7/8-inch flag and 3 3/8-inch Beta cloth mission insignia, on 19 1/2 x 15 1/2-inch mat, framed.

Provenance: Phil and Eleanor Zeller (inscription from Aldrin).

SIGNED & INSCRIBED on the mat by Buzz Aldrin: *"This flag and patch were flown to the Moon by Apollo 11 / We came in peace for all mankind, July 20, 1969."* Wonderful presentation piece centered around a rare period large format photograph of the iconic "Visor Shot," AS11-40-5903, and including both a flown U.S. flag and an Apollo 11 Beta cloth emblem.

$6,000 - 8,000


THIS FLAG AND PATCH WERE FLOWN
TO THE MOON BY APOLLO 11
WE CAME IN PEACE FOR ALL MANKIND
JULY 20 1969
APOLLO 11
TO PHIL AND ELEANOR ZELLER
WITH MY BEST WISHES
Buzz Aldrin



Buzz Aldrin
Astronaut

Enclosed with this letter is a sheet that was added to the *Apollo 11 Flight Plan, Part No. SKB32100080-350, S/N 1001* prior to our launch which is labeled: "PAGE 102D." It was inserted just after page 3-102 of this manual and is part of the entire document that was carried to the Moon in Command Module *Columbia* on the first lunar landing mission during July 16 to 24, 1969.

This sheet illustrates what was the expected view through our scanning telescope while we performed an IMU (Inertial Measurement Unit) alignment just after our TransEarth Injection (TEI) burn which brought us back from the Moon. That spacecraft burn had to work. If it did not, Neil Armstrong, Michael Collins, and myself would remain in lunar orbit, never to return to earth. Mike took a navigational reading after locating the stars named *FOMALHAUT* and *ACHERNAR*. After a series of star sightings, these "readings" would provide our IMU with a new "platform" of our location in space after the TEI burn.

One we had this information, we then set *Columbia* into the TEC PTC mode or Passive Thermal Control during the TransEarth Coast period of our flight. PTC was simply a rotation of *Columbia* along one axis to keep an even distribution of temperatures while being heated by the sun.

Flight events were extremely busy prior to making these star sightings. Before the TEI burn, we had just jettisoned the Lunar Module at about 121 hours and 52 minutes into the mission. Neil and I had completed the rendezvous with *Columbia* a few hours before and then started the task of transfering equipment and lunar material from *Eagle* to *Columbia* after docking at about 128 hours into the mission. That docking came after we left the lunar surface at around 124 hours and 22 minutes on July 21, 1969. A day earlier, Neil and I became the first humans to land and walk on the Moon's surface.

The flight plan was probably the single most important document related to the success of our mission. It provided a time schedule of crew activities and spacecraft maneuvers to accomplish the first lunar landing.

This page has been in my private collection since 1969. I have written: "Carried to the Moon on Apollo XI" and signed it along the top right side of the page. Additionally, a copy of the flight plan cover is included.

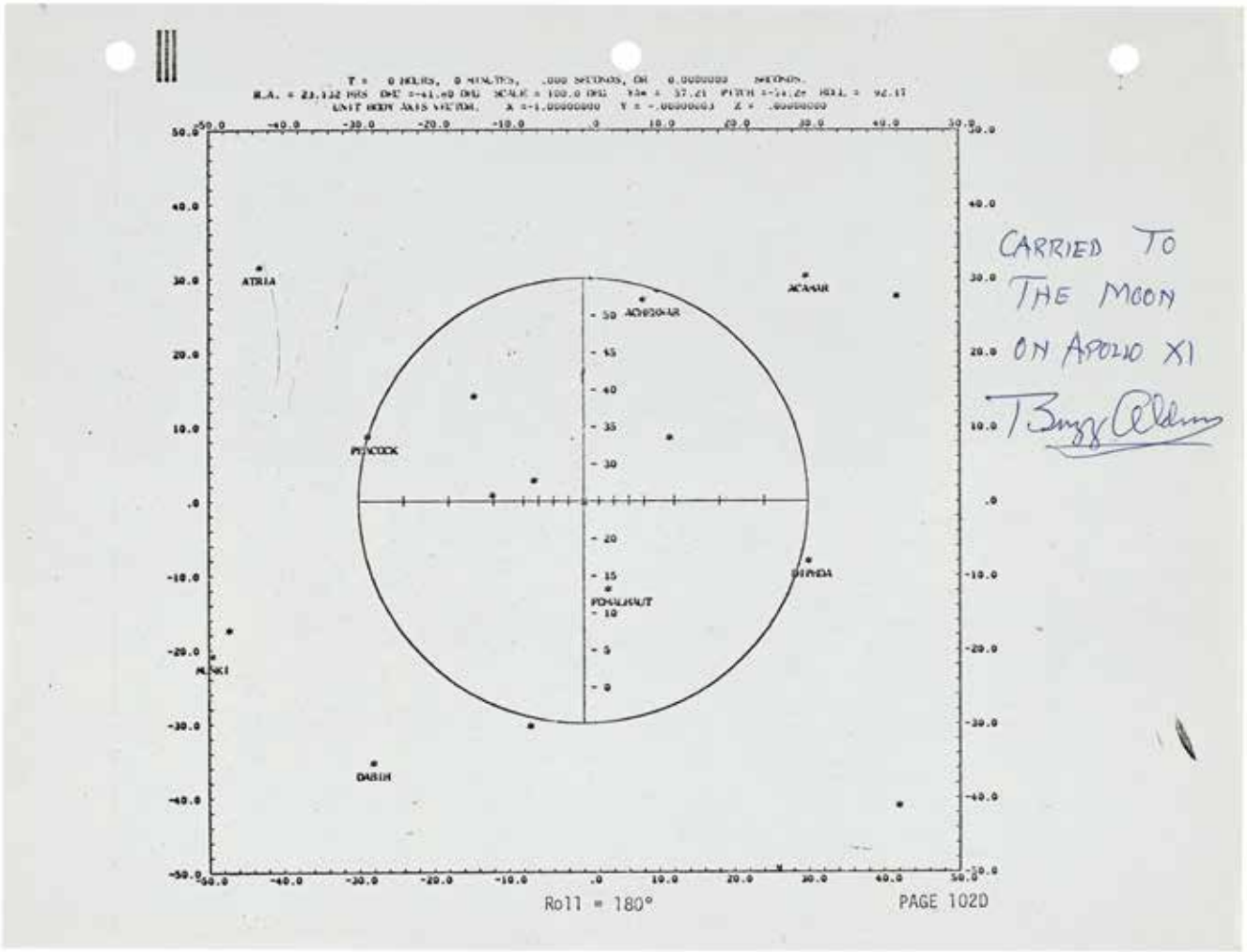
Buzz Aldrin
Col. USAF, (Ret.)
Gemini XII Pilot
Apollo 11 Lunar Module Pilot

65
APOLLO 11: FLOWN BUZZ ALDRIN STAR CHART USED DURING A CRITICAL POINT IN THE MISSION.
Printed star chart, July 1, 1969, 8 x 10 1/2 inches (203 x 267 mm), being p 102D from *Apollo 11 Flight Plan,* Part No. SKB32100080-350, S/N 1001, three-hole punched.
Provenance: From the private collection of Buzz Aldrin since 1969, with a Buzz Aldrin Letter Signed attesting to its history and use.

STAR CHART USED TO HELP NAVIGATE BACK TO EARTH FROM THE MOON, SIGNED & INSCRIBED by Apollo 11 Lunar Module Pilot Buzz Aldrin: *"Carried to the Moon on Apollo XI / Buzz Aldrin."*

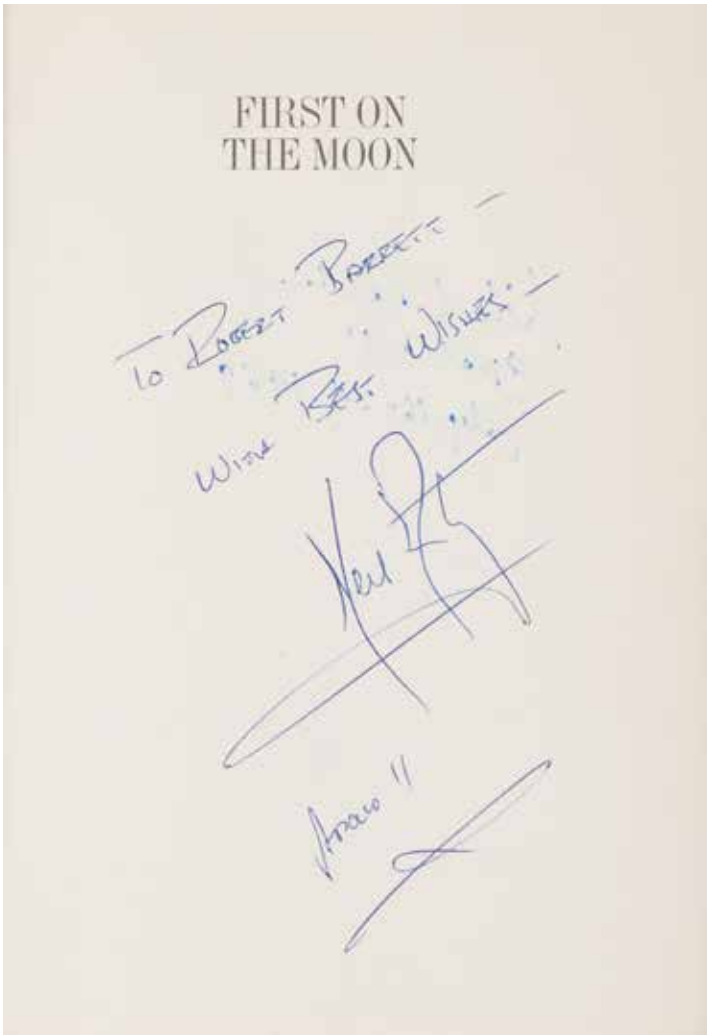
Buzz Aldrin, in the accompanying letter describes the use of this celestial navigation aid: *"This sheet illustrates what was the expected view through our scanning telescope while we performed an IMU (Inertial Measurement Unit) alignment just after our TransEarth Injection (TEI) burn which brought us back from the Moon. That spacecraft burn had to work. If it did not, Neil Armstrong, Michael Collins, and myself would remain in lunar orbit, never to return to Earth."*
Shortly before the star chart was used, Neil Armstrong and Buzz Aldrin had returned to lunar orbit from their historic first lunar landing and Moonwalk, completed the rendezvous with the Command Module "Columbia," transferred the equipment and lunar samples from the LM to the CM, jettisoned the LM and had begun the journey home to Earth.
Aldrin continues in his letter: *"The flight plan was probably the single most important document related to the success of our mission. It provided a time schedule of crew activities and spacecraft maneuvers to accomplish the first lunar landing. This page has been in my private collection since 1969."*

$30,000 - 50,000



"That spacecraft burn had to work. If it did not, Neil Armstrong, Michael Collins, and myself would remain in lunar orbit, never to return to Earth,"

Buzz Aldrin.





THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

66
APOLLO 11: *FIRST ON THE MOON* SIGNED BY THE CREW.
ARMSTRONG, NEIL, BUZZ ALDRIN, MICHAEL COLLINS & ARTHUR C. CLARKE. *First on the Moon.* Boston: Little, Brown, 1970. Original cloth with dust jacket.

SIGNED & INSCRIBED BY ARMSTRONG, COLLINS & ALDRIN. One of the most complete histories of Apollo 11, this copy inscribed by Armstrong on the half-title: *"To Robert Barrett - With Best Wishes - Neil Armstrong / Apollo 11."* Inscribed by Collins facing the title: *"Michael Collin / Apollo 11 / July 16-24, 1969."* Boldly signed by Aldrin on the title-page.

$6,000 - 8,000



67

APOLLO 11: FLOWN KAPTON FOIL ENCASED IN PERIOD LUCITE DISPLAY.

Approximately 1 square inch (25 square mm) piece of kapton foil encased in Lucite, 1969, 2 5/16 diameter x 15/16 of an inch high (58 x 25 mm), labeled in black on the bottom: "Apollo 11 Mylar / Command Module Thermal Coating."

Provenance: From the collection of Marilyn Bockting, Administrative Assistant to Deputy Director of MSC James C. Elms 1963-1967; Administrative Assistant to Apollo Program Manager George Low 1967-1970; Administrative Assistant to Director of Flight Crew Operations Donald K. "Deke" Slayton 1970-1973; Assistant Manager of the Program Administration Office 1973-1975 and promoted to Manager in 1975.

Period Lucite-encased Apollo 11 Kapton Foil paperweight given to George Low's secretary. The foil was part of the Apollo 11 Command Module "Columbia" and flew in space from July 16-24, 1969.

Kapton polymer film was developed by DuPont in the 1960s and has been used in printed circuits and as insulation for satellites and spacecraft. It remains stable under an extremely wide range of temperature conditions and was used on the Lunar Modules and Command Modules on the Apollo lunar missions.

$1,500 - 2,500



68

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

69
APOLLO 11: EXTENSIVE ORIGINAL TELETYPE ROLL OF THE MOON LANDING.
Printed teletype on rolled paper, July 20, 1969, approximately 33 feet x 8 3/8 inches.
An extensive original teletype reporting on the minute-by-minute activity of the first crewed Moon landing. The text opens at about 108:53:00 into the mission with: *"URGENT / (Space Center)--- They have started De-pressurizing the Eagle. ... Armstrong said---'Now comes the gymnastics.'"* and closes shortly after the phone call with President Nixon. Of course, one of the most famous moments is included: *"As he placed his foot on the Moon, Armstrong said: 'Here's one small step for man. One Giant leap for mankind.' Thus, a millenium [sic] of dreams and predictions was fulfilled on a landing site in the Moon's Sea of Tranquility."*
An unusually long example of Apollo 11 news teletype coverage.

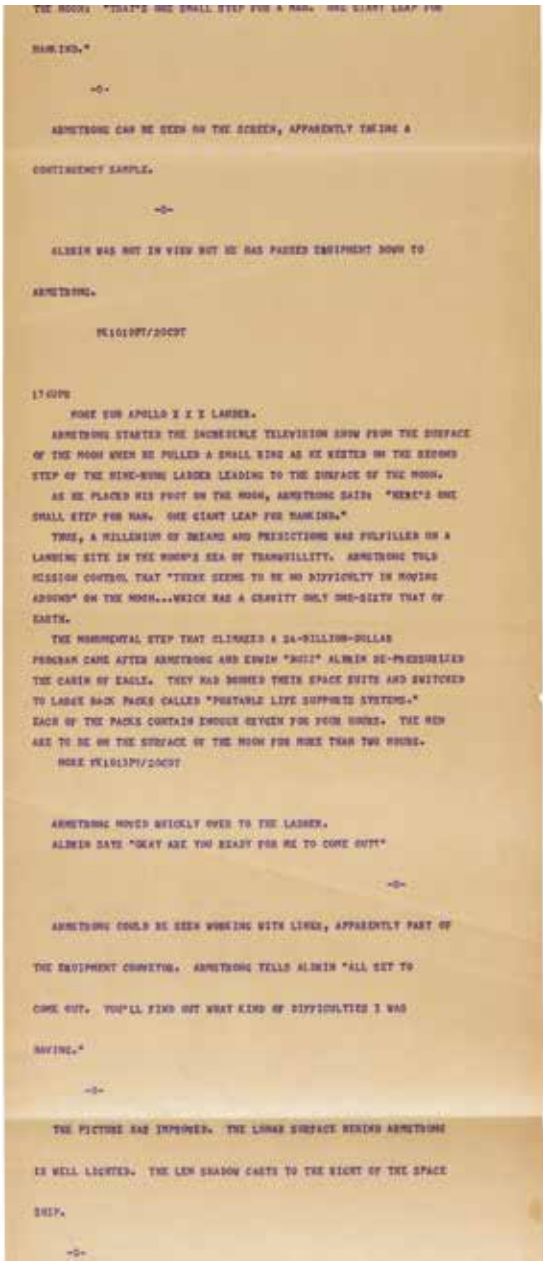
$1,000 - 2,000

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

68
APOLLO 11: LARGE FORMAT GROUP CREW-SIGNED PHOTO OF ALDRIN DESCENDING THE LM LADDER.
Large format color photograph, 16 x 20 inches (406 x 508 mm), Framed.

SIGNED & INSCRIBED BY THE ENTIRE CREW: NEIL ARMSTRONG (*"Tranquility Base"*); BUZZ ALDRIN (*"Apollo XI / 'Magnificent Desolation'"*); and MICHAEL COLLINS (*"Apollo XI CMP / July 20, 1969"*).

$3,000 - 5,000



69

70
APOLLO 11: BUZZ ALDRIN AT TRANQUILITY BASE.
Large format color photograph, 16 x 20 inches, on Fujifilm Fujicolor Crystal Archive paper. Fine.

THE MOST ICONIC LUNAR SURFACE IMAGE FROM THE APOLLO PROGRAM, BOLDLY SIGNED BY ALDRIN.
Neil Armstrong used a 70mm Hasselblad camera to capture the most well-known space photograph in history – depicting Man on the Moon.

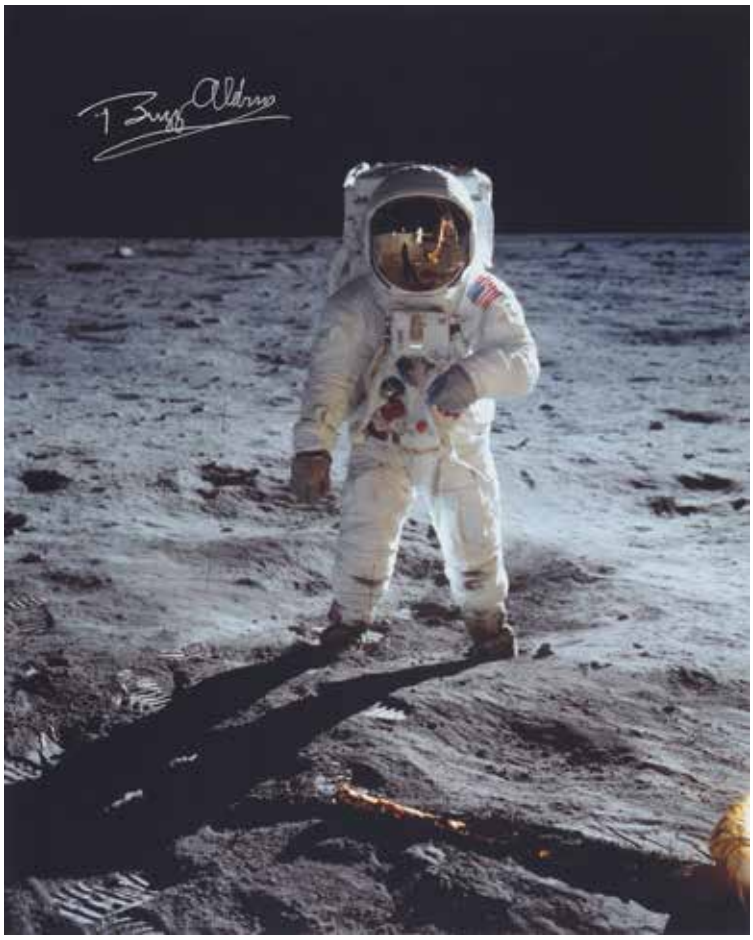
$2,000 - 3,000

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

71
APOLLO 11: SIGNED & INSCRIBED CREW PORTRAIT.
Printed portrait postcard, 1969, 5 1/2 x 8 3/4 inches (140 x 223 mm), being a portrait of the suited crew before a backdrop of the Moon.

SIGNED by NEIL ARMSTRONG, MICHAEL COLLINS & BUZZ ALDRIN and additionally inscribed by Collins: *"Apollo XI."*

$2,000 - 3,000



70



71



72

72
APOLLO 11: MICHAEL COLLINS SIGNED EARTH RISE.
Large format color photograph, 16 x 20 inches, on Kodak Professional Endura paper. Fine.

SIGNED & INSCRIBED by Michael Collins: *"Michael Collins Apollo XI July 20, 1969.* Michael Collins captured this powerful photograph of the Earth rising above the Moon while Neil Armstrong and Buzz Aldrin were on the lunar surface.

$1,500 - 2,500



71

73
APOLLO 11: NEIL ARMSTRONG SIGNED PORTRAIT.
Official NASA printed portrait, 8 x 10 inches, featuring Armstrong in his suit, pre-launch, with text on verso. With Zarelli Space Authentication certificate.

SIGNED boldly by Armstrong.

$1,000 - 1,500

74
APOLLO 11: ARMSTRONG COLLECTION PHOTOGRAPH OF CSM OVER THE SEA OF TRANQUILITY.
Chromogenic color photograph, July 20, 1969, 8 x 10 inches (204 x 254 mm), NASA identification number printed in red "AS11-37-5446," "A KODAK PAPER" watermark on verso, sealed in CAG sleeve. *Provenance:* The Armstrong Family Collection (sealed CAG labeled sleeve and letter of provenance signed by Mark and Rick Armstrong).

Neil Armstrong's own copy of this photograph of the Command/Service Module taken from the vantage of the Lunar Module before landing on the lunar surface.

$1,800 - 2,200



74

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

75
APOLLO 11: ARMSTRONG SIGNED LIFTOFF PRINT.
Printed image in linen finish, July 16, 1969, 8 3/8 x 11 inches (278 x 212 mm), featuring the Apollo 11 Spacecraft launch.

SIGNED by Armstrong amidst the fire and smoke of the successfully launching spacecraft.

$1,000 - 2,000



75



76

76
APOLLO 11: ARMSTRONG COLLECTION PHOTOGRAPH OF OBLIQUE VIEW OF DAEDELUS.
Chromogenic color photograph, July 20-21, 1969, 8 x 10 inches (204 x 254 mm), NASA identification number printed in red "AS11-44-6609," "A KODAK PAPER" watermark on verso, sealed in CAG sleeve. *Provenance:* The Armstrong Family Collection (sealed CAG labeled sleeve and letter of provenance signed by Mark and Rick Armstrong).

Neil Armstrong's own copy of this Michael Collins photograph of the crater Daedalus on the farside of the Moon. Collins captured this image while Armstrong and Aldrin were exploring the lunar surface during the first Moon landing.

$1,000 - 1,500



77

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

77
APOLLO 11: NEIL ARMSTRONG SIGNED & INSCRIBED CREW PORTRAIT.
Printed crew portrait, 1969, 8 x 10 inches, entitled "Prime Crew of Fifth Manned Apollo Mission," being a portrait of the Apollo 11 crew in space suits before the backdrop of the Moon.

SIGNED & INSCRIBED by Neil Armstrong: *"Best Wishes to The Zuta Family."*

$1,000 - 2,000

78
APOLLO 11 SATURN V LAUNCH VEHICLE SIGNED TWICE BY BUZZ ALDRIN.
Mixed materials, 605mm tall on base, 163mm square, with original box.

SIGNED BY ALDRIN TWICE ON THE BASE once directly below the spacecraft and again on the edge with the inscription *"Apollo XI."*

$1,000 - 2,000



78



79

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

79
APOLLO 11: BUZZ ALDRIN INSCRIBES WITH FIRST WORDS AT TRANQUILITY BASE.
Printed chart of Mare Tranquillitatis, 1969, 17 x 22 inches (432 x 559 mm) NASA ID: MSC-6132-69, TRANQUILITY BASE.

SIGNED & INSCRIBED BY BUZZ ALDRIN & CHARLIE DUKE.
A chart of the area where humans first landed on the moon, with inscriptions by the Lunar Module Pilot and Mission Control Capsule Communicator. All larger craters are identified and with elevation contours plotted. Inscribed by Aldrin with: *"'Contact light', first words from the lunar surface, Buzz Aldrin, Apollo XI,"* and marked with an *"X"* at the landing site. Apollo 11 CapCom Charles Duke has also inscribed *"Roger, Tranquillity, We copy you on the ground. You've got a bunch of guys about to turn blue! We're breathing again. Thanks a lot! Charles M. Duke, Jr., Apollo 11 Capcom."* This was the statement transmitted by Duke after Neil Armstrong's historic words of: "Houston, Tranquillity Base here. The Eagle has landed!"

$2,000 - 3,000



80

80
APOLLO 11: BUZZ ALDRIN-SIGNED COMMAND MODULE *COLUMBIA*.
Mixed materials, 1:25 scale, approximately 135 x 135 resting on base.
In original box.

SIGNED by Buzz Aldrin on the base. A well-made and detailed model which even reproduces much of the original interior.

$800 - 1,200

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

81
APOLLO 11: LUNAR MODULE CONTRACTOR'S MODEL.
Mixed materials, Topping Models for Grumman, 1969, 10 1/2 inch diameter base, model approximately 6 1/2 inches tall, base with Grumman and NASA logos and *"One small step for man ... One giant leap for mankind / 10:56 EDT / July 20, 1969 / LUNAR MODULE."*

Model of the Lunar Module (LM) made from injected-molded plastic for the Grumman Aircraft Engineering Corporation (GAEC) of Bethpage, Long Island, NY. GAEC was the prime NASA contractor for the Lunar Module (LM). The model stands 6 1/2 inches tall with four landing legs approximately 8 inches apart. The upper Ascent Stage is detachable from the lower Descent Stage. The complete model is removable from circular base. This example was issued shortly after the Apollo 11 Moonlanding. The LM made one uncrewed and one crewed earth orbital flight and carried out eight crewed lunar missions of which six landed on the moon.

$1,000 - 2,000



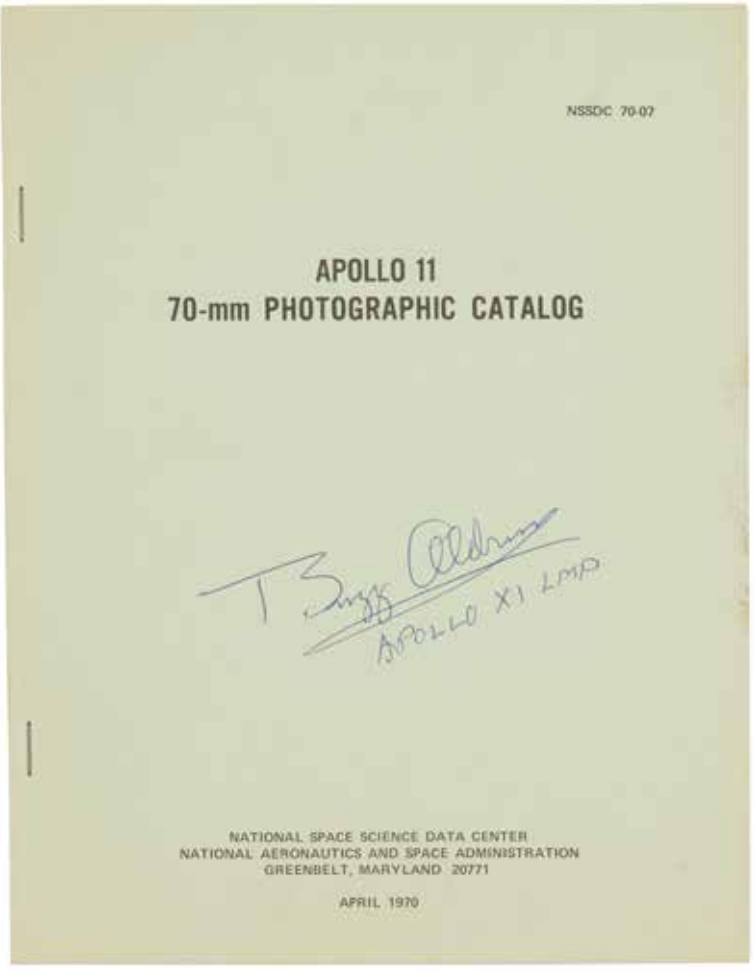
81

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

82
APOLLO 11: BUZZ ALDRIN-SIGNED 70MM PHOTOGRAPH CATALOGUE.
Apollo 11 70-mm Photographic Catalog. NSSDC 70-07. Greenbelt, MD: NASA National Space Science Data Center, April 1970. Approximately 200 pp. Halftone illustrations throughout with images from each film magazine, six frame per page, as if contact prints. 10½ by 8 inches (266 x 205 mm). Card stock covers, stapled. Excellent.

SIGNED & INSCRIBED BY BUZZ ALDRIN: "APOLLO XI LMP" on the cover. A valuable resource that contains illustrations of every usable 70mm film frame taken on the lunar surface by Armstrong and Aldrin, plus almost all others taken during other phases of the mission.
Lunar surface images show the full sequence of Aldrin's descent down the LM ladder to the surface, panoramic frames, the one good picture of Armstrong on the moon, the iconic image of Aldrin on his EVA, experiment deployments, and inspection of the LM.

$1,000 - 2,000



82

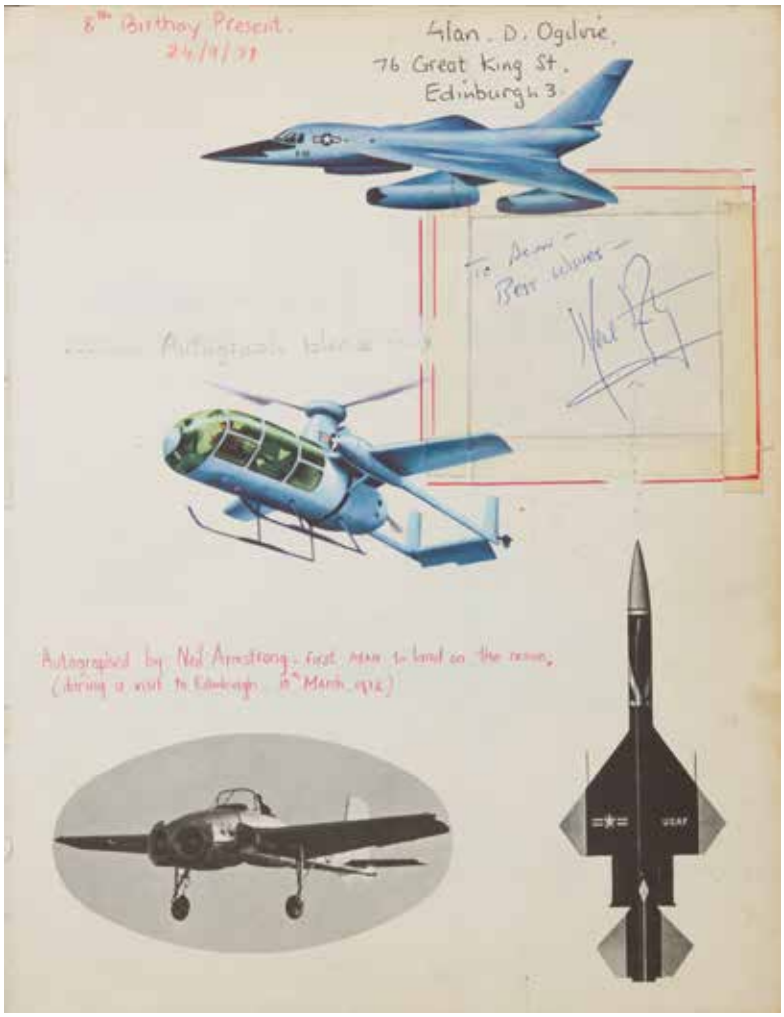
83
NEIL ARMSTRONG PAINTED PORTRAIT BY NASA ARTIST RAYMOND BRUNEAU.
Acrylic on board, Signed ("R. Bruneau"), Houston, c.1969, 15 x 20 inches (380 x 508 mm).
Provenance: 1970 Houston STWP Technical Art Exhibit label on verso filled out with "Ray Bruneau" under Artist's Name and "NASA-MSC" as Company.

A fine head and shoulders portrait of Neil Armstrong in his A7L suit painted at the time of his Apollo 11 flight. Raymond Bruneau worked 28 years as an illustrator for NASA at Johnson Space Center in Houston beginning in 1962. Bruneau, who was born with both arms paralyzed, was put into a cast as an infant. He continued to have limited mobility in his arms and hands, but still managed to produce memorable illustrations for the Apollo Program including astronaut portraits such as the present lot as well as launch and spacecraft illustrations.

$2,000 - 3,000



83



84

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

84

NEIL ARMSTRONG SIGNED & INSCRIBED BOOK TO YOUNG FAN.

Story of Flight. London; Hamlyn, [1970]. Original cloth, dustjacket.

Provenance: Alan Olgivie (ownership inscription).

SIGNED & INSCRIBED BY ARMSTRONG on the front free flyleaf: *"To Alan - / Best Wishes - / Neil Armstrong."* Includes a letter Ogilvie had sent to Armstrong during the latter's visit to Edinburgh in March 1972. Olgivie states: *"I am eight, and one of your fans. Could you kindly Autograph my book of 'Flight?'*

Armstrong was invited in March 1972 to the Scottish town of Langholm, the traditional seat of Clan Armstrong, where he was awarded the Freedom of Langholm. During the ceremony he stated "It is said that the most difficult place to be recognized is one's home town; and I consider this now my home town."

$1,200 - 1,800

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

85

APOLLO 11: NEIL ARMSTRONG-SIGNED FIRST DAY COVER.

First day cover, Houston, August 2, 1971, 3 5/8 x 6 1/2 inches (93 x 165 mm), With "Space Accomplishments" printed on the left side with illustration of rocket in space above an engineer's desk with a rocket blueprint, a pencil and a ruler, being the first day cover for the "A Decade of Achievement" 8-cent stamp celebrating the space program.

SIGNED by NEIL ARMSTRONG in the center.

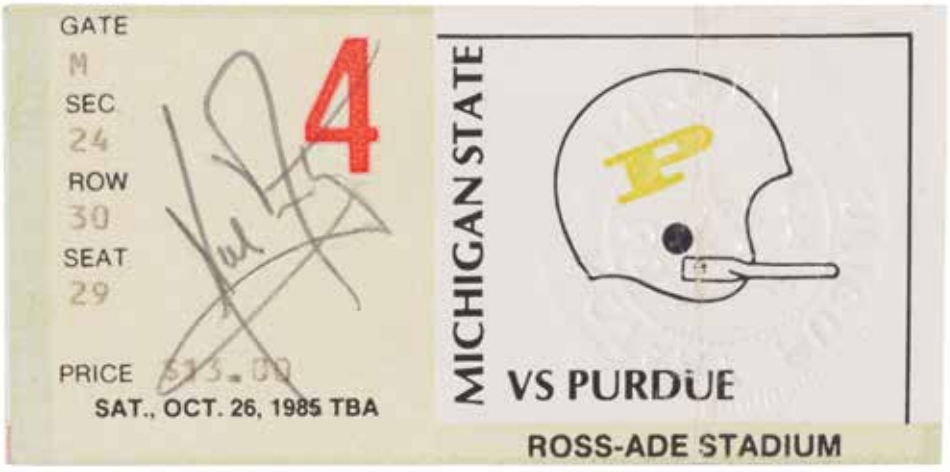
$1,000 - 2,000



85



86



87

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

86
APOLLO 11: ARMSTRONG SIGNED & INSCRIBED PORTRAIT.
Silver gelatin photograph, c.1980, 8 x 10 inches (204 x 254 mm), being a head and shoulders portrait of Neil Armstrong, matted with an image of Armstrong in his Apollo 11 spacesuit.

SIGNED & INSCRIBED by Armstrong to Brian Dennison. A great image of Armstrong, which was used to promote his PBS appearance hosting the 7-part special series *The Voyage of Charles Darwin.*

$1,000 - 2,000

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

87
APOLLO 11: ARMSTRONG-SIGNED PURDUE FOOTBALL TICKET.
Printed ticket, Ross-Ade Stadium, West Lafayette, Indiana, October 26, 1985, 2 x 4 1/8 inches (51 x 106 mm).

SIGNED by Armstrong, likely when he was attending the Michigan State vs. Purdue Football game. Armstrong was a Boilermaker - attending Purdue University on a Navy scholarship in 1947 through 1949 when he was called to active duty to serve in the Korean War. He later returned and received his bachelor's in Aeronautical Engineering in 1955. Armstrong kept up his connection to the university and the 200,000 square feet Neil Armstrong Hall of Engineering was dedicated in 2007.

$500 - 700

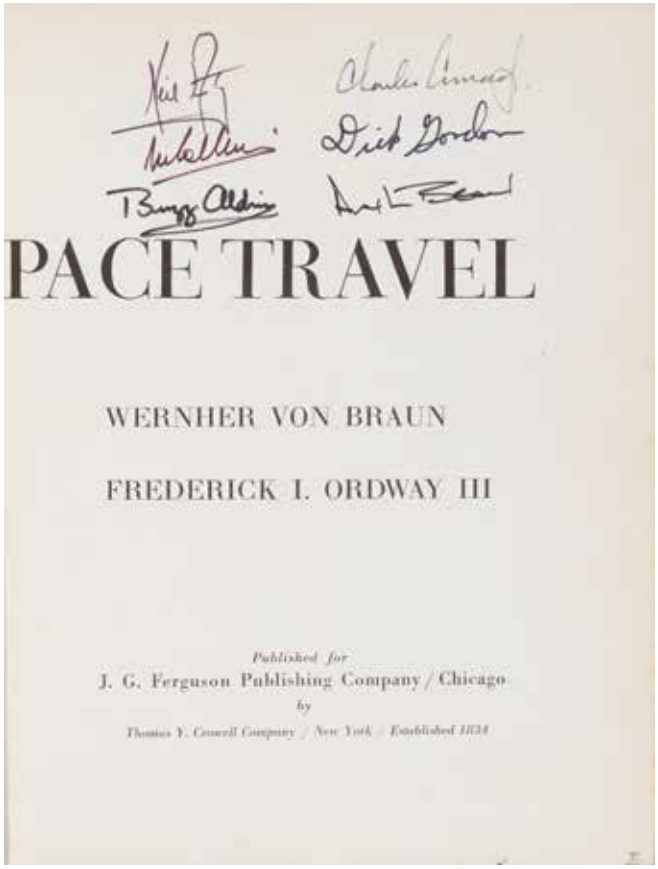


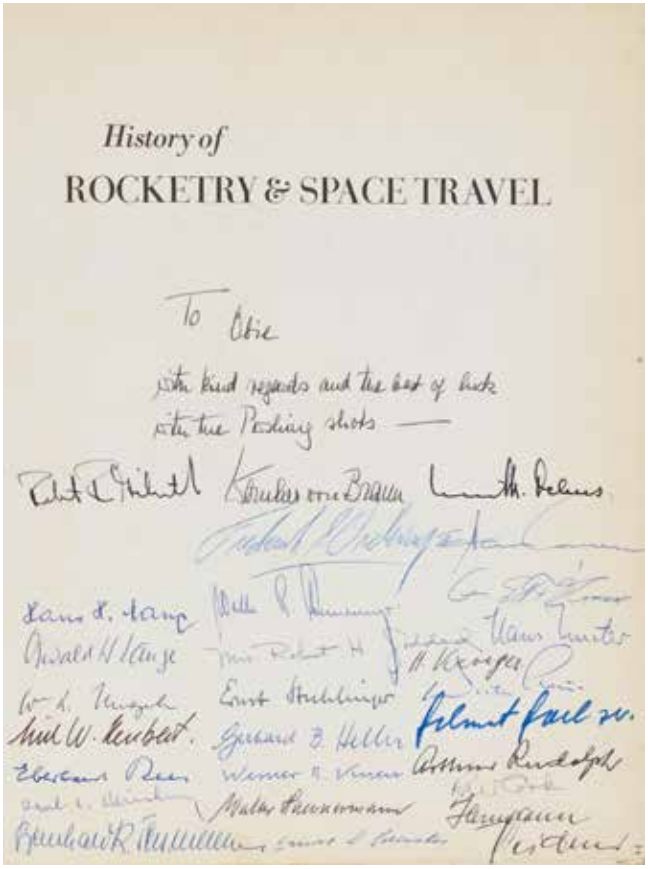


88
APOLLO 11: PAIR OF MICHAEL COLLINS ORIGINAL WATERCOLOR PAINTINGS.
2 Watercolor paintings on board, each signed ("M. Collins"):
1. "Maine Coast," 10 1/2 x 14 1/2 inches (viewable), June, 1999, View of a rocky coastline. matted and framed.
2. "The Bridge," 13 1/2 x 9 1/2 inches (viewable), May 2004, apparently a view in the Florida Everglades. matted and framed.

The late Michael Collins retired from NASA soon after Apollo 11 and held positions in a number of fields from Assistant Secretary of State for Public Affairs under the Nixon administration to Director of the National Air and Space Museum, responsible for obtaining funding from Congress, building the museum in time for the United States Bicentennial celebration on July 4th, 1976, overseeing the creation of exhibits, hiring the staff and launching the museum's Center for Earth and Planetary Studies. Collins also worked in the private sector in aerospace and as a consultant. He also published three books and took up painting as a hobby.

$1,200 - 1,800





THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

89

APOLLO 11 & 12: BOOK SIGNED BY BOTH CREWS, WERNHER VON BRAUN & 26 OTHERS.

Von Braun, Wernher & Frederick I. Ordway III. *History of Rocketry & Space Travel.* Chicago: J.C. Ferguson for Thomas Y. Crowell, [1966]. Original cloth, dust jacket.

SIGNED on the title-page by: NEIL ARMSTRONG, MICHAEL COLLINS, BUZZ ALDRIN, CHARLES CONRAD, DICK GORDON & ALAN BEAN.
SIGNED & INSCRIBED on the half-title by WERNER VON BRAUN.
SIGNED by ROBERT R. GILRUTH, KURT DEBUS, FREDERICK ORDWAY III, NATHAN CARVER, HARRY H.K. LANGE, GENERAL DR. WALTER R. DORNBERGER, MAJOR GENERAL ED FRANCAIS J. MCMORROW, OSWALD H. LANGE, MRS. ROBERT H. GODDARD, HERMAN K. KROEGER, DIETER GRAY, WILLY A. MREJAK, ERNST STUHLINGER, ERIC W. NEUBERT, GERHARD B. HELLER, DR. ING. ARTHUR RUDOLPH, EBERHARD REES, WERNER R. KUERS, SIR WILLIAM R. COOK, KARL L. HEIMBURG, DR. WALTER HAEUSSERMANN, ERNST D. GEISSLER and others not identified. An extensive collection of signatures from many of the pioneers of rocketry as well as some of the most notable astronauts that flew on those rockets.

$4,000 - 6,000



THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

90
APOLLO 12: CREW-SIGNED BETA CLOTH EMBLEM.
Apollo 12 emblem, [1969], 3 inches diameter, printed on Beta cloth, 9 x 9 inches.
SIGNED by the Apollo 12 crew: CHARLES CONRAD, ALAN BEAN & RICHARD GORDON.
The Apollo 12 emblem featured a clipper ship orbiting the Moon. The three crew members, who were all Navy pilots, used the clipper ship as a metaphor for bringing distant planets closer just as the clipper ship had brought foreign shores closer. The crew had also named their Lunar Module "Yankee Clipper." The view of the Moon centers on the Ocean of Storms area where they were to land.

$400 - 600



THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

91
APOLLO 12: LUNAR GLOBE SIGNED BY THE ENTIRE CREW.
Paper-covered globe on metal and plastic stand, approximately 6 1/2 inches tall, approximately 4-inch diameter.
SIGNED by the entire merry crew: RICHARD GORDON, CHARLES CONRAD and ALAN BEAN, who adds *"APOLLO XII MOONWALKER."*

$500 - 700



92



93

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

92
APOLLO 12: CREW-SIGNED MSC STAMP CLUB LAUNCH DAY TRACKING CHART COVER.
Printed cover, November 14, 1969, 3 5/8 x 6 1/2 inches (93 x 165 mm), produced from an Apollo tracking chart, with printed Apollo 12 label, cancelled in Houston, TX.

SIGNED by the crew: ALAN BEAN; CHARLES CONRAD; and RICHARD GORDON.
This unusual cover was produced by the Manned Spacecraft Center Stamp Club from an Apollo Tracking chart. The printed label is illustrated with a clipper ship at sea for the Yankee Clipper, the name given to the Command Module, and a smaller vessel for the Intrepid, the name given to the Lunar Module. The cover was cancelled on the launch day.

$500 - 700

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

93
APOLLO 12: CREW-SIGNED MOONLANDING COVER.
Printed cover, November 19, 1969, 3 5/8 x 6 1/2 inches (93 x 165 mm), cancelled at Cape Canaveral, FL, printed with images of the crew, the Apollo 12 insignia, the Navy insignia, and aspects of the mission.

SIGNED by the crew: ALAN BEAN; CHARLES CONRAD; and RICHARD GORDON. Cancelled on the day the Lunar Module Intrepid touched down on the lunar surface, becoming the second crewed Moonlanding.

$400 - 600



94 Ω

APOLLO 12: PETE CONRAD-WORN T-38 FLIGHT SUIT NAMETAG.

Black leather label with velcro backing, circa early 1970s, approximately 2 x 4 inches (50 x 100 mm), lettered “C.C. CONRAD” in gilt.

Provenance: Charles “Pete” Conrad (gifted by him to one of the prime service crew at Ellington Air Force Base in Pasadena, TX.

Pete Conrad was likely already familiar with the Northrop T-38 Talon from his days as a Navy test pilot when he joined NASA. Astronauts would traditionally travel in NASA’s T-38s to their launches. This patch was presented sometime before December 1973, when Conrad retired from NASA.

$500 - 700



THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

95
APOLLO 13: FLOWN MISSION PATCH FROM THE COLLECTION OF FRED HAISE.
Embroidered cloth crew mission emblem, April 11-17, 1970, circular form, 4 inches (101 mm) diamter, mounted under acrylic onto a shield-shaped wooden plaque.
Provenance: Fred Haise, from his collection, with the back of the plaque is inscribed: *"This crew patch was flown on Apollo XIII. From my personal collection. Fred Haise, Apollo XIII LMP."*

"The Latin motto - *'ex luna, scientia'* ('from the moon, knowledge') - mimics the Naval Academy's 'ex trident, scientia' ('"from the sea, knowledge'). Unusually, the emblem does not carry the crew members' names" (Jim Lovell, interview in *Quest, The History of Spaceflight Magazine*, Spring 1995).
Slated to be NASA's third crewed mission to land on the Moon, the Apollo 13 mission resulted in a heroic effort to return the crew safely after an oxygen tank explosion in the Service Module left the crew in a precarious position 210,000 miles from Earth. The Lunar Module became the crew's lifeboat back to Earth. The present patch was one of the souvenirs that made it back from that harrowing flight.

$3,000 - 5,000


APOLLO XIII
EX LUNA, SCIENTIA



96

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

96
APOLLO 13: "BLUE NUMBER" PHOTOGRAPH SIGNED BY THE CREW.
Chromogenic color photograph, 1963, 8 x 10 inches (204 x 254 mm), NASA ID in blue: S-63-11318, "A KODAK PAPER" watermark on verso, depicting a concept illustration of the Apollo Command Module and Service Modules separating. Three holes punched in margin.

SIGNED by the Apollo 13 crew: JAMES LOVELL, JACK SWIGERT & FRED HAISE.

$600 - 800



97

97
APOLLO 13: FLOWN KAPTON FOIL ENCASED IN PERIOD LUCITE DISC.
Approximately 1 square inch (25 square mm) piece of kapton foil encased in Lucite, 1970, 2 5/16 diameter x 15/16 of an inch high (58 x 25 mm), labeled in black on the bottom: "Apollo 13 Mylar / Command Module Thermal Coating."
Provenance: From the collection of Marilyn Bockting, Administrative Assistant to Deputy Director of MSC James C. Elms 1963-1967; Administrative Assistant to Apollo Program Manager George Low 1967-1970; Administrative Assistant to Director of Flight Crew Operations Donald K. "Deke" Slayton 1970-1973; Assistant Manager of the Program Administration Office 1973-1975 and promoted to Manager in 1975.

Period Lucite-encased Apollo 13 Kapton Foil paperweight given to Deke Slayton's secretary. The foil was part of the Apollo 13 Command Module and flew in space from April 11-17, 1970.

Kapton polymer film was developed by DuPont in the 1960s, and has been used in printed circuits and as insulation for satellites and spacecraft. It remains stable under an extremely wide range of temperature conditions, and was used on the Lunar Modules and Command Modules on the Apollo lunar missions.

$800 - 1,200

98 Ω

APOLLO 13: "RED NUMBER" PHOTOS SIGNED BY FRED HAISE.

Group of 3 chromogenic color photographs, April 11-17, 1970, 8 x 10 inches (204 x 254 mm), "A KODAK PAPER" watermark on the versos.
1. NASA ID in red: AS13-61-8877
Interior view of the Apollo 13 Lunar Module (LM) showing the "mail box," which was a DIY fix to allow use of the Command Module lithium hydroxide cannisters to purge carbon dioxide from the LM. The crew had to limit light usage to conserve power as evidenced by the dimness of this photograph.
2. NASA ID in red: AS13-60-8637.
Lunar view featuring crater Tsiolkovskiy.
3. NASA ID in red: As13-60-8598.
Attractive, clear view of Earth showing the Pacific.

Each SIGNED by FRED HAISE as *Apollo 13 LMP."*

$800 - 1,200

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

99

APOLLO 13: CREW-SIGNED PHOTO ABOARD THE USS *IWO JIMA.*

Silver gelatin print photograph, April 17, 1970, 8 x 10 inches (204 x 254 mm).

SIGNED & INSCRIBED by: FRED HAISE (*"Apollo 13 LMP,"*) and JAMES LOVELL (*"Apollo 13 CDR / Aim for the Stars,"*). Excellent image of the relieved crew post-mission on the recovery ship, the USS *Iwo Jima.*

$500 - 700



98



98



99

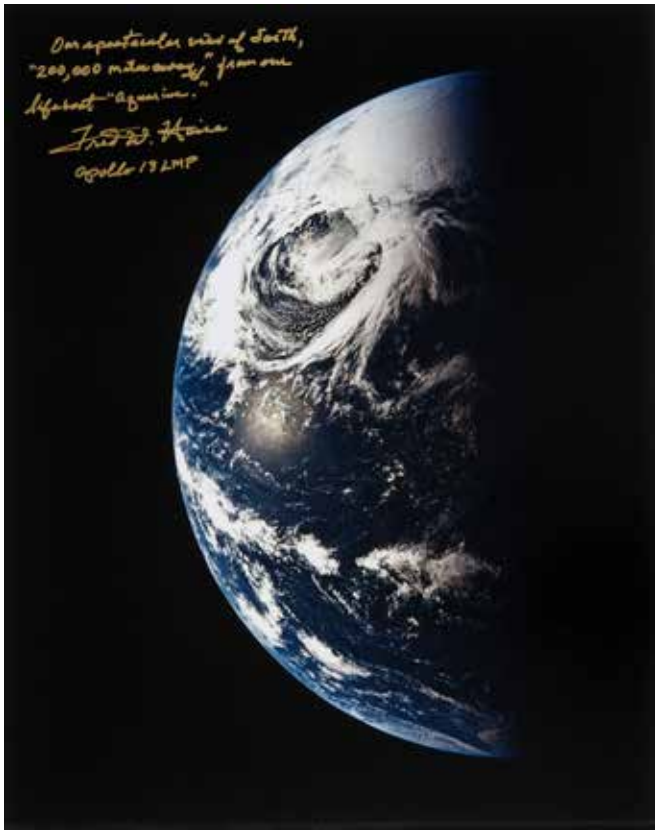


98



100





101

100
APOLLO 13: CSM & LM MODEL SIGNED BY FRED HAISE.
Model, mixed materials, approximately 340 x 330 mm, depicting the CSM and LM connected in standard configuration, with original box.

SIGNED & INSCRIBED on the base: "'Houston, we've had a problem' / April 11-17, 1970 / Fred Haise / Apollo 13 LMP." An attractive and detailed model.

$1,000 - 2,000

101
APOLLO 13: EARTH AFTER TRANS-LUNAR INJECTION MANEUVER.
Large format color photograph, 16 x 20 inches, on Kodak Professional Endura paper. Fine.

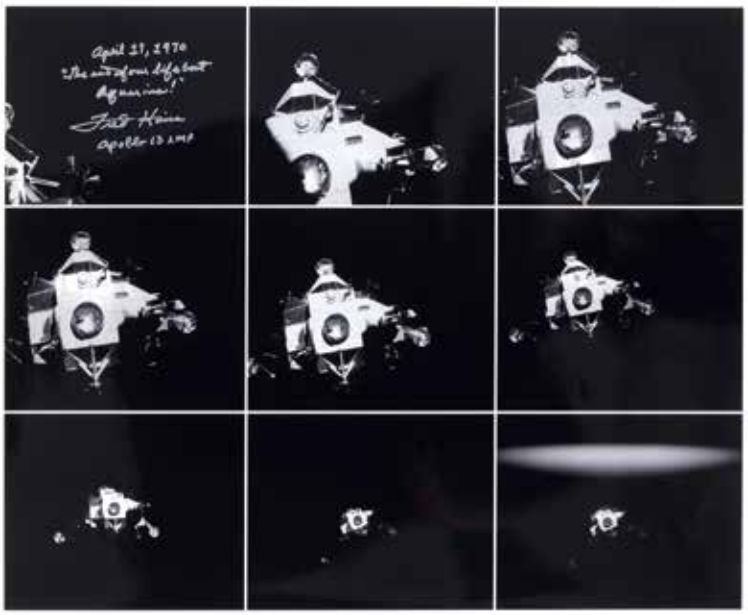
SIGNED & INSCRIBED by Fred Haise: *"Our Spectacular view of Earth, '200,000 miles away,' from our lifeboat 'Aquarius.' / Fred Haise / Apollo 13 LMP."*

$1,000 - 1,500

102
APOLLO 13: LIFEBOAT AQUARIUS INSCRIBED BY FRED HAISE.
Large format black and white photograph, 16 x 20 inches, being a sequence of 9 images depicting the Lunar Module, with Kodak Professional Endura watermark on verso. Fine.

SIGNED & INSCRIBED by Fred Haise: *April 17, 1970 / 'The end of our lifeboat Aquarius!' / Fred Haise / Apollo 13 LMP."*

$800 - 1,200



102

103
APOLLO 14: CREW-SIGNED LARGE-FORMAT PHOTOGRAPH TO DEKE SLAYTON'S SECRETARY.
Large-format chromogenic color photograph, February 5, 1971, 10 3/4 x 13 3/4 inches (273 x 350 mm), NASA ID [AS14-66-9232], affixed to backing board, 16 x 20 inches overall.
Provenance: From the collection of Marilyn Bockting, Administrative Assistant to Deputy Director of MSC James C. Elms 1963-1967; Administrative Assistant to Apollo Program Manager George Low 1967-1970; Administrative Assistant to Director of Flight Crew Operations Donald K. "Deke" Slayton 1970-1973; Assistant Manager of the Program Administration Office 1973-1975 and promoted to Manager in 1975.

SIGNED BY THE CREW & ADDITIONALLY INSCRIBED by Alan Shepard: *"Apollo 14 / To Marilyn Bockting with our regards and appreciation - Alan Shepard / Stuart Roosa / Ed Mitchell."*
Classic tourist shot taken by Ed Mitchell of Apollo 14 Commander Alan Shepard with the U.S. flag during the first lunar EVA. Ed Mitchell's shadow is in the foreground, with the Lunar Module's shadow to the left and the shadow of the 3-band antenna to the right.

$600 - 800


103



104



105

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

104
APOLLO 14: RECOVERY COVER SIGNED BY THE CREW.
Cover, February 9, 1971, 3 5/8 x 6 1/2 inches (93 x 165 mm), with "Apollo 14 U.S. Navy Pacific Recovery Force" stamp, and U.S.S. New Orleans cancel stamp.

SIGNED by the crew: ALAN SHEPARD (on affixed label); STUART ROOSA; and EDGAR MITCHELL.
The Apollo 14 Command Module "Kitty Hawk" splashed down in the South Pacific Ocean, 900 miles south of American Samoa and was recovered by the USS New Orleans. This cover was likely collected by a member of the Naval crew.

$400 - 600

105
APOLLO 14: CREW-SIGNED LARGE-FORMAT PHOTOGRAPH TO DEKE SLAYTON'S SECRETARY.
Vintage large-format chromogenic color photograph, February 5, 1971, 10 3/4 x 13 3/4 inches (273 x 350 mm), NASA ID [AS14-67-9367 or 9368], affixed to backing board, 16 x 20 inches overall.
Provenance: From the collection of Marilyn Bockting, Administrative Assistant to Deputy Director of MSC James C. Elms 1963-1967; Administrative Assistant to Apollo Program Manager George Low 1967-1970; Administrative Assistant to Director of Flight Crew Operations Donald K. "Deke" Slayton 1970-1973; Assistant Manager of the Program Administration Office 1973-1975 and promoted to Manager in 1975.

SIGNED BY THE CREW & ADDITIONALLY INSCRIBED by Alan Shepard: *"Apollo 14 / To Marilyn Bockting with our regards and appreciation - Alan Shepard / Stuart Roosa / Ed Mitchell."*
Alan Shepard photographed the Apollo 14 Lunar Module Antares with the sun glaring at top left. Taken during the first lunar EVA. The trail in the soil that leads from the LM is from the two-wheeled Modularized Equipment Transporter (MET).

$600 - 900



106



107

106
APOLLO 15: DAVE SCOTT'S LUNAR SALUTE.
Large format color photograph, 16 x 20 inches, fine.

SIGNED by Dave Scott and *INSCRIBED* as "Apollo 15 CDR."

$800 - 1,200

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

107
APOLLO 15: CREW-SIGNED MOONLANDING COVER.
Printed cover, NASA Manned Spacecraft Center Stamp Club, July 30, 1971, 3 5/8 x 6 1/2 inches, cancelled in Houston, TX, featuring the mission insignia at left.

SIGNED by the crew: DAVE SCOTT, AL WORDEN and JAMES IRWIN. Identical to the infamous insurance covers which would cause them grief the following year.

$300 - 500

108

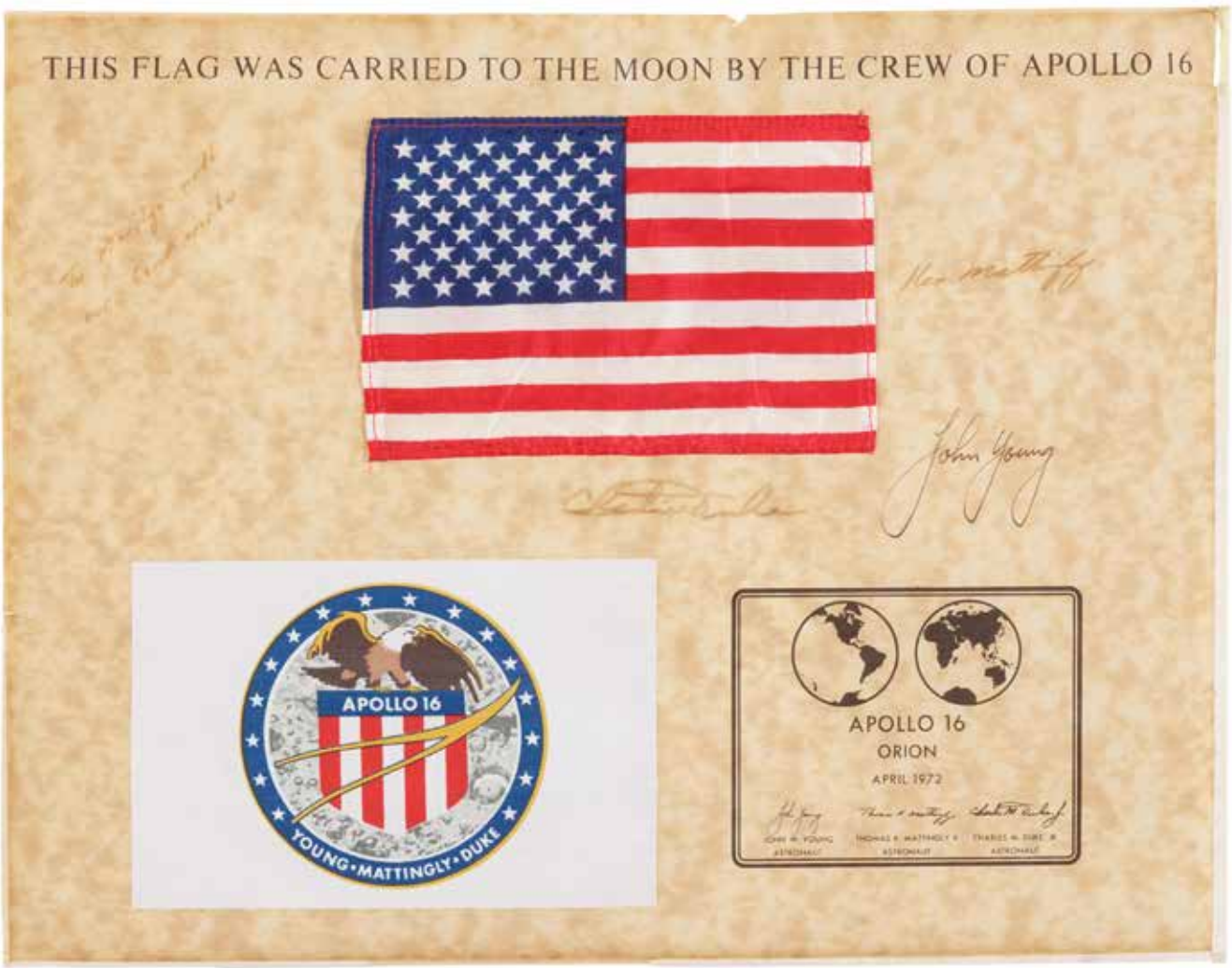
APOLLO 16: FLOWN FLAG PRESENTED TO DEKE SLAYTON'S SECRETARY.

Flown United States flag, 3 7/8 x 5 3/4 inches (99 x 146 mm), 1972, mounted to presentation certificate with Beta cloth mission emblem, 10 7/8 x 13 7/8 inches. Certificate browned.

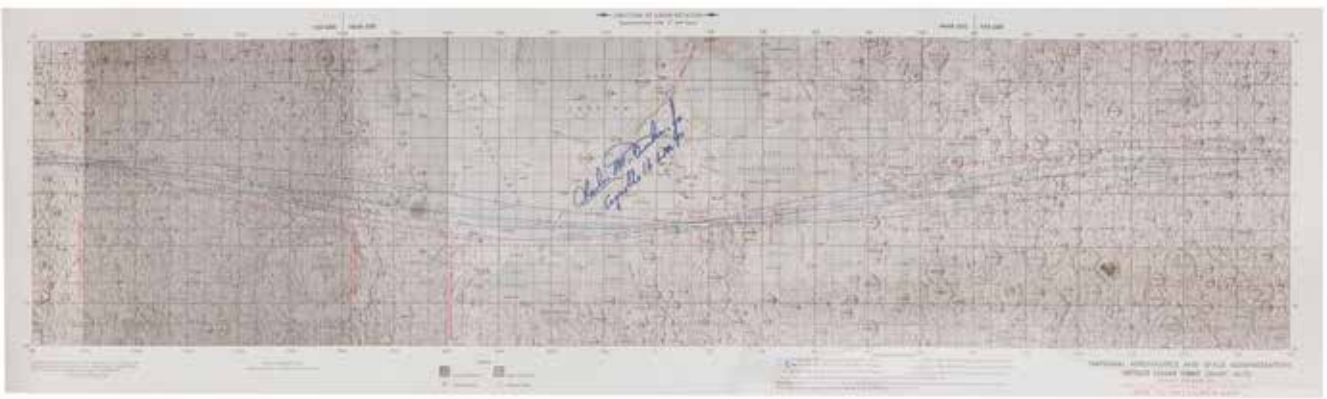
Provenance: From the collection of Marilyn Bockting, Administrative Assistant to Deputy Director of MSC James C. Elms 1963-1967; Administrative Assistant to Apollo Program Manager George Low 1967-1970; Administrative Assistant to Director of Flight Crew Operations Donald K. "Deke" Slayton 1970-1973; Assistant Manager of the Program Administration Office 1973-1975 and promoted to Manager in 1975.

SIGNED by the crew: CHARLIE DUKE, KEN MATTINGLY and JOHN YOUNG on the certificate and *INSCRIBED* by Mattingly: *"To Marilyn with our best wishes."* Wonderful presentation of this Moon-flown flag to this much-beloved NASA employee.

$3,000 - 5,000


THIS FLAG WAS CARRIED TO THE MOON BY THE CREW OF APOLLO 16
John Young
APOLLO 16
YOUNG • MATTINGLY • DUKE
APOLLO 16
ORION
APRIL 1972





109
APOLLO 16: CHARLIE DUKE-SIGNED CHARTS OF THE LUNAR AND EARTH ORBITS.
2 Signed charts:
1. *Apollo Earth Orbit Chart (AEO), Apollo Mission 16. For April 16, 1972 Launch Date.* Earth map in color, February 15, 1972, 13 by 41 1/2 inches.
2. *Apollo Lunar Orbit Chart (ALO), Apollo Mission 16. Trajectory for CSM Revolutions....* Lunar surface chart in color, February 16, 1972, 12 by 41 inches. CSM orbits 1, 39, 41, 60, 62, and 75 are plotted and the Descartes landing site is marked with a red ellipse.

An earth and lunar orbit chart for the fifth lunar landing. Each SIGNED: "Charles M. Duke, Jr. / Apollo 16 LMP."

$1,000 - 2,000



110



111

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

110
APOLLO 16: CHARLIE DUKE-SIGNED LUNAR EVA PANORAMA.
Chromogenic color panoramic photograph, 12 x 36 inches, Fujifilm Professional Paper watermark on verso.

SIGNED & INSCRIBED: *"'Hey John, There's old Orion / Home again, home again!' Charlie Duke / Apollo 16 LMP / April 21, 1972."* Powerful image of Charlie Duke at the Lunar Roving Vehicle near the ALSEP site during the Apollo 16 EVA.

$800 - 1,200

111
APOLLO 17: LAUNCH DAY COVER SIGNED BY THE CREW.
Printed cover, December 7, 1972, 3 9/16 x 6 1/2 inches, with Apollo 17 insignia on left with NASA MSC return address, cancelled at Kennedy Space Center.

SIGNED by the crew: HARRISON SCHMITT; GENE CERNAN; and RON EVANS.
Cancelled on the launch day of the final crewed mission to the Moon.

$400 - 600



112

112
APOLLO 17 PHOTO INSCRIBED TO DEKE SLAYTON'S SECRETARY.
Vintage chromogenic color photograph, September 1972, 7 x 8 7/8 inches (177 x 226 mm), NASA ID (S-73-19534), mounted to 10 x 12 inches.
Provenance: From the collection of Marilyn Bockting, Administrative Assistant to Deputy Director of MSC James C. Elms 1963-1967; Administrative Assistant to Apollo Program Manager George Low 1967-1970; Administrative Assistant to Director of Flight Crew Operations Donald K. "Deke" Slayton 1970-1973; Assistant Manager of the Program Administration Office 1973-1975 and promoted to Manager in 1975.

SIGNED & INSCRIBED on the mount by the crew, GENE CERNAN, RONALD EVANS & HARRISON SCHMITT: *"To Marilyn Bockting - With Best Wishes & Sincere Thanks From The Crew Of Apollo XVII."* Group portrait of the Apollo 17 crew with Gene Cernan seated in the Lunar Roving Vehicle (LRV) and Harrison Schmitt and Ronald Evans standing behind. The Saturn V rocket looms on the launch pad behind them.

$400 - 600

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.



113

113
APOLLO 17: CREW-SIGNED ANNIVERSARY COVER WITH PORTRAIT.
Printed cover, NASA MSC Stamp Club, December 7, 1972, 3 5/8 x 6 1/2 inches (93 x 165 mm), with Apollo 17 insignia on left, "Official Commemorative Cover," and numbered "31" in the bottom right. Cancelled on the 20th and 30th Anniversaries of the launch date.
WITH: Printed crew portrait, 1972, featuring the crew in spacesuits with Cernan aboard the Lunar Roving Vehicle. *SIGNED & INSCRIBED* by Harrison Schmitt: *"To Craig and the future! / Harrison Schmitt / Apollo 17."*

Interesting presentation with what looks like an Insurance "Type" cover that was produced in 1972, but with no letter of provenance. After the Apollo 15 insurance cover scandal, the crew wanted to distance themselves from labeling anything an "insurance cover" even though they did sign covers before and after the flight. Harrison Schmitt is noted as not signing any pre-flight so all covers signed by him were signed later.

$500 - 700



114

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

114
SPACE PROGRAM: 8 ASTRONAUT-SIGNED & INSCRIBED FIRST-DAY COVER.
First day cover, Houston, August 2, 1971, 3 3/4 x 6 1/2 inches, with "Man Conquers Space" on the left side with illustrations of the Saturn V launch vehicle, a suited astronaut and the Lunar Module, being the First Day cover for the "A Decade of Achievement" 8-cent stamp celebrating the space program.

SIGNED BY: CHARLIE DUKE (*"THE HEAVENS DECLARE THE GLORY OF GOD,"*) EDGAR MITCHELL (*"Apollo 14,"*) JAMES MCDIVITT, FRANK BORMAN, GORDON COOPER, WALTER CUNNINGHAM (*"TO THE MOON AND BACK,"*) JIM IRWIN (*"Apollo 15 [with a sketch of a crescent Moon]"*) and HARRISON SCHMITT.

$600 - 900

115
APOLLO COMMAND MODULE STOWAGE CONTAINER B.
Gray painted metal container with front access hinged lid, 279 x 203 x 200 mm, with nylon strap closure strap backed with Velcro, Velcro applied to 2 sides, front marked "RESTRAINT ATTACH," "ERG LAP BELT & REST" with arrow pointing to the right, "INFLIGHT EXERCISER" with arrow pointing to the right, "L OH CART H-7-8," and with a "B" within a white triangle label, interior lined with thin padding. *Provenance:* Purchased as surplus by a North American Rockwell engineer.

$1,200 - 1,800



115



116

116
APOLLO CAMERA ORGANIZER FOR SPACECRAFT STOWAGE.
Camera organizing cube with multiple labeled compartments on 3 sides, latex-type material, part V36-758875-21, with cloth straps affixed to two sides, approximately 240 x 203 x 195 overall.
Provenance: Purchased as surplus by a North American Rockwell engineer.

Interesting multi-compartment organizing insert designed to fit into one of the Apollo spacecraft stowage lockers. The separate compartments are each specifically labeled with what they were to hold, i.e. “70MM CAM/MAG,” 16MM CAM/MAG,” SPOTMETER,” “16MM MAGS,” “5MM LENS,” “FLOOD LIGHT,” “PWR CABLE,” etc. The straps, each labeled, appear to be for easy lifting from the stowage container. The soft, latex-like material and the fitted compartments would have protected the sensitive camera equipment from shock and movement.

$700 - 900



117

117
PIONEER 10: OFFICIAL NASA MODEL OF THE FIRST SPACECRAFT SENT TO THE OUTER PLANETS.
Mixed materials, c.1972, approximately 29 x 22 inches (735 x 550 mm) assembled, underside of base labeled NASA/AESP and numbered 2041, in wooden and Masonite trunk, 24 7/8 x 16 1/2 x 11 3/4 inches, labeled “Pioneer 10 2041.”
Provenance: NASA Office of Education, with tag to base, and indication on case.

Pioneer 10, the first all-nuclear electrical powered spacecraft, was originally launched March 2, 1972. Although sent on a 21-month mission to fly by the planet Jupiter, it continued for more than 30 years transmitting its last signal to Earth on January 23, 2003 from 7.6 billion miles away. It had, years earlier, after becoming the first spacecraft to fly by Jupiter, become the first human-made object to depart the Solar System when it crossed Neptune’s orbit in June of 1983.
The scientific instruments aboard the 569-pound spacecraft include an Imaging Photopolarimeter; Helium Vector Magnetometer (HVM); Infrared Adiometer; Quadrispherical Plasma Analyzer; Ultraviolet Photometer; Charged Particle Instrument (CPI); Cosmic Ray Telescope (CRT); Geiger Tube Telescope (GTT); Sisyphus Asteroid/Meteoroid Detector (AMD); Meteoroid Detectors; Trapped Radiation Detector (TRD). Pioneer 10 (and Pioneer 11) also contains a Carl Sagan-designed gold-anodized aluminum plaque in case it is ever found by intelligent life from another planetary system. The plaque features diagrams of a male and female figure as well as the Solar System and its location relative to 14 pulsars.
The probe continues to coast through space, headed in a much different direction than that of the Voyager probes and of Pioneer 11. It heads toward the red star Aldebaran, which forms the eye of the constellation Taurus. It’s expected to pass the star in two million years.
The present model was one of very few produced and was used for education at NASA.

$3,000 - 5,000

118

SKYLAB: GROUP OF 4 CREW-SIGNED PHOTOGRAPHS TO NASA PHOTOGRAPHER.

4 Chromogenic color photographs, 1973, each mounted to 11 x 14 (280 x 355 mm):
1. SKYLAB 2. 7 1/2 x 9 1/2 inches, Mission emblem sticker to upper left corner, signed & inscribed by PETE CONRAD; and signed by JOE KERWIN and PAUL WEITZ.
2. SKYLAB 3. 7 1/2 x 9 1/2 inches, signed & inscribed by ALAN BEAN; signed by OWEN GARRIOT and JACK LOUSMA.
3. SKYLAB 4. 7 x 9 1/2 inches, signed & inscribed by ED GIBSON; signed by GERALD CARR and BILL POGUE.
4. SKYLAB 4. 9 1/2 x 7 1/2 inches, signed & inscribed by ED GIBSON; signed by GERALD CARR and BILL POGUE. Gibson jokes in his inscription: *"Your ability as a photographer lies, in your keeping the sun in our eyes."*

$500 - 700









118

THE DR. RONALD P. GRELSAMER *INTO THE SKY WITH DIAMONDS* COLLECTION.

119

APOLLO-SOYUZ TEST PROJECT: SPACE MAGNA CARTA SIGNED BY EACH COMMANDER.

2 printed certificates, July 17, 1975, 9 x 12 inches (229 x 305 mm), Soviet and U.S. versions, each featuring an illustration of the Apollo CSM and Soyuz spacecraft in a docked configuration with parallel text in English and Cyrillic.
Provenance: Bonhams. *The Space Sale,* July 16, 2009, lot 361.

SIGNED & COMPLETED by: THOMAS P. STAFFORD and ALEXEI LEONOV, the commanders of the American and Soviet spacecraft. Informally known as the Space Magna Carta, these two certificates are from the same printing as the certificates carried on the Apollo-Soyuz flight. A very small number of these certificates were printed, and two of each type were carried on the flight, to be completed there. Two certificates were to be kept by the Americans and the other two by the Russians.
The certificate reads: *"This is to certify that at [12] hours [09] minutes Washington time and [19] hours [09] minutes Moscow time, on July [17], 1975, flight crews of the United States and the Soviet Socialist Republic successfully docked their Apollo and Soyuz Spacecraft in earth orbit. They share the hope that this first International Manned Space Flight will stand in the light of history as a significant advance in the ability of their nations to work together in ways that advance the interests of people everywhere."* During the mid-1970s, space flight supporters hoped that this mission would set the stage for future multinational space exploration. Geo-political events, however, allowed the Cold War to endure for 15 more years.
Since these exact copies were offered in 2009, we find no other copies non-flown copies at auction. Extrememly rare.

$1,200 - 1,800





119



120





121

120
KIM POOR ORIGINAL PAINTING OF SATURN.
Acrylic on canvasboard, titled “Neighbors,” 1980, 12 x 24 inches (305 x 610 mm), signed and dated ‘© P 1980’ (lower right), stamped Pallomar Studios (twice on the backing).

Tucson-based space artist Kim Poor, whose work had appeared in and on the cover of many contemporary publications including Omni, Discover, Sky & Telescope, etc., was inspired by the then new high resolution images of Saturn sent to Earth by the Voyager 1 probe beginning in November 1980. The present painting takes those photographs further and imagines an artist painting a view of Saturn from one of its moons. A classic example of Kim Poor’s work.

$2,000 - 3,000

121
SPACE SHUTTLE: PAIR OF 4000 SERIES EVA GLOVE ASSEMBLIES.
Mixed materials, ILC, Dover, parts dated from 1988 to 1989, approximately 14 1/2 x 8 inches (365 x 205 mm) overall, left and right glove, each with bladder, restraint assembly and Thermal Micrometeoroid Garment (TMG) outer layer, each in original labeled surplus bags and with FCE report surplus tag dated Feburary 8, 2006. Some usage wear.

A rare pair of 4000 Series gloves, which were part of the Space Suit Extravehicular Mobility Unit (SSA EMU), the primary life support system worn by astronauts during spacewalks. The gloves had to be pressurized, protective and allow for the hand dexterity necessary for the multitude of tasks performed during EVAs. Space Shuttle EVA gloves are rarely seen on the market in pairs.

$6,000 - 8,000





122
SPACE SHUTTLE COLUMBIA: PAIR OF THERMAL PROTECTION TILES.
Pair of silica tiles:
1. High-temperature reusable surface insulation (HRSI) tile with black borosilicate coating, irregular quadrilateral shape, approximately 7 x 6 inches (175 x 150 mm), with location identification numbers printed in yellow: VO70-193017-041-008096.
2. uncoated silica tile, approximately 8 x 8 inches (203 x 203 mm), wrapped in original protective paper, with location identified on outer bag: VO70-394018-014-8383.

HRSI tiles, made from 99% pure silica glass fibers, were used on the spacecraft where the re-entry temperature is below 649 degrees centigrade. The identification numbers on the tiles denotes that exact location they were to be placed on the orbiter. Uncoated tiles are rare on the market.

$800 - 1,200



123

SOYUZ TM-9: APOLLO XI ANNIVERSARY OMEGA SPEEDMASTER WORN ON 2 SPACEWALKS.

Omega "Speedmaster Professional" wristwatch, 1989, 42mm diameter, black dial with luminous baton markers, subsidiary dials at 3, 6 and 9 for seconds, 30-minute and 12-hour recording, white pointed baton hands with luminous inserts, center chronograph hand, stainless steel case, tachymetric calibrations to bezel, case inscribed "015/250 APOLLO XI 1969-1989," velcro wristband, original wooden case, Omega outer box, manual. Scratches to crystal.

Provenance: Cosmonaut Anatoly Solovyev, worn by him on Soyuz TM-9, February 11 through August 9, 1990. Sold, Sotheby's *Russian Space History,* December 11, 1993, lot 172 (with corresponding lot tags).

Russian/Soviet Cosmonaut Anatoly Solovyev, who holds the world records for number of spacewalks performed and time spent spacewalking, wore this Omega Speedmaster during some difficult repairs performed during two EVAs.

Three of eight thermal blankets had come loose when the Soyuz TM-9 docked with the Mir space station and there was concern that the capsule may cool, which would permit condensation to form inside and cause a short in the electrical system. The cosmonauts also feared that the loose blankets may block the infrared vertical sensor, which oriented the module for reentry. There was further concern that the explosive bolts connecting the service module to the descent module might fail to work after direct exposure to space, that the heat shield might be compromised after direct exposure to space and that an EVA repair to the blankets may cause additional damage. Engineers in the hydrolab training facility outside of Moscow worked to develop EVA repair procedures and even considered sending Soyuz TM-10 with one cosmonaut aboard as a rescue mission.

Solovyev and cosmonaut Aleksandr Baladin were able to resecure two of the three blankets. Unfortunately, when they went to reenter Mir they found that the hatch on the Kvant-2 module of the Mir was accidentally released while there was still pressure remaining in the airlock. This explosive force deformed the hatch hinges and prevented it from closing, necessitating the use of an emergency hatch - and another EVA.

Several days later on the second EVA Solovyev and Balandin had to use brute force to reseat the hatch - during which the crystal on the present Omega Speedmaster was scratched.

The two emergency EVAs and the TM-9's safe return after the 179-day mission made international news.

$20,000 - 30,000


TACHYMETRE
OMEGA
PROFESSIONAL





124
SHENZHOU 5: FLOWN COVER FROM FIRST CREWED CHINESE SPACEFLIGHT.
Printed cover, October 2003, 110 x 208 mm, stamped and postmarked, in presentation book and with presentation wooden box, with provenance documents.

ONE OF ONLY 106 FLOWN COVERS, SIGNED BY TAIKONAUT YANG LIWEI.
Shenzhou 5 was the first human spaceflight of the Chinese space program. It took place on October 15, 2003 and carried Commander Yang Liwei. It orbited the Earth 14 times before it landed 21 hours after launch. The present cover is # 91 of only 106 flown covers issued by Chinese Academy of Space Technology (CAST).

$1,000 - 2,000

Vintage Space Photography

Lots 125 - 217



125
MERCURY SEVEN: READY FOR FLIGHT.
Chromogenic color photograph, January 1961, 8 x 10 inches (204 x 254 mm), NASA ID in red: S-61-1250, “A KODAK PAPER” watermark on verso.

A Convair F-106B fighter jet used for flight training is the back-drop for the seven Mercury astronauts each wearing their respective military service flight suits. This single photograph was a major factor that prompted NASA to standardize flight suits to the now well-known light blue fabric. Standing left to right are Scott Carpenter, Gordon Cooper, John Glenn, Virgil “Gus” Grissom, Wally Schirra, Alan Shepard, and Donald “Deke” Slayton.

$400 - 600



126
EARLY APOLLO, MERCURY & GEMINI LARGE-FORMAT LAUNCH PHOTOGRAPHS.
Group of 9 vintage large format chromogenic color photographs, 1962-1972, all approximately 11 x 14 inches (355 x 280 mm), "A KODAK PAPER" watermark to verso.
1. Mercury-Atlas-7 during launch, May 24, 1962. The fourth crewed flight of Project Mercury.
2 & 3: Apollo Program launch escape system tests for unidentified launches, c.1964. Utilizing Little Joe II rocket.
4-6: AS-101 in preparation and on the launchpad, May 1964.
7. AS-201 on launchpad under the full Moon, February 4, 1967.
8. Apollo 4 on the launchpad, November 9, 1967.
9. Atlas-ADTA, possibly Gemini 8 Aegna launch, March 16, 1966.

A rare group of launch and pre-launch large format photographs. Especially rare are the early Apollo Program launches.

$800 - 1,200



127

PRESIDENT KENNEDY VISITS THE MODEL LUNAR LANDER IN HOUSTON.

CECIL W. STOUGHTON. Silver gelatin print photograph, Houston, TX, September 12, 1962, 8 x 10 inches (204 x 254 mm), reference: ST-387-20-62 “CECIL W. STOUGHTON / Office of the Military Aide to the President” stamp on verso.

Cecil W. Stoughton photograph of President John F. Kennedy at the podium with NASA Administrator James E. Webb, Vice President Lyndon B. Johnson, Director of Manned Space Program Dr. Robert Gilruth, etc. at the NASA Rich Building. They stand in front of early Lunar Lander, similar to the Lunar Module that would land 7 years later on the surface of the Moon and achieve Kennedy’s high-reaching goal. Kennedy would make his famous “We choose to go to the Moon” at Rice University on the same day.

$500 - 700



128
GEMINI ROGALLO WING GEMINI CAPSULE CONCEPT ART.
Chromogenic color photograph, early 1960s, 8 1/2 x 11 inches (217 x 279 mm), “A KODAK PAPER” watermark on verso.

Unattributed concept artwork illustrating the Rogallo Wing considered as a possibility for a Gemini capsule recovery system instead of the parachutes used for Project Mercury. Problems with the development lead NASA to discontinue the Rogallo Wing in 1965.

$600 - 800





129
GEMINI IV: 2 "RED NUMBER" PHOTOGRAPHS OF ED WHITE'S SPACEWALK.
2 chromogenic color photographs, June 3, 1965, 8 x 10 inches, (204 x 254 mm), NASA IDs in red, S-65-30429 & S-65-30430, each with "A KODAK PAPER" watermark on verso.

Ed White became the first U.S. astronaut to perform an EVA in space. These consecutively-numbered photographs from his 23-minute spacewalk show White with his portable life-support unit on his chest, the reflection on his gold protective visor in one image and the other shows the Hand-Held Maneuvering Unit (HHMU), called a "zip gun" by some of the astronauts in White's hand as he floats above Southern California. White was reluctant to return to the spacecraft when his time was up and said upon entering: "I'm coming back in ... and it's the saddest moment of my life."

$1,000 - 2,000



130

130
GEMINI IV: ED WHITE ON FIRST U.S. EVA.
Chromogenic color photograph, June 3, 1965, 8 x 10 inches (204 x 254 mm), NASA ID in red: S-65-30427, “A KODAK PAPER” watermark on verso.

Ed White became the first U.S. astronaut to perform an EVA in space. Shown here floating far above the cloud-covered Earth, the Hand-Held Maneuvering Unit (HHMU) in White’s right hand and the gold tape-wrapped umbilical line/tether line connecting him to the Gemini IV spacecraft, which is out of frame.

$800 - 1,200



131

131
GEMINI IV: ED WHITE ON FIRST U.S. SPACEWALK.
Chromogenic color photograph, June 3, 1965, 8 x 10 inches (204 x 254 mm), NASA ID in red: S-65-30433, “A KODAK PAPER” watermark on verso.

Ed White became the first U.S. astronaut to perform an EVA in space. Shown here in this rare large format photograph floating far above the Earth, the Hand-Held Maneuvering Unit (HHMU) in his right hand and the gold tape-wrapped umbilical line/tether line connecting him to the Gemini IV spacecraft, the edge of which is in the frame. Although there is a shadow around White’s upper body, his gold visor reflects the Sun’s gleam.

$1,000 - 2,000

132
GEMINI V CAPSULE OVER PACIFIC TROPICAL STORM.
"Red Number" chromogenic color photograph, August 23, 1965, 8 x 10 inches (204 x 254 mm), NASA ID in red: S-65-45789, "A KODAK PAPER" watermark on verso.

Gordon Cooper or Charles Conrad captured this photograph of the Gemini V capsule over Tropical Storm "Doreen" in the Pacific Ocean between Hawaii and Mexico.

$600 - 800



132

133
GEMINI VII: TITAN SECOND STAGE TUMBLING BEHIND.
"Red Number" Chromogenic Color Photograph, December 4, 1965, 8 x 10 inches (204 x 254 mm), NASA ID in red: S-65-64554 "A KODAK PAPER" watermark and NASA MSC printed press information on the verso.

Rarely seen photograph of the Gemini Launch Vehicle VII second stage shortly after separation. Astronauts Frank Borman and James Lovell turned the spacecraft to face the booster in order to station keep with the rocket stage. They maintained formation for about 15 minutes. The mission would go on to perform the first rendezvous with Gemini VI-A.

$600 - 800



133



134

134
GEMINI VIII: NEIL ARMSTRONG AND DAVE SCOTT SITTING COOL IN THE GEMINI CAPSULE DURING RECOVERY.
"Black Number" silver gelatin print photograph, March 17, 1966, approximately 8 x 10 inches (204 x 254 mm), NASA ID in black: S-66-18602, NASA MSC press info on verso.

Press photograph of Armstrong and Scott during recovery with the Navy Frogmen around the Gemini capsule.

$400 - 600



135

135
GEMINI XI: RICHARD GORDON SPACEWALK.
Chromogenic color photograph, September 13, 1966, 8 x 10 inches (204 x 254 mm), NASA ID in red: S66-54456, NASA MSC press information and "A KODAK PAPER" watermark on verso.

Gemini XI Pilot Richard Gordon here performs a spacewalk to tether the Gemini spacecraft to the Agena Target Docking Vehicle. The Atlantic Ocean is approximately 160 miles below him.

$600 - 800

136
GEMINI XII: BUZZ ALDRIN PHOTOS THE GEMINI CAPSULE OVER BAJA, CALIFORNIA WHILE ON SPACEWALK.
Chromogenic color photograph, November 12, 1966, 8 x 10 inches (204 x 254 mm), NASA ID in red: S-66-62882, "A KODAK PAPER" watermark on the verso.

Gemini-Titan 12 docked to the Aegna Target Vehicle captured during Buzz Aldrin's masterclass on the spacewalk.

$600 - 800



136

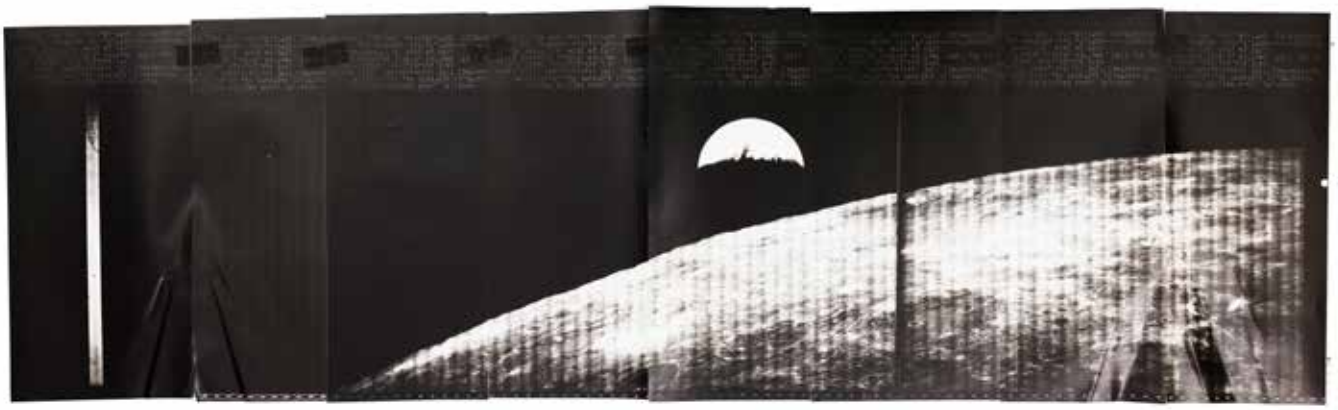
137
LUNAR ORBITER I: THE FIRST IMAGE OF THE EARTH AS SEEN FROM THE MOON.
8 silver gelatin print photographs joined to form a panorama, August 23, 1966, approximately 18 1/2 x 62 1/2 inches (469 x 1595 mm) overall, photo number I-102.

Impressively-large multi-sheet panorama—over 5 ft long—of this classic first photograph taken of the Earth from the Moon; an image that changed our perception of the planet, taken by the first U.S. spacecraft to orbit the Moon.

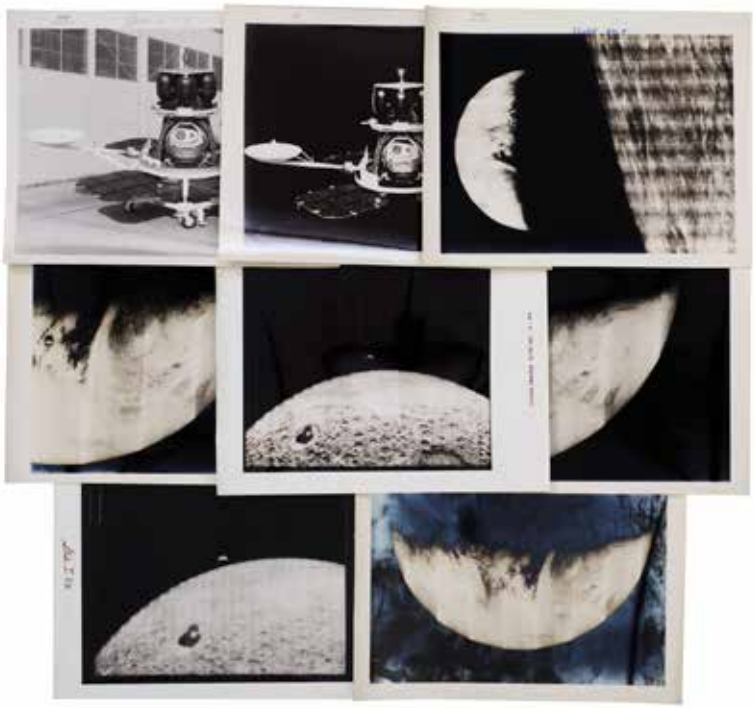
NASA's Lunar Orbiter program sent a series of 5 uncrewed probes over the period of a year to photograph the lunar surface in order to help select Apollo landing sites as well as to accurately map the Moon. The first three probes were dedicated to photographing 20 potential crewed landing sites and the fourth and fifth missions were high altitude orbits that contributed to capturing images of 99% of the lunar surface.

The Lunar Orbiter spacecraft were each equipped with two cameras that simultaneously captured two different fields of view and resolutions, but on the same line of sight and they were recorded to a common supply of 70mm film. The cameras were part of a photographic system that also included a film processor and a readout scanner so the images could be transmitted to Earth.

$6,000 - 8,000



137



138

138
LUNAR ORBITER PROGRAM: MASSIVE PHOTOGRAPH ARCHIVE.
Collection of approximately 350 silver gelatin print photographs, August 1966-August 1967, approximately 8 x 10 inches (204 x 254 mm) each, some with NASA Langley IDs in margins. Some with reference notes in the margin referring to a slide number.
WITH: *Mapping Sciences Laboratory Technical Report: Orbiter Mission Analysis for Apollo Landing Areas.* Houston: Lockheed Electronics Company, August 4, 1966. 19pp. Folding chart. Bound in Lockheed Electronics Company folder.
Also with a packet from Cornell Aeronautical Laboratory regarding image enhancement, dated December 1, 1966 and addressed to Tom Hansen of NASA, Langley.

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This massive archive was apparently used by a Langley Reseach Center scientist for presentations. Images include multiple variations on the classic first image of the Earth as seen from the Moon and "the picture of the century," the oblique view of Crater Copernicus, but a complete overview of the program is provided.

$5,000 - 7,000



139

139
LUNAR ORBITER I: FIRST LUNAR ORBITER PHOTOGRAPH RELEASED IN THE U.S.
Silver gelatin print photograph, August 18, 1966, 8 x 10 inches (204 x 254 mm), NASA ID in black: L-66-6369, NASA Langley Research Center Press information printed on the verso.

The first photograph released from Lunar Orbiter program. The photo is made up of 14 framelets reassembled into larger image. The present photograph covers the western edge of Mare Smythii. The Lunar Orbiter program would go on to photograph 99% of the lunar surface.

$600 - 800

140
LUNAR ORBITER I: THE FIRST IMAGE OF THE EARTH AS SEEN FROM THE MOON.
Silver gelatin print photograph, August 23, 1966, 8 x 10 inches (204 x 254 mm), NASA ID in black: L-66-6591, NASA Langley press information on verso.

Langley printing of this classic first photograph taken of the Earth from the Moon, taken by the first U.S. spacecraft to orbit the Moon. It was an image that changed our perception of the Earth.

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$500 - 700



140

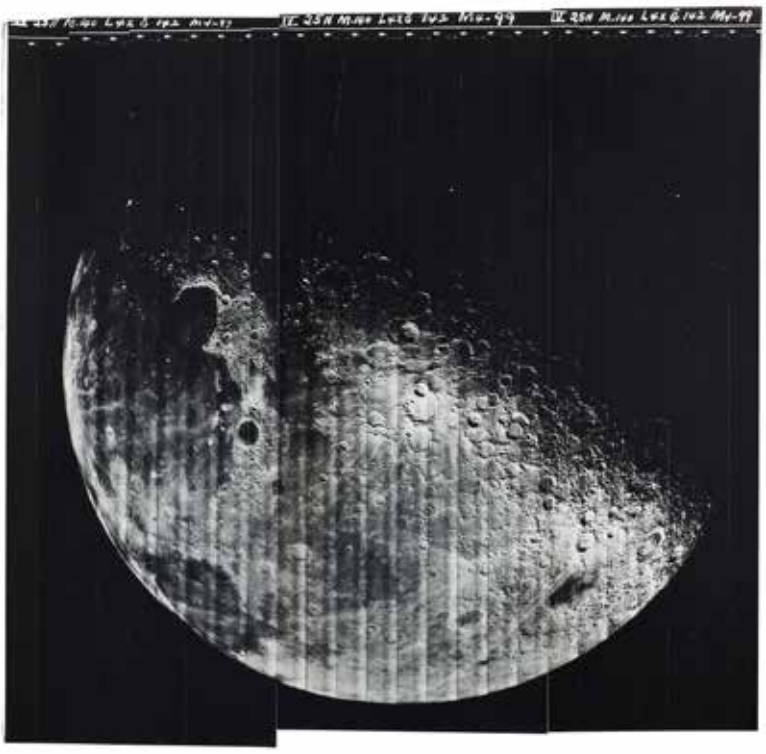
141
LUNAR ORBITER IV: MARE IMBRIUM, NORTH POLE REGION.
Vintage silver gelatin print photograph on 3 joined sheets, May 23, 1967, approximately 18 1/4 x 21 1/2 inches (461 x 545 mm), photo number IV-140-M, "A KODAK PAPER" watermark and "June 21, 1967" stamped on verso.

3-sheet mosaic of the North Pole region of the Moon showing North Pole, Goldschimdt Crater, Plato Crater, Sinus Iridium, Mare Serenitatis, Mare Humboldtianum, Mare Frigoris and Mare Imbrium, which can be seen from Earth and serves as the right eye in the "Man in the Moon" image in Western folklore.

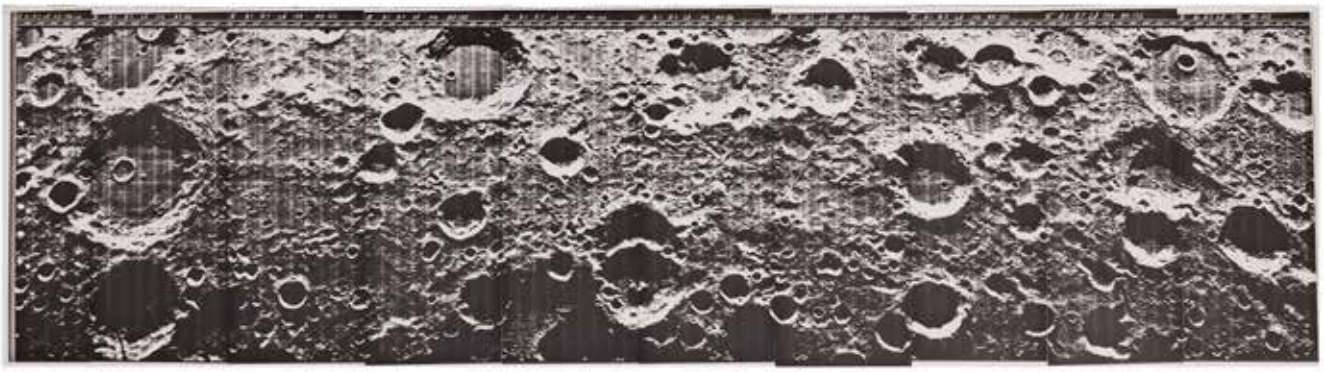
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$2,000 - 3,000



141



142



143

142
LUNAR ORBITER V: GIANT TELEPHOTO PANORAMA OF THE NORTH POLE REGION.
10 vintage silver gelatin print photographs joined to form panorama, August 6-18, 1967, approximately 17 1/4 x 65 inches (435 x 1662 mm), photo number V-007-H, "A KODAK PAPER" watermark and "Oct 2, 1967" stamp on verso.

High-resolution panorama from Site A-1 covering part of the North Pole region on the far side of the Moon.

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$3,000 - 5,000

143
LUNAR ORBITER V: GIANT TELEPHOTO PANORAMA.
10 vintage silver gelatin print photographs joined to form panorama, August 6-18, 1967, approximately 18 3/4 x 65 inches (471 x 1650 mm), photograph number V-017-H, "A KODAK PAPER" watermark and stamped "SEP 2[0?], 1967" on verso.

High resolution panorama from site A-2 on the far side of the Moon (the so-called "dark side of the Moon") with terminator and including craters Pierazzo, Lenz, Helberg, Nobel, etc.

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$3,000 - 5,000

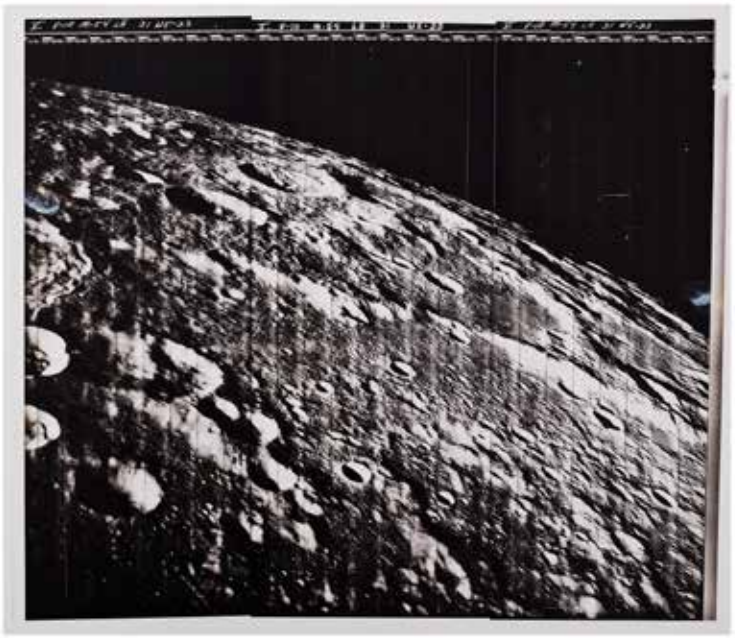
144
LUNAR ORBITER V: LARGE MULTI-PHOTO VIEW.
Vintage silver gelatin print photograph on 3 joined sheets, August 6-18, 1967, approximately 20 1/4 x 18 inches (520 x 458 mm), V-54-M “A KODAK PAPER” watermark and “October 13, 1967” stamped on verso.

Medium-resolution view from site V-10, showing lunar limb.

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$1,000 - 2,000



144

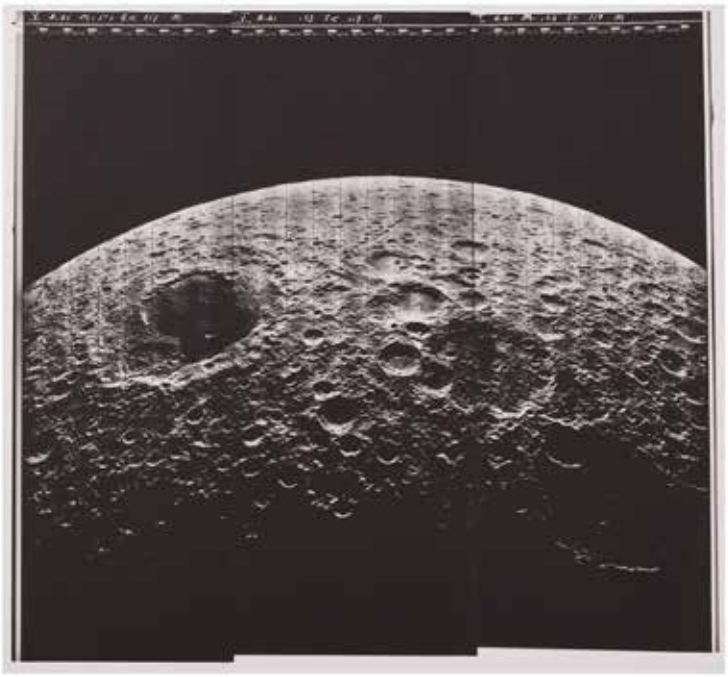
145
LUNAR ORBITER V: 3-SHEET PHOTOGRAPHIC MOSAIC OF THE FARSIDE OF THE MOON.
Vintage silver gelatin print photograph on 3 joined sheets, August 13, 1967, approximately 18 1/2 x 20 1/4 inches (470 x 522 mm), photo number V-103-M, “A KODAK PAPER” watermark and “September 11, 1967” stamped on verso.

3-sheet medium-resolution photographic mosaic of the far side of the Moon taken at site A-21. Features Mare Moscoviae, craters Von Neumann, Wiener, Campbell, D’Alembert, etc.

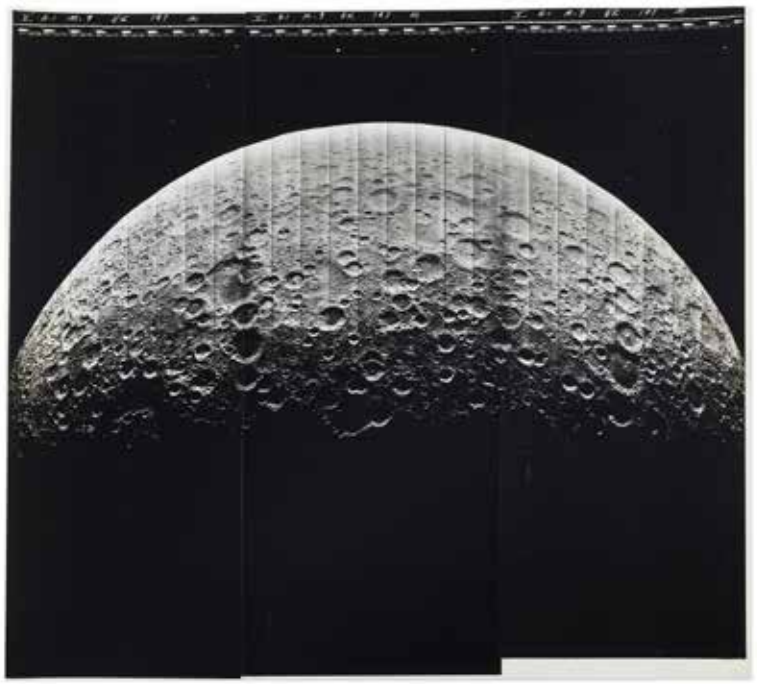
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$2,000 - 3,000



145



146

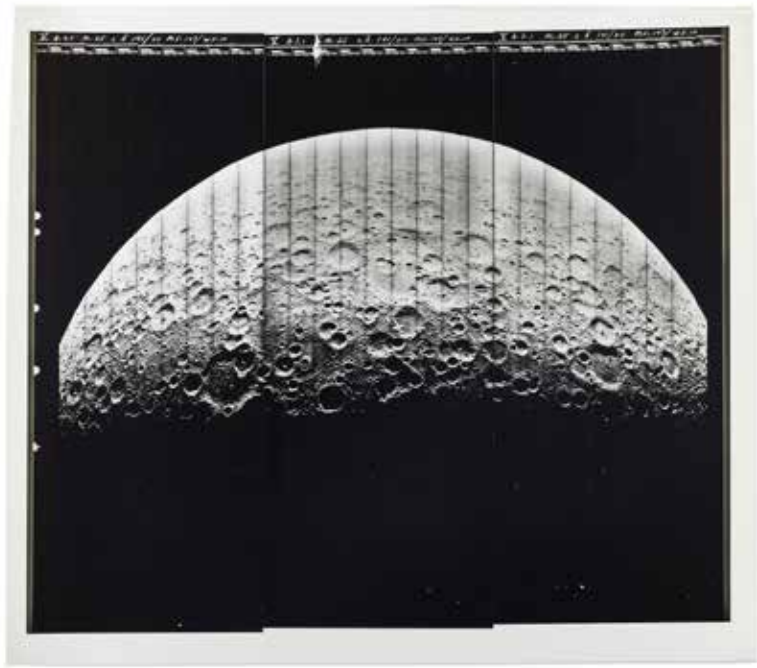
146
LUNAR ORBITER V: 3-SHEET VIEW OF THE MOON.
Vintage silver gelatin print photograph on 3 joined sheets, August 6-18, 1967, approximately 16 3/4 x 18 3/4 inches (424 x 477 mm), photo number V-009-M, “A KODAK PAPER” watermark and “Sep 19, 1967” stamped on verso.

3-sheet mosaic from site A-1 covering part of the north pole region on the far side of the Moon.

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$1,500 - 2,000



147

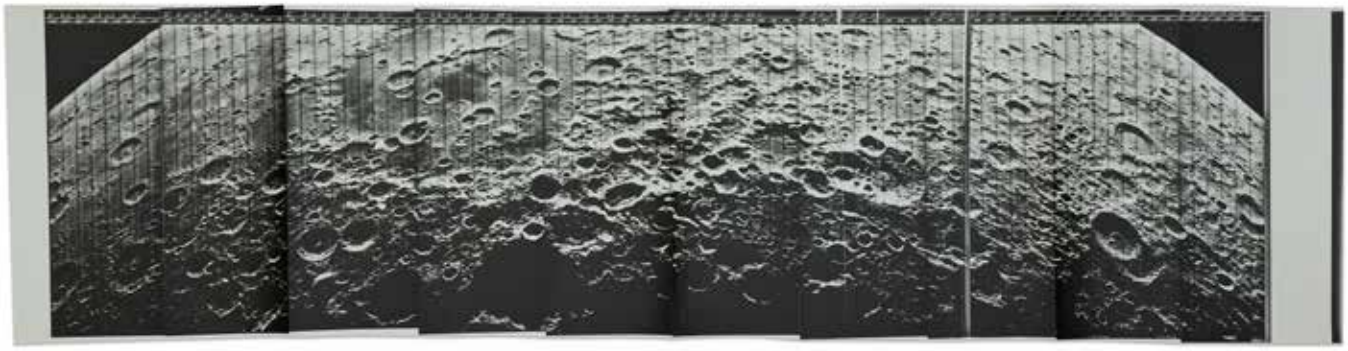
147
LUNAR ORBITER V: FAR SIDE OF THE MOON.
Vintage silver gelatin print photograph on 3 joined sheets, August 6, 1967, 18 3/8 x 21 inches (467 x 533 mm), Photo number V-025-M, “A KODAK PAPER” watermark and “September 11, 1967” stamped on verso.

3-sheet mosaic of the farside of the Moon with terminator line at the A-7.1 site showing the North Pole, the craters Birkoff, Sommerfield, Landau, Frost, Kramers, etc.

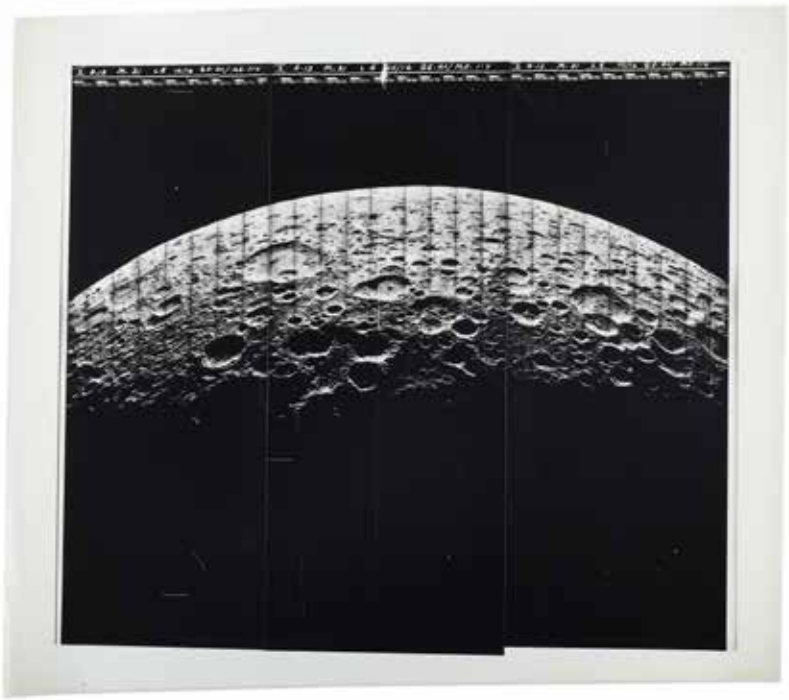
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$2,000 - 3,000



148



149

148
LUNAR ORBITER V: GIANT TELEPHOTO PANORAMA.
10 vintage large format silver gelatin prints joined to form a single panorama, August 6-18, 1967, approximately 17 x 67 1/2 inches (434 x 1715 mm), photo number V-030-H1-H3, “A KODAK PAPER” watermark and stamped “NOV 9, 1967” on verso.

This giant panorama covers site A-12 on the far side of the Moon and includes the terminator line, and craters Hertzprung, Korolev, Galois, Apollo, and the south pole.

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$3,000 - 5,000

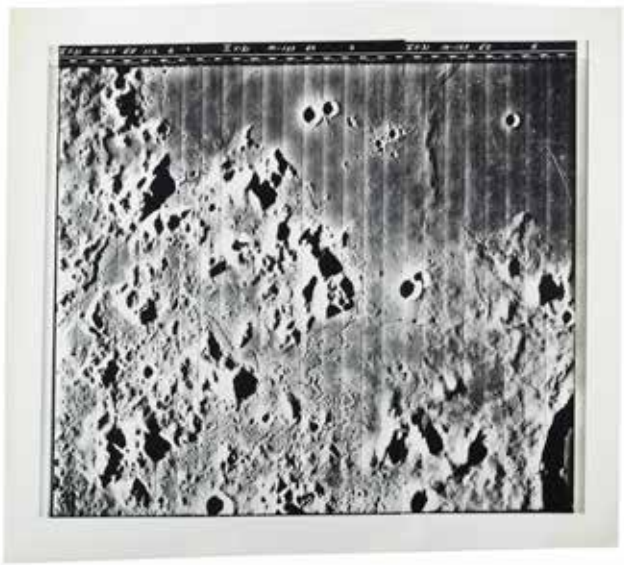
149
LUNAR ORBITER V: FAR SIDE OF THE MOON.
Vintage silver gelatin print photograph on 3 joined sheets, August 6, 1967, approximately 19 x 23 inches (482 x 550 mm), photo number V-031-M, “A KODAK PAPER” watermark and “September 19, 1967” stamped on verso.

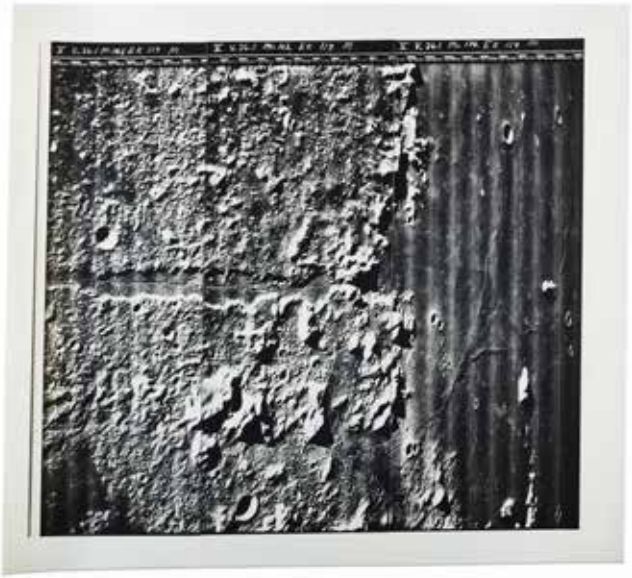
3-sheet mosaic of the far side of the Moon at the A-13 site showing craters Joule, Mach, Artemiev, Harvey, etc.

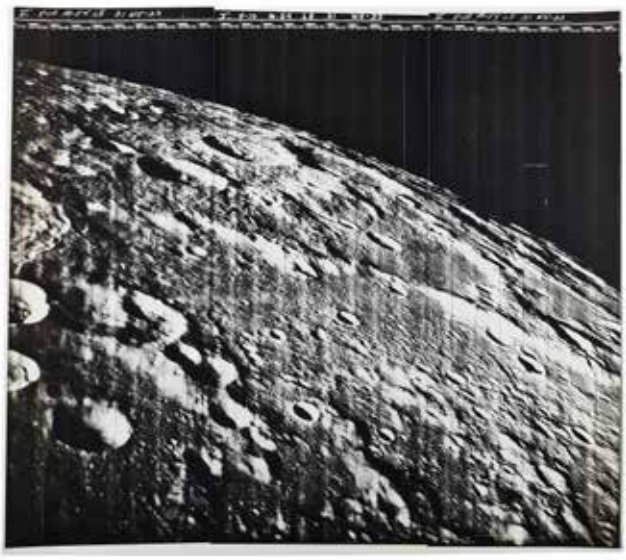
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$2,000 - 3,000







150
LUNAR ORBITER V: LUNAR VIEWS.
Group of 3 mosaic views:

1. Vintage silver gelatin print photograph on 3 joined sheets, August 6-18, 1967, approximately 16 3/4 x 19 inches (425 x 483 mm), V-054-M, "A KODAK PAPER" watermark and "October 31, 1967" stamped on verso.

Site V-10, showing lunar limb.

2. Vintage silver gelatin print photograph on 3 joined sheets, August 6-18, 1967, approximately 10 x 21 1/8 inches (485 x 538 mm), photo number V-129-M, "A KODAK PAPER" watermark and "October 12, 1967" stamped on verso.

Site V-31 featuring the sinuous rille east of Plato crater.

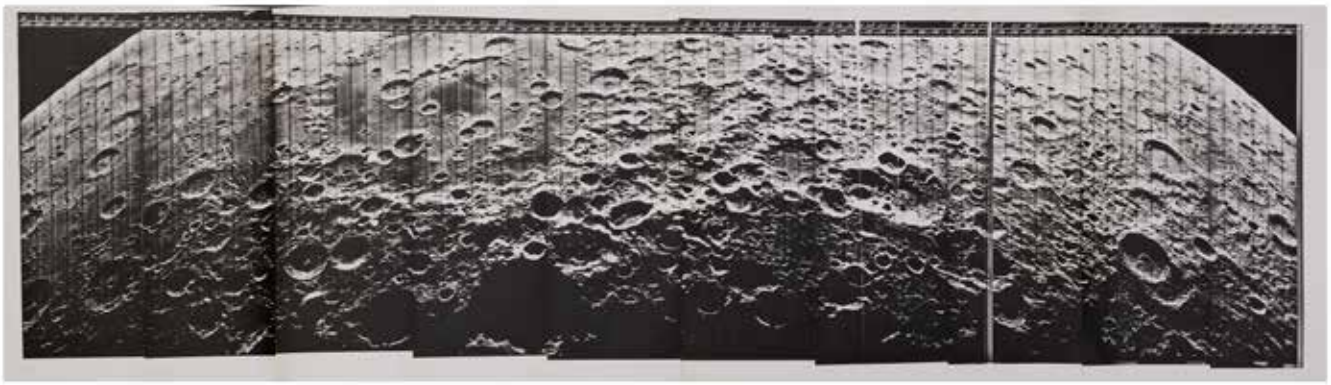
3. Vintage silver gelatin print photograph on 3 joined sheets, August 6-18, 1967, approximately 18 7/8 x 20 5/8 inches (480 x 525 mm), V-102-M, "A KODAK PAPER" watermark and "September 13, 1967" stamped on verso.

Marked as site 26.1, but appears to be site 25 which is Alpine Valley.

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$2,000 - 3,000



151

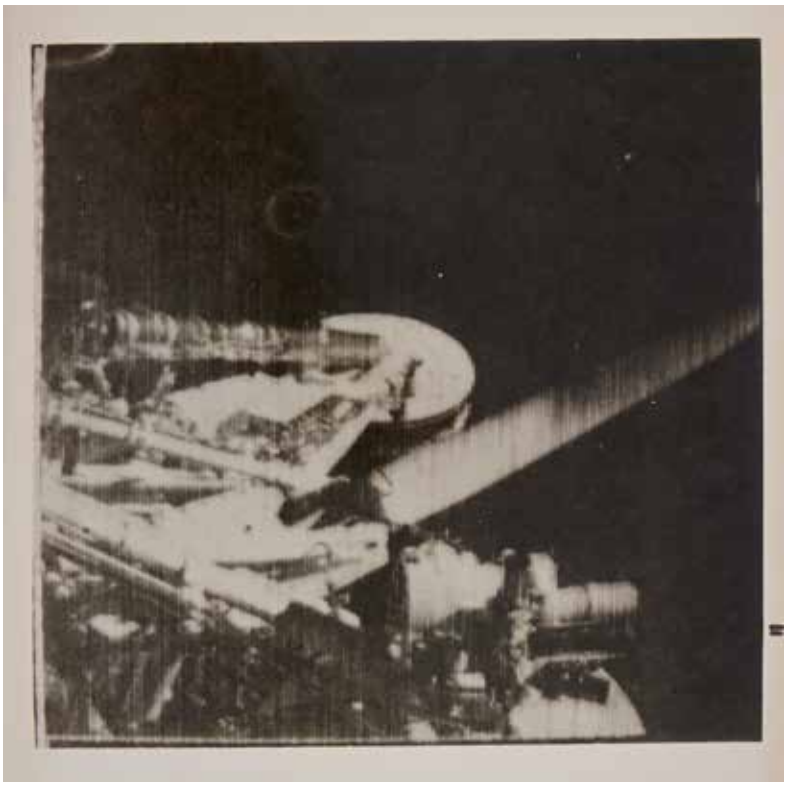
151
LUNAR ORBITER V: GIANT TELEPHOTO PANORAMA.
10 vintage large format silver gelatin prints joined to form a single panorama, August 6-18, 1967, approximately 19 1/4 x 66 1/2 inches (488 x 1703 mm), photo number V-030-H, “A KODAK PAPER” watermark and stamped “NOV 9, 1967” on verso.

This giant high-resolution panorama covers site A-12 on the south pole region of the far side of the Moon and includes the terminator line, and craters Abbe, Chebyshev, Galois, Apollo, Smith, Barringer, Stromgen, etc.

NASA’s Lunar Orbiter program sent a series of 5 uncrewed probes over the period of a year to photograph the lunar surface in order to help select Apollo landing sites as well as to accurately map the Moon. The first three probes were dedicated to photographing 20 potential crewed landing sites and the fourth and fifth missions were high altitude orbits that contributed to capturing images of 99% of the lunar surface.

The Lunar Orbiter spacecraft were each equipped with two cameras that simultaneously captured two different fields of view and resolutions, but on the same line of sight and they were recorded to a common supply of 70mm film. The cameras were part of a photographic system that also included a film processor and a readout scanner so the images could be transmitted to Earth.

$3,000 - 5,000



152

152
SURVEYOR I: FIRST U.S. PICTURE SENT FROM THE LUNAR SURFACE TO THE EARTH.
Silver gelatin print photograph, June 1, 1966, 8 x 10 3/8 inches (204 x 263 mm), NASA ID: 66-H-584, NASA, Washington DC press information on verso.

The first photograph taken on the lunar surface sent by the Surveyor 1 shortly after landing. Surveyor 1 successfully demonstrated the technology needed to land and operate on the lunar surface. An important step to the first crewed Moon landing just 3 years later.

$600 - 800







153

153
APOLLO 1: TRAINING AND TRAGEDY.
Group of 3 silver gelatin print photographs, all 8 x 10 inches (204 x 254 mm):
1. January 26, 1967, NASA ID: 67-H-116, Grissom, Chaffee and White practicing in the Apollo Mission Simulator.
2. January 27, 1967, NASA ID: 67-H-135, Interior of the Apollo/Saturn-204 Spacecraft following the fire.
3. January 28, 1967, NASA ID: 67-H-134, Apollo Command Module at Launch Complex 34 displaying the effects of the fire.

All with NASA KSC press information printed on verso.

$600 - 800





154

154
APOLLO 6: RECOVERY.
2 Chromogenic color photographs, April 4, 1968, 8 x 10 inches (204 x 254 mm), NASA IDs in red S-68-27160 & S-68-27039, “A KODAK PAPER” watermark on verso.

Apollo 6 was the third and final uncrewed flight of the Apollo program and it qualified the Saturn V launch vehicle to be used on crewed missions. The two photographs show the Command Module’s recovery, the first showing the CM floating in the Pacific Ocean and the second with the CM safely on a wheeled trailer aboard the USS Okinawa.

$500 - 700

155
APOLLO 8: FIRST PHOTOGRAPH OF THE EARTH FROM THE MOON TAKEN BY A HUMAN.
Chromogenic color photograph December 21, 1968, 8 x 10 inches (204 x 254 mm), NASA ID in red: AS8-16-2593, NASA Houston press information and “A KODAK PAPER” watermark on the verso.

The Apollo 8 crew were about 3 hours into their journey when they were asked by Michael Collins at Mission Control what the Earth “looks like from way up there.” It was then that they took a moment to look back and become the first humans to see the whole Earth from space.

The present image, taken by William Anders, was the first of a sequence and shows the Western Hemisphere from Newfoundland to Tierra del Fuego at the Southern tip of South America.

“At first, the sight of the third stage itself—a hulking cylinder aglow in the unfiltered sunlight of space—caught their attention. But then, as the spacecraft turned, Borman’s crew could see the place they left behind, not a landscape but a planet, a luminous sphere whose roundness was apparent to the eye. Apollo 8 was departing at such fantastic speed that the men could see their world receding from them almost as they watched. Already the entire globe fit neatly within the round window of the command module’s side hatch” (Chaiken, Andrew, *A Man on the Moon.* NY: 1994).

$800 - 1,200



155

156
APOLLO 8: BILL ANDERS IN THE COMMAND MODULE ON THE WAY TO THE MOON.
Chromogenic color photograph, December 1968, 8 x 10 inches (204 x 254 mm), NASA ID in red: S-68-56532, NASA Houston press information and “A KODAK PAPER” watermark on verso.

Still frame from the 16mm movie film sequence depicts Bill Anders during intravehicular activity.

$600 - 800



156



157

157
APOLLO 8: LONELY EARTH VIEW FROM THE MOON.
Chromogenic color photograph, December 23, 1968, 8 x 10 inches (204 x 254 mm), NASA ID in red: AS8-16-2606, NASA MSC press information and “A KODAK PAPER” watermark on verso.

Frank Borman’s view of the Earth taken with the Hasselblad 70mm camera fitted with an 80mm lens.

$700 - 900

158
APOLLO 8: PAIR OF “RED NUMBER” PHOTOGRAPHS.
2 Chromogenic color photographs, 8 x 10 inches (204 x 254 mm), each with “A KODAK PAPER” watermark on verso:
1. November 13, 1968, NASA ID in red: S-68-50265, NASA MSC Houston press information printed on verso.
The crew in spacesuits posing during training at Kennedy Space Center: James Lovell, Command Module Pilot; William Anders, Lunar Module Pilot; and Frank Borman, Commander.
2. December 1968, NASA ID in red: S-68-51093.
Crewmember James Lovell made the initial sketch for the Apollo 8 insignia while in the back seat of a Northrop T-38 supersonic jet flight from California to Houston after learning that his assigned mission was re-designated as a lunar orbital mission. The triangular shape is that of the Apollo Command Module and it shows a figure 8 looping around the Earth and Moon with the three crew members’ names on the lower portion.

$400 - 600





158



159 Ω
APOLLO 8: GROUP OF 6 NASA PHOTOGRAPHS OF THE MOON.
6 Photographs, 8 x 10 inches (204 x 254 mm):
1. Chromogenic color photograph, NASA ID in red: AS8-14-2431, “A KODAK PAPER” watermark on verso. Taken on the lunar farside.
2. Chromogenic color photograph, NASA ID in red: AS8-14-2432, “A KODAK PAPER” watermark on verso. Taken on the lunar farside.
3. Chromogenic color photograph, NASA ID penned in margin: AS8-14-2505, “A KODAK PAPER” watermark on verso. Beautiful image of the receding Moon.
4. Silver gelatin print photograph, NASA ID in black: AS8-12-2052. Interior of Korolev Basin, Korolev L. Keyhole.
5. Silver gelatin print photograph, NASA ID in black: AS8-12-2187. Oblique view, south of Tsiolkovsky.
6. Silver gelatin print photograph, NASA ID in black: AS8-12-2209. Oblique view looking northeastward, with crater Joliet-Curie.

A nice selection of photographs from the first crewed mission to the Moon.

$800 - 1,200

160
APOLLO 9: 6 PHOTOGRAPHS FROM THE LUNAR MODULE'S FIRST OUTING.
6 "red number" chromogenic color photographs, 8 x 10 inches (204 x 254 mm), "A KODAK PAPER" watermark on verso.

1. NASA ID in red: AS9-19-2912. March 3, 1969, Lunar Module extraction from the Saturn IV-B booster.

2. NASA ID in red: AS9-20-3127. March 12, 1969. Cape Lookout, North Carolina.

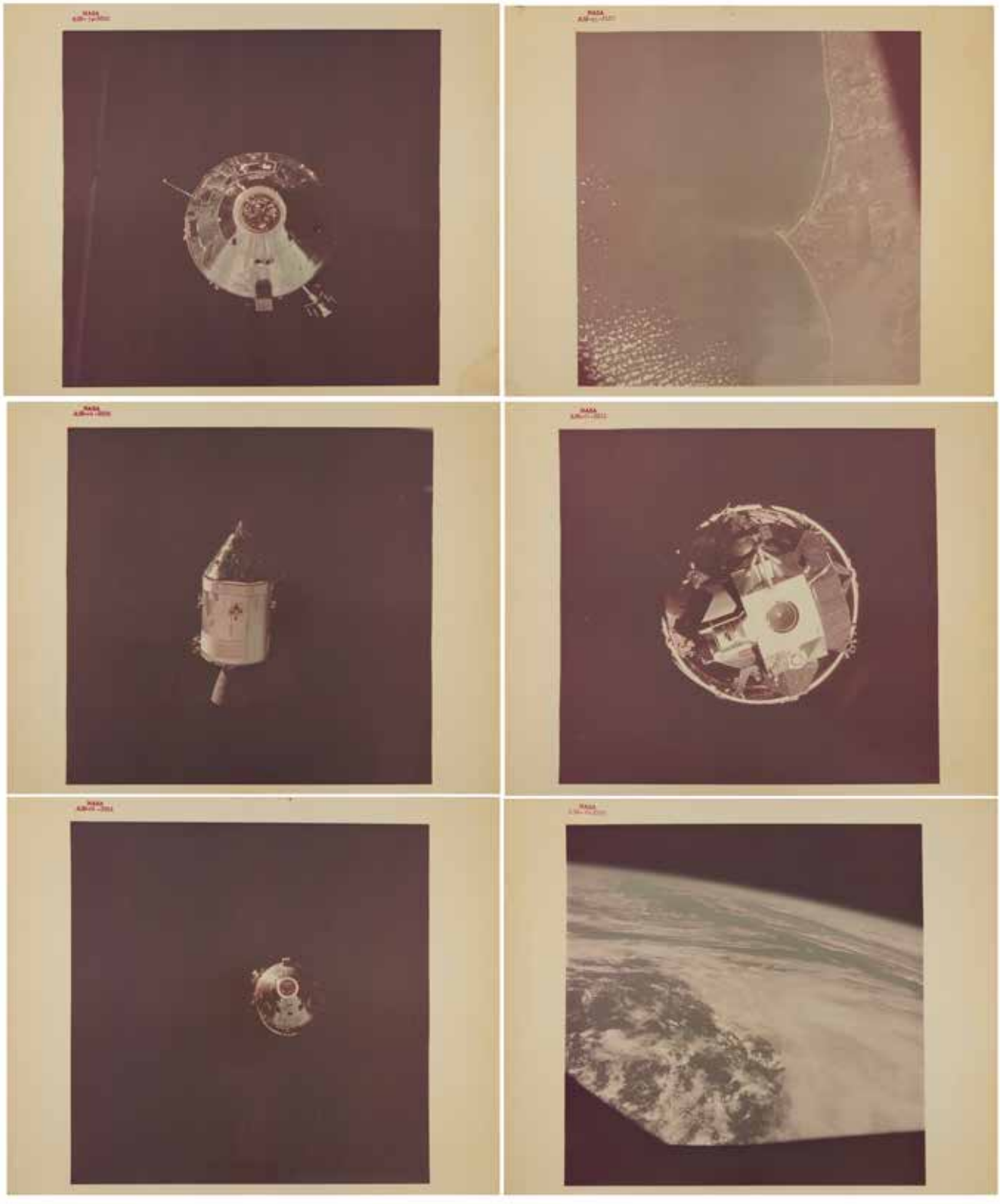
3. NASA ID in red: AS9-22-3356. March 8, 1969. California coast, Pacific Ocean.

4. NASA ID in red: AS9-24-3624. March 6, 1969. View of the Command and Service Module (CSM) from the Lunar Module (LM).

5. NASA ID in red: AS9-24-3636. March 6, 1969. Side view of the CSM from the LM.

6. NASA ID in red: AS9-24-3652. March 6, 1969. Similar view of CSM from the LM as 3624.

$1,000 - 2,000



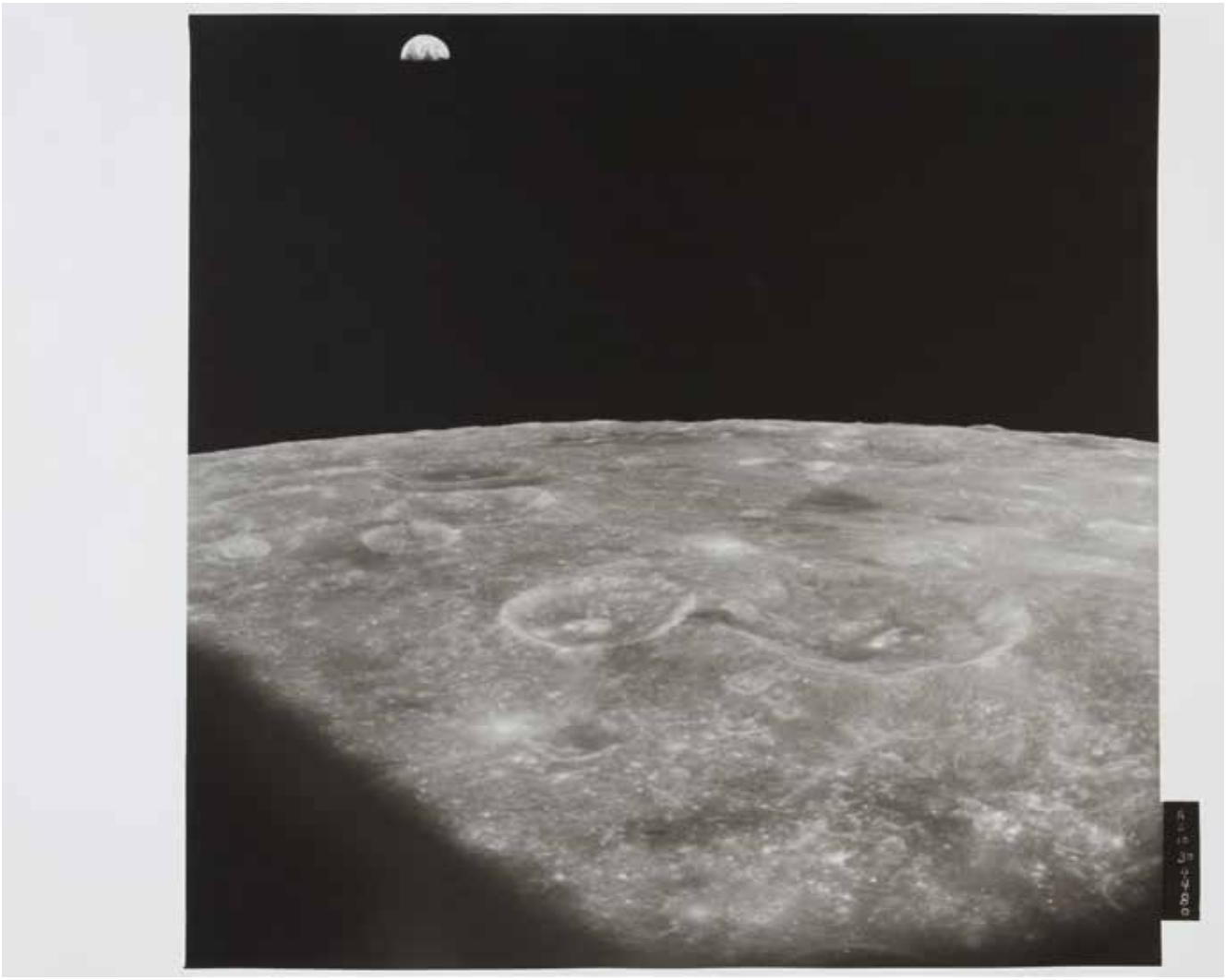




161
APOLLO 9: RUSTY SCHWEICKART SPACEWALK.
Chromogenic color photograph, March 6, 1969, 8 x 10 inches (204 x 254 mm), NASA ID in red: AS9-19-2994, “A KODAK PAPER” watermark on verso.
WITH: Chromogenic color photograph, March 6, 1969, 8 x 10 inches (204 x 254 mm), NASA ID: AS9-19-2983, “A KODAK PAPER” watermark on verso.

Dave Scott captured these two photographs of Rusty Schweickart during EVA. The goal of the EVA was to ensure that astronauts could complete an exterior transfer from the LM to the CSM during an emergency. Schweickart was also able to test the life support backpack, a primary life support system (PLSS), which was to be used on the lunar surface. The second photograph, apparently a period contractor printing, shows Schweickart with a 70mm Hasselblad camera in hand during his spacewalk.

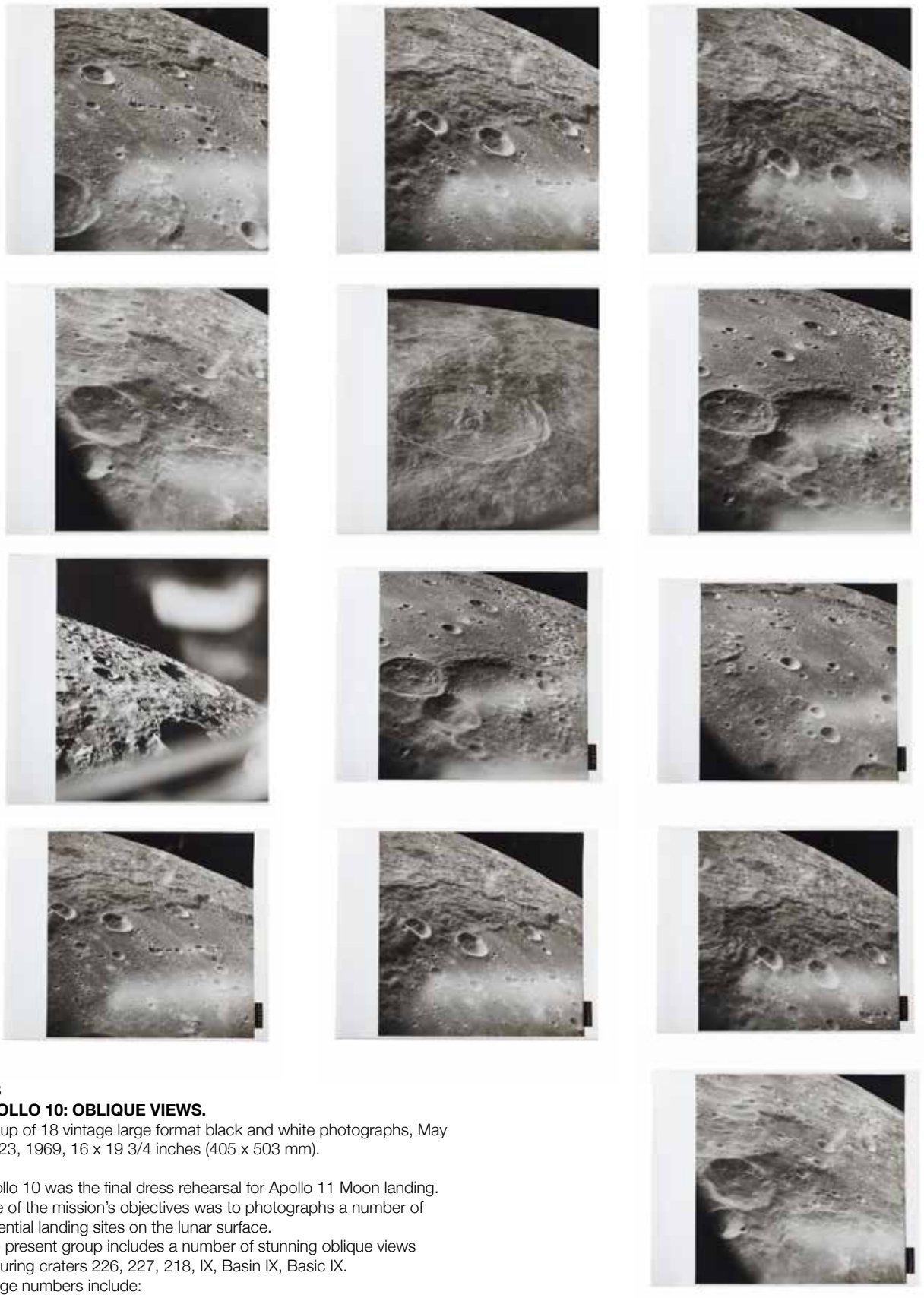
$400 - 600



162
APOLLO 10: EARTH RISE OVER SMYTH'S SEA.
Vintage large format black and white photograph, May 21-23, 1969, 16 x 19 3/4 inches (405 x 503 mm), NASA ID: AS10-30-4480.

Apollo 10 was the final dress rehearsal for the Apollo 11 Moon landing. One of the mission's objectives was to photograph a number of sites on the lunar surface. The current image was taken with the 70mm Hasselblad using black and white film and captures a stunning earth rise over Smyth's Sea (Mare Smythii) on the easternmost edge of the Moon's near side.
"'To see our home planet from this point of view was absolutely awesome,' exclaimed Thomas Stafford. 'It was nearly breathtaking. I was reminded of Socrates's saying in 399 B.C., before flight above the ground was theorized: 'A man must rise above the Earth to the top of the atmosphere and beyond, and only thus will he fully understand the world in which he lives'" (Jacobs p 53).

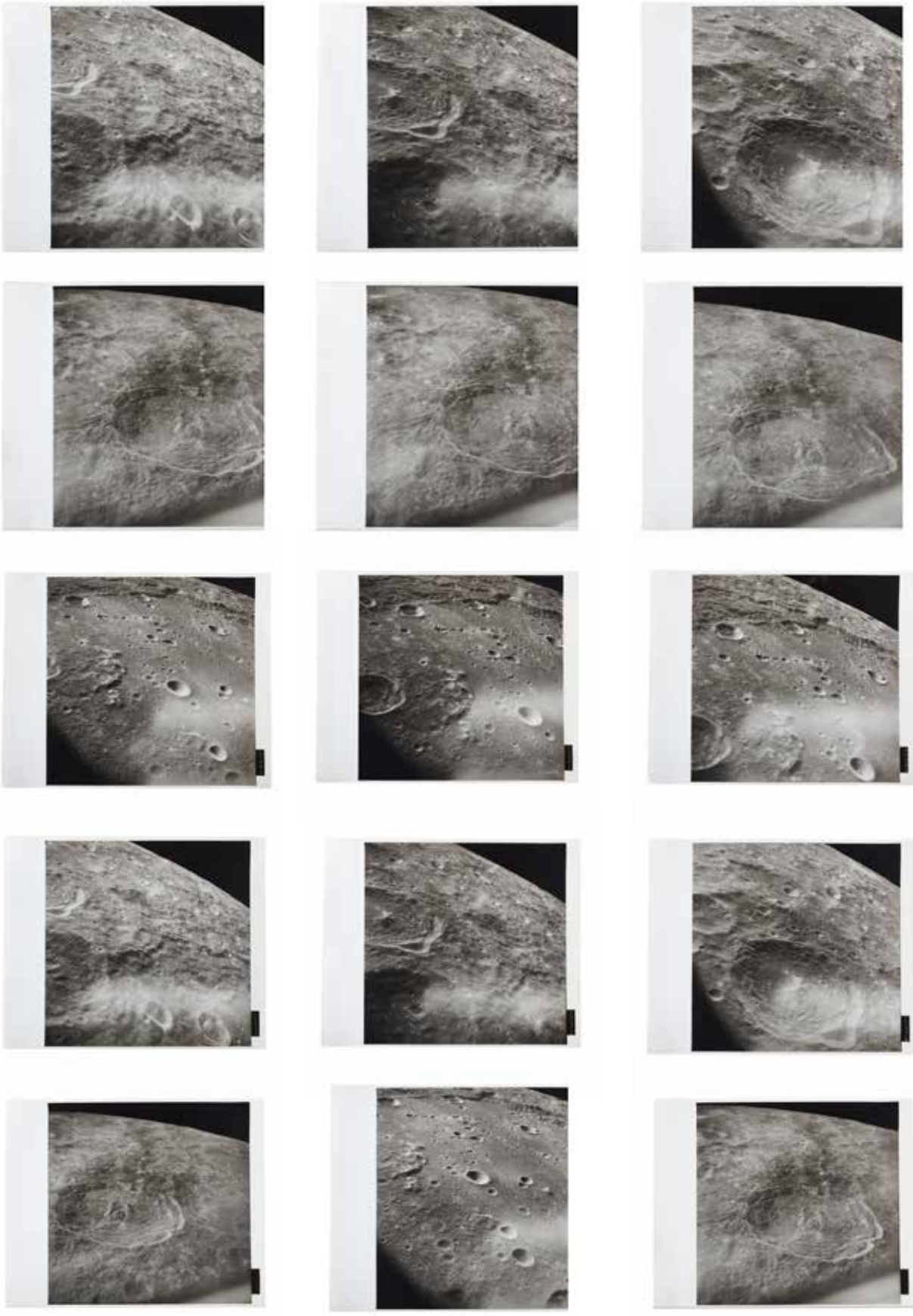
$1,000 - 2,000

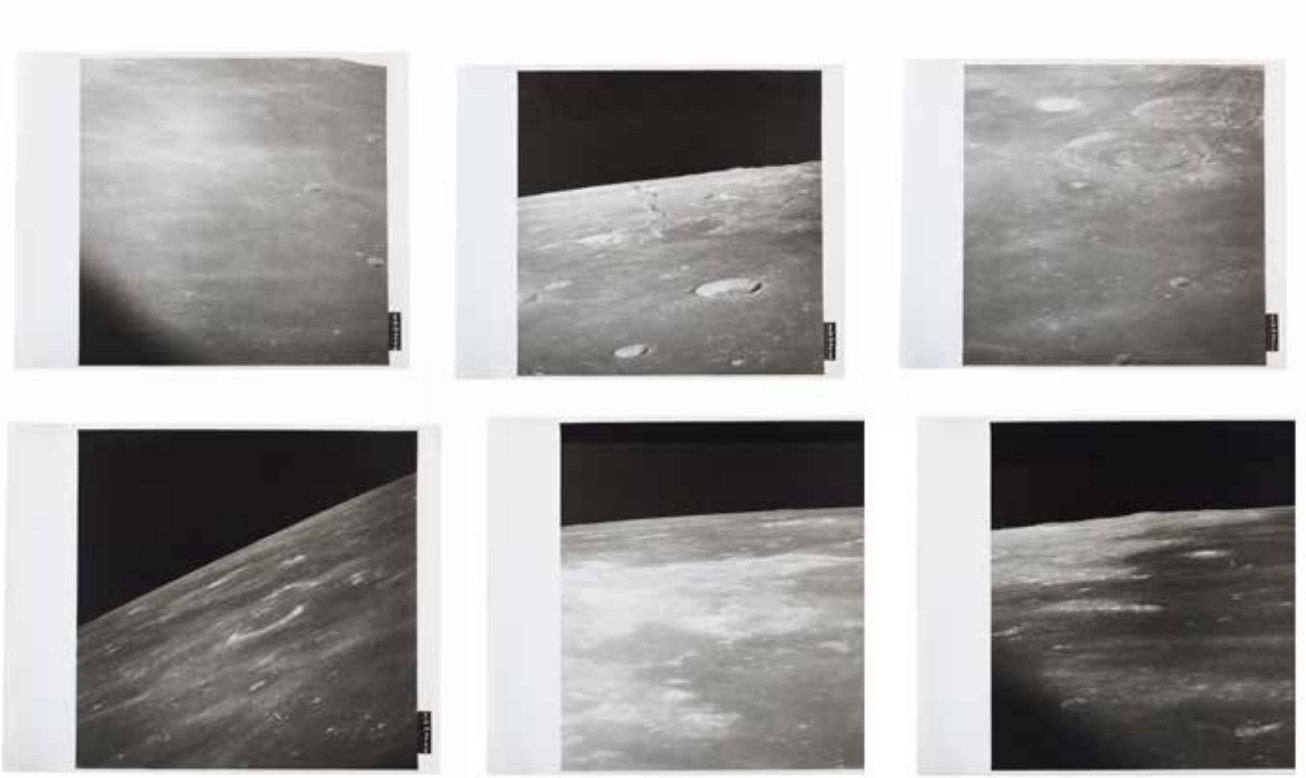


163
APOLLO 10: OBLIQUE VIEWS.
Group of 18 vintage large format black and white photographs, May 21-23, 1969, 16 x 19 3/4 inches (405 x 503 mm).

Apollo 10 was the final dress rehearsal for Apollo 11 Moon landing. One of the mission's objectives was to photographs a number of potential landing sites on the lunar surface.
The present group includes a number of stunning oblique views featuring craters 226, 227, 218, IX, Basin IX, Basic IX.
Image numbers include:
AS10-30-4452; 4455; 4458; 4459; 4460; 4461; 4462; 4463; 4464; 4465; 4466; 4467; 4468; 4469; 4470; 4472; 4473; 4474.

$3,000 - 5,000





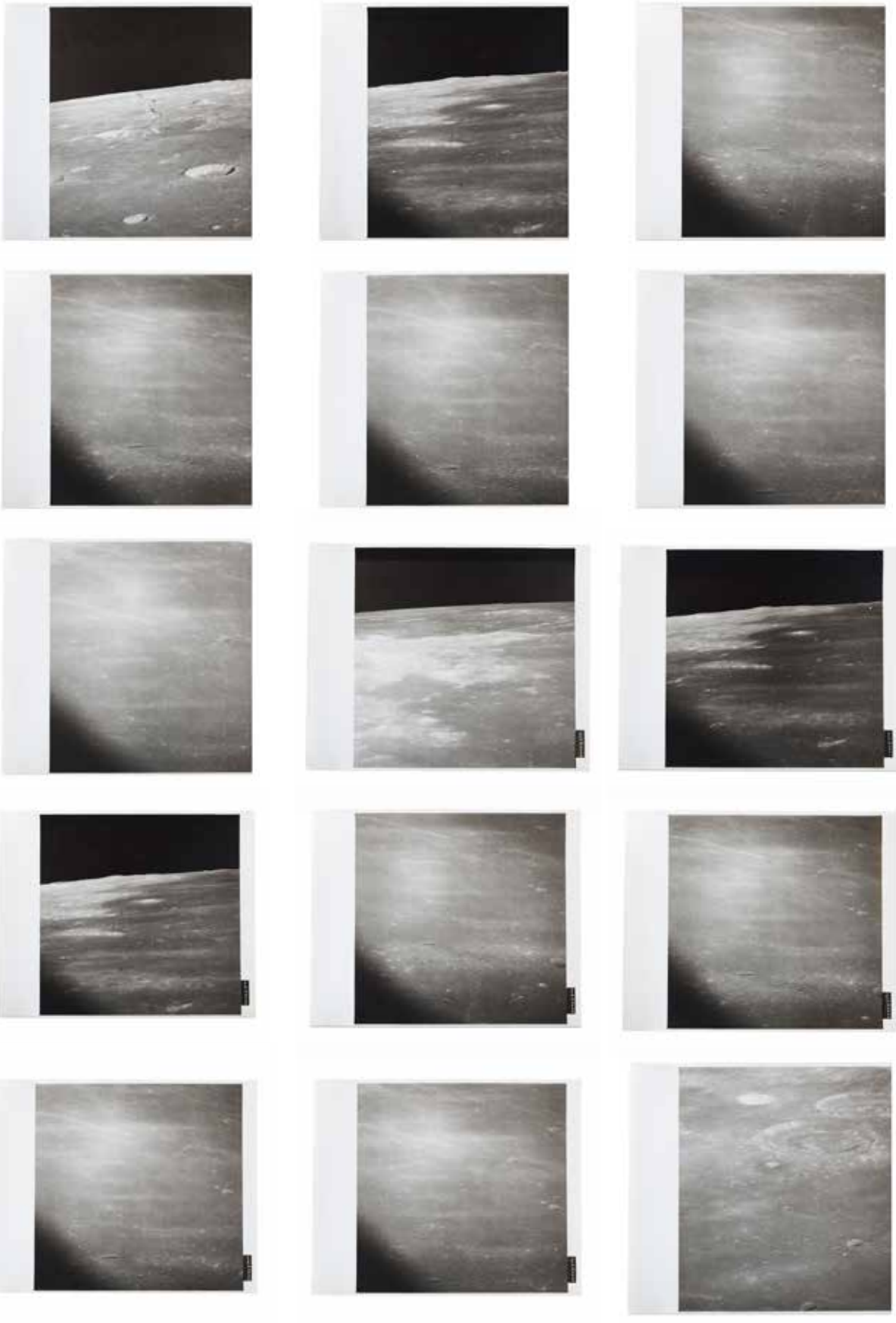
164
APOLLO 10: OBLIQUE VIEWS OF ARIADAEUS CRATER & RIMA ARIADAEUS; SEA OF TRANQUILITY.
Group of 11 vintage large format black and white photographs, May 21-23, 1969, 16 x 19 3/4 inches (405 x 503 mm).

Apollo 10 was the final dress rehearsal for Apollo 11 Moon landing. One of the mission's objectives was to photograph a number of potential landing sites on the lunar surface.

The present group includes a number of oblique views including a classic image of the Ariadaeus crater with Rima Ariadaeus extending to the horizon. Some of the other images include areas around the Sea of Tranquility.

Image numbers include:
AS10-30-4438; 4439; 4441; 4442; 4444; 4445; 4446; 4447; 4448; 4450; 4451.

$1,500 - 2,000





165

165
APOLLO 10: LARGE FORMAT EARTH RISE OVER MARE SMYTHII.
Chromogenic color photograph in matte finish, May 23, 1969, 11 3/16 x 13 7/8 inches (283 x 353 mm), NASA ID (AS10-27-3893), “A KODAK PAPER” watermark on verso.

Attractive vintage printing of Earth rising from beyond the lunar surface, taken shortly after rendezvous with the Lunar Module “Snoopy.”

$1,200 - 1,800



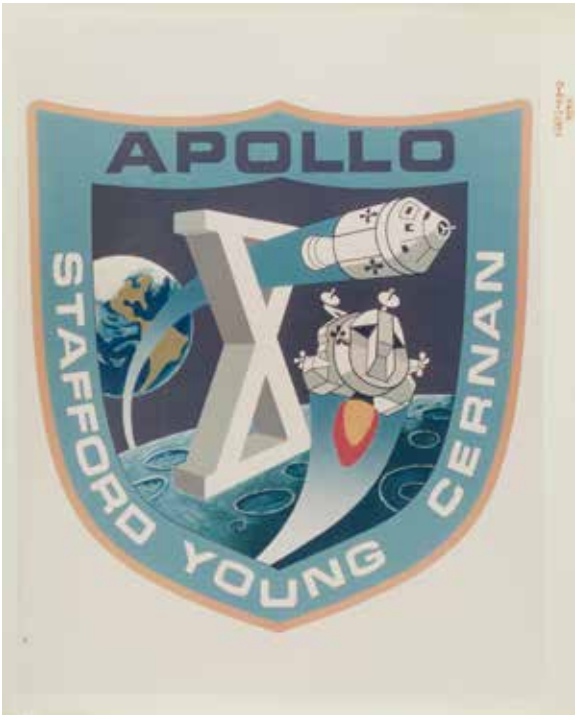
166

166
APOLLO 10: MOON VIEW AFTER TRANS-EARTH INJECTION.
Chromogenic color photograph, May 23, 1969, 8 x 10 inches (204 x 254 mm), NASA ID in red: AS10-27-3943, “A KODAK PAPER” watermark on verso.

A beautiful view of the eastern hemisphere of the Moon taken following trans-Earth injection.

$400 - 600









167 Ω

APOLLO 10: GROUP OF 4 "RED NUMBER" PHOTOS.

4 Chromogenic color photographs, 8 x 10 inches (204 x 254 mm), "A KODAK PAPER" watermark on verso:

1. November 13, 1968, NASA ID in red: S-68-42906.
NASA announces the prime crew shown here during training: Gene Cernan as Lunar Module Pilot; John Young as Command Module Pilot; and Tom Stafford as Commander.
2. May 1969, NASA ID in red: S-69-31959. The insignia perfectly captures the essence of the mission with the CSM orbiting the Moon, the LM making a low pass over the lunar surface with its engine firing and the roman numeral of the mission firmly planted on the Moon "to show that we had left our mark" as Stafford had stated.
3. May 22, 1969, NASA ID in red: AS10-27-3874. The CSM above the northeast corner of Smyth's Sea as seen from the LM.
4. May 22, 1969, NASA ID in red: AS10-27-3941. Craters Sea of Serenity and Smyth's Sea are seen on this Moon view taken after rendezvous of the LM and CSM.

$600 - 900

168
APOLLO 11: NEIL ARMSTRONG & BUZZ ALDRIN TRAIN FOR MOON ACTIVITY.
Silver gelatin print photograph, 1969, 8 x 10 inches (204 x 254 mm), NASA ID: 69-H-707, NASA, Washington press information printed on verso.

Armstrong and Aldrin, both fully suited, prepare for the Moon landing in constructed setting in Building Nine at Kennedy Space Center, Armstrong uses the Hasselblad 70mm camera while Aldrin practices with parts of the Early Apollo Scientific Experiments Package.

$500 - 700



168



169

169
APOLLO 11: NEIL ARMSTRONG DURING TRAINING FOR THE MOON.
"Red Number" chromogenic color photograph, June 16, 1969, 8 x 10 inches (204 x 254 mm), NASA ID in red: S-69-37724, NASA MSC printed press information and "A KODAK PAPER" watermark on verso.

Neil Armstrong ready to make a test flight in the Lunar Landing Training Vehicle No.2 at Ellington Air Force Base.

$500 - 700

170
APOLLO 11: PRE-LAUNCH COUNTDOWN.
Chromogenic color photograph, July 16, 1969, 8 x 10 inches (204 x 254 mm), NASA ID in red: S-69-39956, NASA Houston press information and "A KODAK PAPER" watermark on verso.

Armstrong, Aldrin and Collins waive to the support crew as they walk towards the transport van that will bring them to Launch Complex 39A where the Apollo spacecraft awaits them.

$600 - 800



170

171
APOLLO 11: BUZZ ALDRIN ON HIS WAY TO THE MOON.
Chromogenic color photograph, July 18, 1969, 8 x 10 inches (204 x 254 mm), NASA ID in red: S-69-39532, NASA Houston press information and “A KODAK PAPER” watermark on verso.

Still frame from the 3rd television transmission from the Apollo 11 spacecraft as it made its way to the Moon. Aldrin is in front of the Lunar Module controls and displays. Armstrong was with him in the LM, but isn’t pictured.

$600 - 800

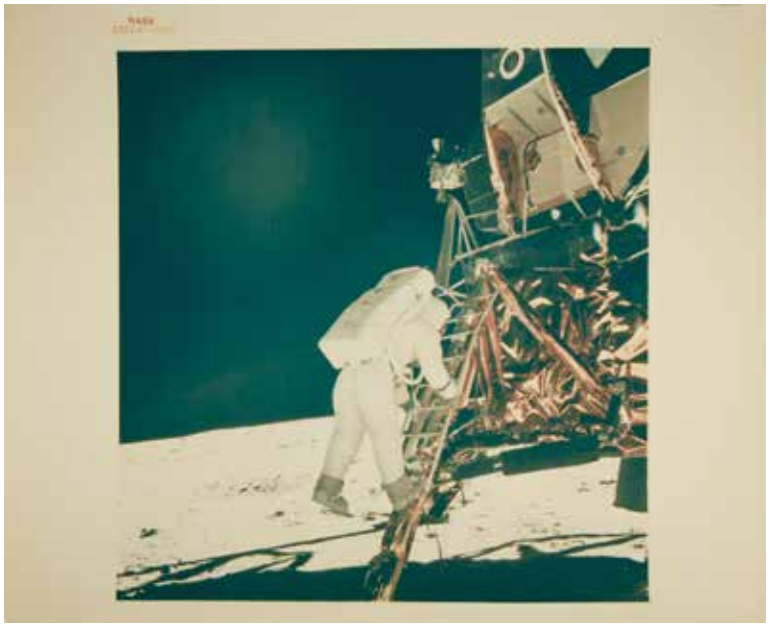


171

172
APOLLO 11: BUZZ ALDRIN DESCENDS THE LM LADDER.
Chromogenic color photograph, July 20 1969, 8 x 10 inches (204 x 254 mm), NASA ID in red: AS11-40-5868, “A KODAK PAPER” watermark on verso.

Classic image of Buzz Aldrin descending the Lunar Module ladder as he prepares for his first steps on the Moon.

$1,500 - 2,500



172

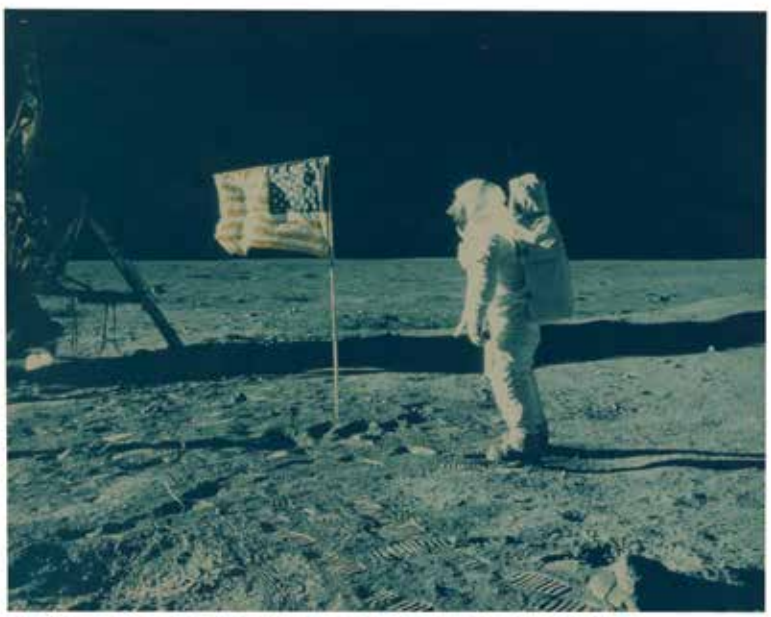


173

173
APOLLO 11: "RED NUMBER" ALDRIN AT TRANQUILITY BASE.
ARMSTRONG, NEIL. Chromogenic color photograph, July 21, 1969, 8 x 10 inches (204 x 254 mm), NASA ID in red: AS11-40-5903, "A KODAK PAPER" watermark on verso.

The classic "Visor Shot" that represented one of the greatest human achievements for millions or people when it was featured in the August 8th, 1969 issue of Life Magazine. No other Apollo photograph has been reproduced as often.
Neil Armstrong's photograph of Buzz Aldrin during the Apollo 11 lunar EVA is an image that encapsulated the mission: Aldrin standing there in his bulky A7L space suit with his life support system on his back and chest, the lunar surface descending into blackness behind him and his visor reflecting Armstrong, the only other human anywhere on the entire satellite planet, as well as the Lunar Module that brought them there.

$4,000 - 6,000



174

174
APOLLO 11: VINTAGE LARGE FORMAT OF ALDRIN SALUTING OLD GLORY ON THE MOON.
Chromogenic color photograph, July 21, 1969, 10 13/16 x 13 3/4 inches (274 x 350 mm), NASA ID: AS11-40-5874, mounted to board, 16 x 20 inches, framed.
Provenance: From the collection of Marilyn Bockting, Administrative Assistant to Deputy Director of MSC James C. Elms 1963-1967; Administrative Assistant to Apollo Program Manager George Low 1967-1970; Administrative Assistant to Director of Flight Crew Operations Donald K. "Deke" Slayton 1970-1973; Assistant Manager of the Program Administration Office 1973-1975 and promoted to Manager in 1975.

Rare large format photograph of Buzz Aldrin saluting the U.S. Flag taken by Neil Armstrong during the first lunar EVA. This example was inscribed on the mount by Apollo Program Manager Geoge Low to his secretary Marilyn Bockting, but that inscription has faded considerably.

$800 - 1,200

175

APOLLO 11: BUZZ ALDRIN AT TRANQUILITY BASE.

Chromogenic color photograph, July 21, 1969, 8 x 10 inches (204 x 254 mm), NASA ID in blue: AS11-40-5903, “A KODAK PAPER” watermark on verso. Excellent color with blue and red showing little to no fading, pinholes in each marginal corner, a small crease to image.

The classic “Visor Shot” that represented one of the greatest human achievements for millions or people when it was featured in the August 8th, 1969 issue of Life Magazine. No other Apollo photograph has been reproduced as often.
Neil Armstrong’s photograph of Buzz Aldrin during the Apollo 11 lunar EVA is an image that encapsulated the mission: Aldrin stands there in his bulky A7L space suit with his life support system on his back and chest, the lunar surface descends into blackness behind him and his visor reflects Armstrong, the only other human anywhere on the entire satellite planet, as well as the Lunar Module that brought them there.

$2,000 - 3,000



175

176

APOLLO 11: VINTAGE LARGE FORMAT OF ALDRIN ON THE LUNAR SURFACE.

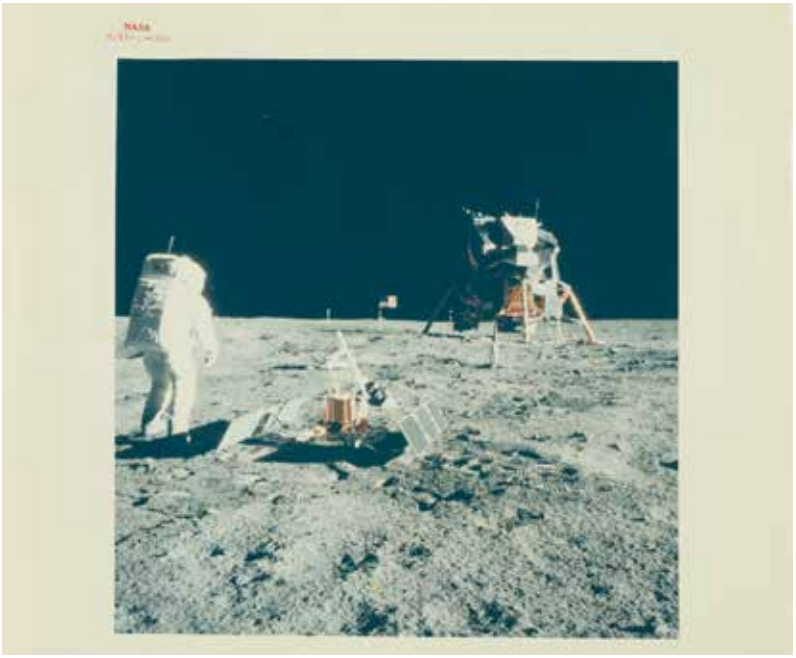
Chromogenic color photograph, July 21, 1969, 10 12/16 x 13 11/16 inches (274 x 348 mm), NASA ID: AS11-40-5948, mounted to board, 16 x 20 inches. *Provenance:* From the collection of Marilyn Bockting, Administrative Assistant to Deputy Director of MSC James C. Elms 1963-1967; Administrative Assistant to Apollo Program Manager George Low 1967-1970; Administrative Assistant to Director of Flight Crew Operations Donald K. “Deke” Slayton 1970-1973; Assistant Manager of the Program Administration Office 1973-1975 and promoted to Manager in 1975.

Period large format Neil Armstrong photograph of Buzz Aldrin having just deployed the Early Apollo Scientific Experiments Package (EASEP, which includes the Passive Seismic Experiments Package (PSEP) and the Laser Ranging Retro-Reflector (LR-3). The U.S. Flag and the Lunar Module are also present. This example, with numerous inscriptions around the mount, was presented to George Low’s secretary Marilyn Bockting by her fellow NASA employees.

$800 - 1,200



176

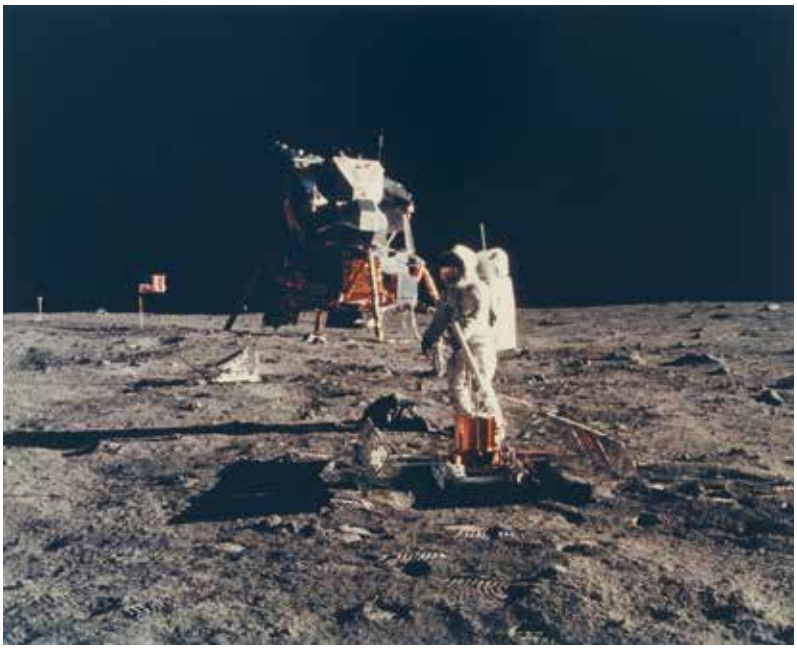


177

177
APOLLO 11: ALDRIN DEPLOYS THE EASEP ON THE LUNAR SURFACE.
Chromogenic color photograph, July 21, 1969, 8 x 10 inches (204 x 254 mm), NASA ID in red: AS11-40-5948, “A KODAK PAPER” watermark and NASA mimeographed press information on verso.

Neil Armstrong photograph of Buzz Aldrin having just deployed the Early Apollo Scientific Experiments Package (EASEP), which includes the Passive Seismic Experiments Package (PSEP) and the Laser Ranging Retro-Reflector (LR-3). The U.S. Flag and the Lunar Module are also present.

$600 - 900

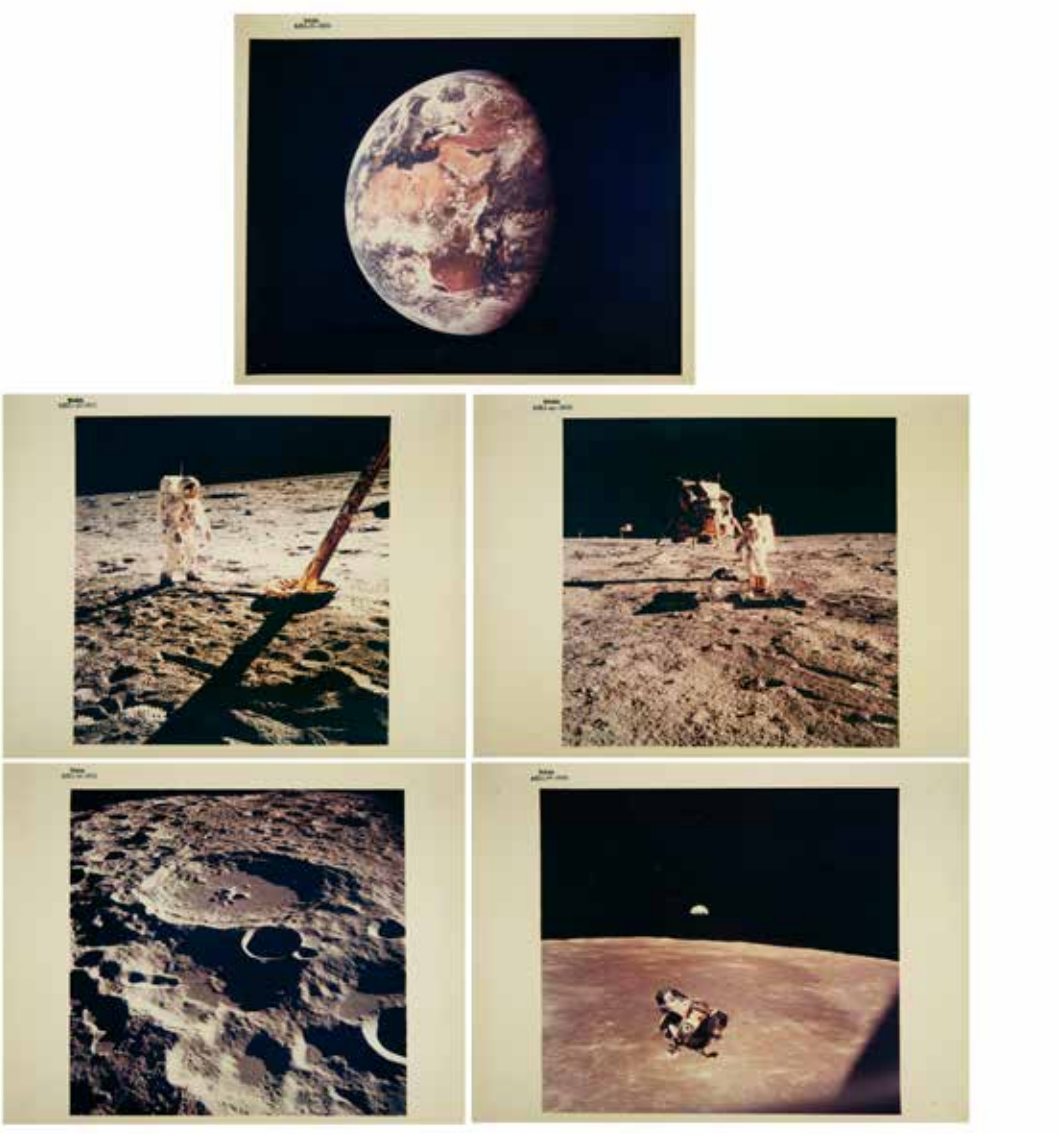


178

178
APOLLO 11: LARGE FORMAT PHOTOGRAPH OF BUZZ ALDRIN AT WORK ON THE LUNAR SURFACE.
Color chromogenic color photograph in satin finish, July 20, 1969, 10 3/4 x 13 1/2 inches (273 x 344 mm), NASA ID: AS11-40-5949, “A KODAK PAPER” watermark on verso. A beautifully printed photograph in satin finish.

Neil Armstrong’s photograph of Buzz Aldrin deploying the Passive Seismic Experiments Package (PSEP). The Laser Ranging Retro-Reflector (LR-3) is visible to the left. The U.S. Flag and the Lunar Module are visible in the background.

$2,000 - 3,000



179
APOLLO 11: GROUP OF COLOR "BLACK NUMBER" PHOTOGRAPHS.
5 "Black Number" Chromogenic Color Photographs, July 20-21, 1969, NASA IDs in black, "A KODAK PAPER" watermark on verso of each photograph. Pinholes in marginal corners, a few short creases.

Images include:

AS11-40-5902: Neil Armstrong's photograph of Buzz Aldrin as he stands beside the north-facing strut and footpad of the Lunar Module during his Extra-Vehicular Activity (EVA).

AS11-40-5949: Neil Armstrong's photograph of Buzz Aldrin deploying the Passive Seismic Experiments Package (PSEP). The Laser Ranging Retro-Reflector (LR-3) is visible to the left. The U.S. Flag and the Lunar Module are visible in the background.

AS11-36-5355: Michael Collins photographed the Earth from the Command Module "Columbia" during its translunar insertion, about 98,000 nautical miles from the subject, while Buzz Aldrin and Neil Armstrong began their descent to the lunar surface in the Lunar Module "Eagle." Africa and parts of Europe and Asia are visible.

AS11-44-6609: A view of the Crater Daedalus (formerly Crater No 308) on the lunar farside taken by Michael Collins while he orbited the Moon in the Command and Service Module "Columbia" while Neil Armstrong and Buzz Aldrin in the Lunar Module "Eagle" were on the lunar surface.

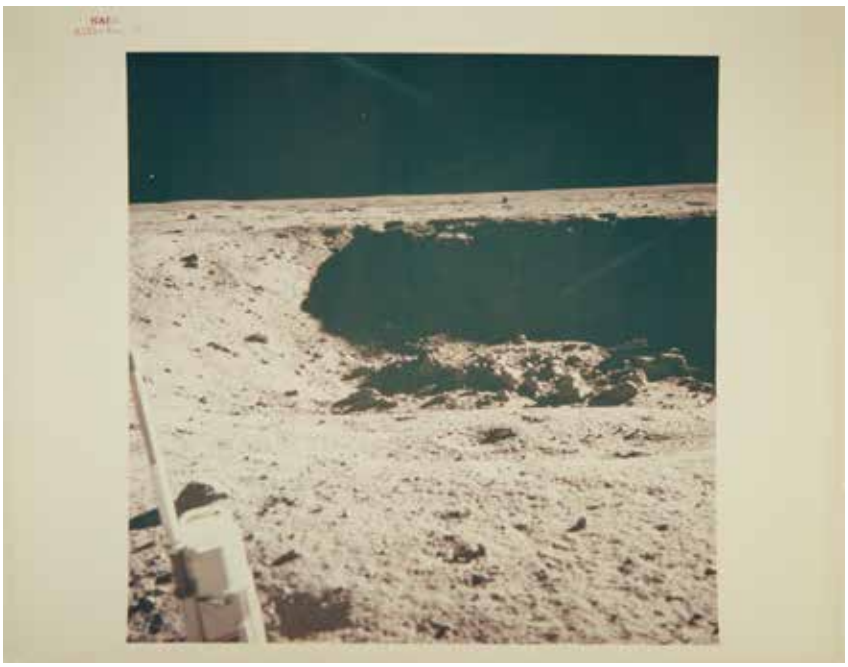
AS11-44-6642: Collins in the Command and Service Module photographs the Lunar Module ascent stage as it approaches after the successful first human Moon landing and with the Earth rising above the lunar surface in the background.

Color "black number" NASA photographs tend to be quite rare.

$2,000 - 3,000



180



181

180
APOLLO 11: BUZZ ALDRIN KANGAROO SPACEWALK DURING FIRST TELEVISION TRANSMISSION FROM THE MOON.
Silver gelatin print photograph, July 20, 1969, 8 x 10 inches (204 x 254 mm), NASA ID: 69-H-1035, NASA Washington press printed press information on verso.

Classic still frame of Buzz Aldrin before the Lunar Module, the U.S. Flag deployed to the right. The Kapton foil on the LM as well the flag reflect the Sun's glare.

$500 - 700

181
APOLLO 11: LUNAR EVA PHOTOGRAPH OF THE CRATER ARMSTRONG AVOIDED DURING LANDING.
Chromogenic color photograph, July 20, 1969, 8 x 10 inches (204 x 254 mm), NASA ID in red: AS11-40-5954, "A KODAK PAPER" watermark on verso.

The first photograph in panorama 5, this image shows the Little West Crater that Armstrong noted during the LM descent.

$600 - 800







182
APOLLO 11: NEIL ARMSTRONG & BUZZ ALDRIN LUNAR EVA PHOTOGRAPHS.
Group of 3 “Blue Number” Chromogenic Color Photographs, July 20, 1969, 8 x 10 inches, NASA IDs in blue, “A KODAK PAPER” watermark on verso of each. Pinholes to marginal corners of each, a few short creases.

AS11-40-5868: Neil Armstrong’s photograph of Buzz Aldrin as he descends the Lunar Module ladder to become the second person to walk on the lunar surface.

AS11-40-5875: Neil Armstong’s photograph of Buzz Aldrin after he deployed the Lunar Flag Assembly (LFA) began the proud tradition of posing with the United States Flag on the lunar surface.

AS11-37-5545: Buzz Aldrin used the camera inside the Lunar Module to capture this photograph of the United States Flag that was left to fly on the lunar surface after the first lunar EVA.

Iconic images from the Apollo 11 mission in rare “blue number” printings.

$1,500 - 2,000





183
APOLLO 11: 2 PHOTOGRAPHS OF BUZZ ALDRIN ON THE LUNAR SURFACE.
2 chromogenic color photographs, July 21, 1969, 8 x 10 inches (204 x 254 mm), NASA IDs in red: AS11-40-5942 & AS11-40-5944, "A KODAK PAPER" watermark on verso.

Two photographs taken by Neil Armstrong during the lunar EVA as Buzz Aldrin walks to the deployment site with two components of the Early Apollo Scientific Experiments Package (EASEP). The photographs were taken within two frames of each other.

$800 - 1,200





184
APOLLO 11: 3 PHOTOGRAPHS OF BUZZ ALDRIN ON THE LUNAR SURFACE.
3 Chromogenic color photographs, July 21, 1969, 8 x 10 inches (204 x 254 mm), “A KODAK PAPER” watermark on verso.

1. NASA ID in red: AS11-40-5875. Classic image of Buzz Aldrin standing next to Old Glory, the Lunar Flag Assembly.

2. NASA ID: AS11-40-5872 (5872 stamped in black on verso). Buzz Aldrin is erecting the Solar Wind Experiment before the Lunar Module Eagle.

3. NASA ID in red: AS11-40-5948. Neil Armstrong photograph of Buzz Aldrin having just deployed the Early Apollo Scientific Experiments Package (EASEP, which includes the Passive Seismic Experiments Package (PSEP) and the Laser Ranging Retro-Reflector (LR-3). The U.S. Flag and the Lunar Module are also present in the image.

$1,200 - 1,800



185

APOLLO 11: 70MM FILM ROLL INCLUDING FAMOUS ALDRIN "VISOR SHOT."

Vintage 70mm positive film roll containing 34 complete images and 5 partial images, 1969, NASA IDs in margin, contained in plastic film container, with later reference prints. Age toning to film apparent on leader, light surface wear.

Amazing collection of positives from the Apollo 11 magazine S (40), which was the one used for the first lunar surface EVA by Neil Armstrong and Buzz Aldrin. The present roll contains many of the classic images including the "Visor Shot" of Buzz Aldrin (AS11-40-5903), Aldrin with the U.S. Flag (5874 & 5875), the sequence of Aldrin climbing down the LM ladder (5866-5869); Aldrin's famous boot print sequence (5876-5880) and many more images of lunar activity. Apollo 11 positive rolls this extensive are exceptionally rare.

NASA Image IDs included: AS11-40-5956(partial); 5955; 5954; 5953; 5952; 5951; 5950; 5949; 5948; 5947; 5946; 5945; 5944; 5943; 5942; 5941(partial); 5903; 5902; 5901; 5900; 5899; 5898(partial); 5881(partial); 5880; 5879; 5878; 5877; 5876; 5875; 5874; 5873; 5872; 5871; 5870; 5869; 5868; 5867; 5866; 5865(partial).

$1,000 - 2,000







186
APOLLO 11: 3 PHOTOGRAPHS OF THE LUNAR SURFACE DURING THE FIRST EVA.
3 “red number” chromogenic color photographs, July 21, 1969, 8 x 10 inches (204 x 254 mm), “A KODAK PAPER” watermark on verso of each.

1. NASA ID in red: AS11-40-5881. The first image frame in a panorama taken by Buzz Aldrin showing the Southwestern wall of the double crater near the LM.

2. NASA ID in red: AS11-40-5937. Part of Neil Armstrong’s eastward pan of the lunar surface.

3. NASA ID in red: AS11-40-5954. Neil Armstrong captured this inmage as part of an 8-photo pan of the Little West Crater.

$600 - 900



187

187
APOLLO 11: NEIL ARMSTRONG ABOARD THE LUNAR MODULE AFTER EVA.
Chromogenic color photograph, July 21, 1969, 8 x 10 inches (204 x 254 mm), NASA ID in red: AS11-37-5528, “A KODAK PAPER” watermark on verso.

Neil Armstrong appears tired but pleased in this post-EVA photograph taken by Buzz Aldrin inside the Lunar Module on the lunar surface.

$500 - 700



188

188
APOLLO 11: POST EVA VIEW OF THE LUNAR SURFACE FROM INSIDE THE LUNAR MODULE.
Chromogenic color photograph, July 20, 1969, 8 x 10 inches (204 x 254 mm), NASA ID in red: AS11-37-5551, “A KODAK PAPER” watermark on verso.

This view of the lunar surface from inside of the LM shows the Passive Seismic Experiment Package (PSEP) and the Laser Ranging Retro-Reflector (LR-3), both parts of the Early Apollo Scientific Experiments Package (EASEP). The first human footprints on the lunar surface are also visible.

$600 - 800







189

189
APOLLO 11: LUNAR MODULE OVER THE MOON & COMMAND MODULE RECOVERY.
2 Chromogenic color photographs, 8 x 10 inches (204 x 254 mm), “A KODAK PAPER” watermark on vero.

1. NASA ID in red: S-69-21723. July 24, 1969. A US Navy Sikorsky SH-3D Sea King hoovers over Apollo Command Module during the recovery.

2. NASA ID in red: AS11-40-6632. July 21, 1969. Michael Collins captured this image of the Lunar Module Eagle in its triumphant return from the lunar surface. The Earth is just begining to rise from behind the Moon.

$400 - 600



190

190
APOLLO 11: “HORNET PLUS THREE,” THE CREW SAFE IN THE MOBILE QUARANTINE FACILITY.
Chromogenic color photograph, July 27, 1969, 8 x 10 inches (204 x 254 mm), NASA ID in red: S-69-40152, NASA MSC printed press information and “A KODAK PAPER” watermark on verso.

The Apollo 11 crew at the window of the Mobile Quarantine Facility (MQF), which was a converted Airstream trailer, after their flight from Hawaii.

$500 - 700



191

191
APOLLO 11: NIXON GREETS THE MERRY QUARANTINED CREW ABOARD THE USS HORNET.
Silver gelatin print photograph, July 24, 1969, 8 x 10 inches (204 x 254 mm), NASA ID: 108-KSC-69P-660/69-H-1198, NASA KSC printed press information on verso.

Classic photograph of Nixon sharing a laugh with the triumphant, but quarantined, Apollo 11 crew.

$500 - 700



192

192
APOLLO 12: LUNAR PHOTOGRAPHY.
Group of 52 vintage large format black and white photographs, November 19-20, 1969, 16 x 19 3/4 inches (405 x 503 mm), NASA ID on each photograph.

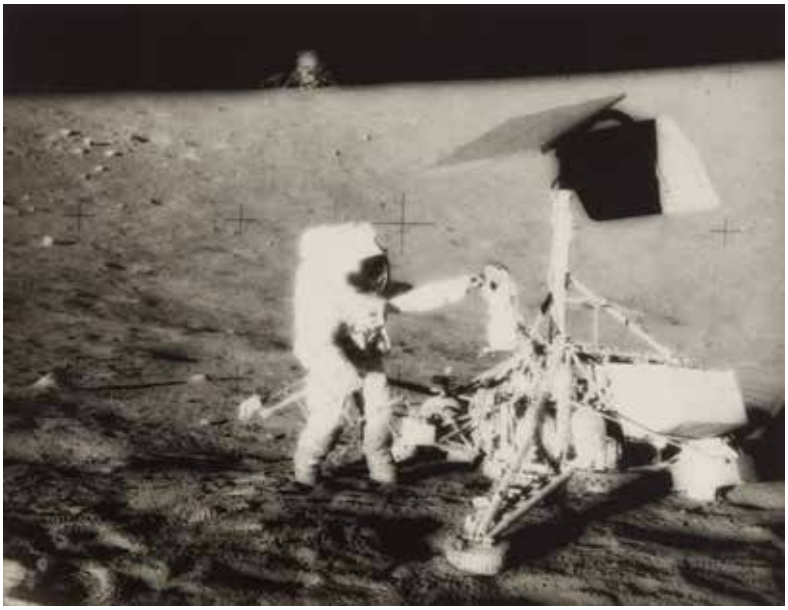
Lengthy sequences of images taken around Fra Mauro, Descartes, Dolland, Kant, etc. by Richard Gordon as he orbited the Moon and Alan Bean and Charles Conrad were exploring the lunar surface. Includes NASA image IDs:AS12-52-7646; AS12-52-7650 through AS12-52-7659; AS12-52-7661 through AS12-52-7683; AS12-52-7685 through AS12-52-7687; AS12-52-7689 through AS12-52-7694; AS12-52-7697 through AS12-52-7703; and AS12-52-7707 through AS12-52-7708.

$2,000 - 3,000

193
APOLLO 12: PETE CONRAD INSPECTS SURVEYOR 3.
Large format silver gelatin print photograph, November 20, 1969, 11 x 14 inches (278 x 355 mm), being NASA image AS12-48-7134, mounted to 16 x 20 inches.

Pete Conrad inspects the Surveyor 3's television camera prior to detaching it in order to return it to Earth. The Lunar Module is visible in the background. Taken on the Hasselblad 70mm camera on magazine 48 [X] during the second lunar EVA.
The Surveyor 3 was the third uncrewed lander of the NASA's Surveyor program which was sent to explore the lunar surface in 1967. The landing site of the Apollo 12 mission was the same as that of the earlier Surveyor 3 site and the Lunar Module landed within walking distance of the probe. It was the only probe visited by humans on another world.

$600 - 800



193

194
APOLLO 13: LUNAR FARSIDE FLYBY SHOWING GIORDANO BRUNO & JOLIOT CRATERS.
Chromogenic color photograph, April 16, 1970, 8 x 10 inches (204 x 254 mm), NASA ID in red: AS13-60-8675, "A KODAK PAPER" watermark on verso.

The Apollo crew photographed views of the Moon from their "lifeboat," the Lunar Module Aquarius.

$500 - 700



194



195

195
APOLLO 13: JETTISONED SERVICE MODULE AS SEEN FROM THE COMMAND MODULE.
Vintage chromogenic color photograph, August 17, 1970, 8 x 10 1/8 inches (204 x 257 mm), NASA ID [AS13-58-8464], "A KODAK PAPER" watermark on verso.

An enlargement that provides a better view of the Service Module damage that occurred enroute to the Moon and led to one of the most heroic events in NASA history.

$500 - 700



196

196
APOLLO 14: BRUCE MCCANDLESS II TESTS THE MET IN 1/6G.
Chromogenic color photograph, January 23, 1970, 8 x 10 inches (204 x 254 mm), NASA ID in red: S-70-27169, NASA Ellington printed press information and "A KODAK PAPER" watermark on verso.

SIGNED & INSCRIBED by Bruce McCandless II: *"Apollo 14 'MET' testing in 1/6 'g' - Bruce McCandless II / 14 Support Crew."*

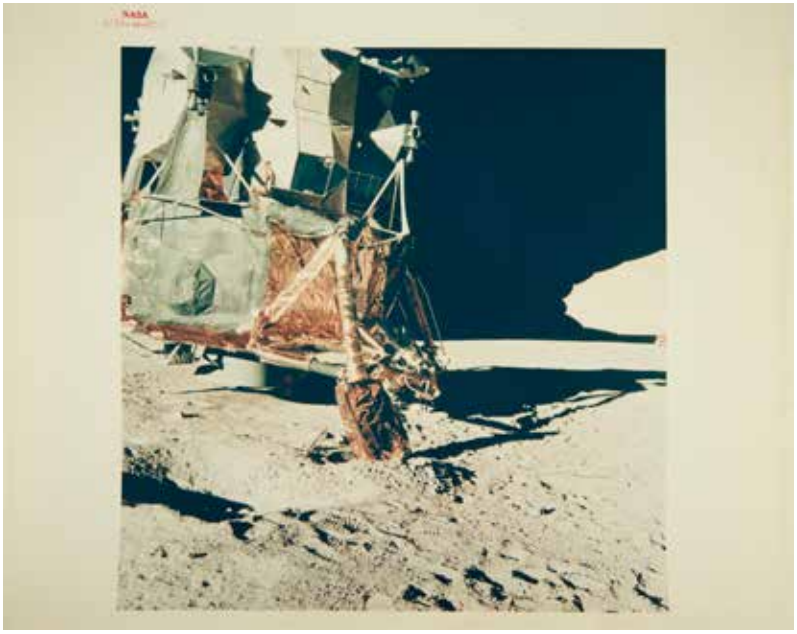
McCandless was part of the support crew for Apollo 14 when he participated in this test of the Modular Equipment Transporter (MET) over rough terrain under 1/6 gravity courtesy of the KC-1Base. McCandless had joined NASA in April 1966 as part of Astronaut Group 5 and went on to also serve as CAPCOM for Apollo 11, backup pilot for the first crewed Skylab mission and finally flying on STS-41-B and STS-31. Both of the the latter were some of the more memorable Shuttle missions as McCandless used the Manned Maneuvering Unit (MMU) on STS-41-B and STS-31 is the mission that deployed the Hubble Space Telescope.

$600 - 800

197
APOLLO 14: LUNAR MODULE ON THE LUNAR SURFACE.
Chromogenic color photograph, February 5, 1971, 8 x 10 inches (204 x 254 mm), NASA ID in red: AS14-66-9255, “A KODAK PAPER” watermark on verso.

Alan Shepard captured this image of the right side of the Lunar Module “Antares” during the first EVA. The S-Band antenna is to the far right.

$600 - 800



197

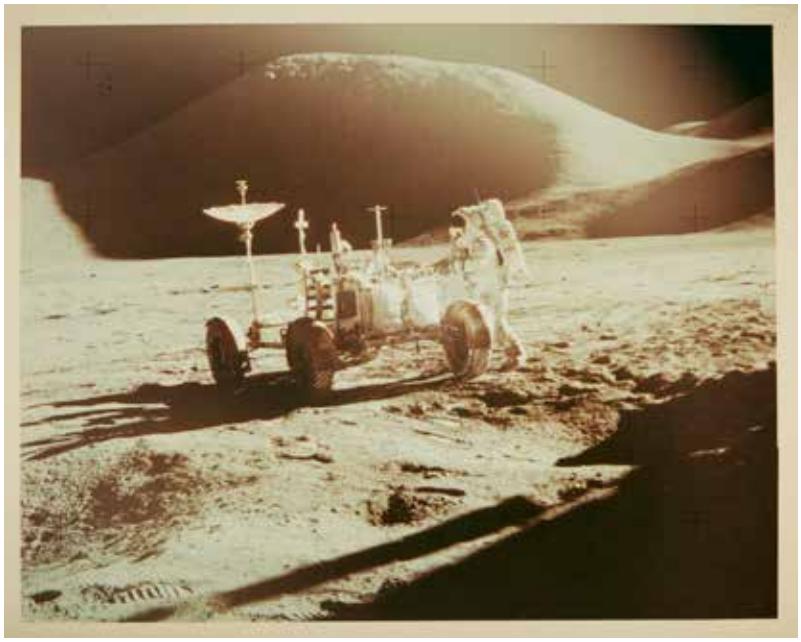
198
APOLLO 14: LUNAR SURFACE TRAIL TO THE LUNAR MODULE.
Chromogenic color photograph, February 5, 1971, 8 x 10 inches (204 x 254 mm), NASA ID in red: AS14-67-”9367, “A KODAK PAPER” watermark on verso.

The Apollo 14 Lunar Module with the sun glaring at top left. Taken by Alan Shepard during the first lunar EVA. The trail in the soil that leads from the LM is from the two-wheeled Modularized Equipment Transporter (MET).

$500 - 700



198



199

199
APOLLO 15: JIM IRWIN AT LUNAR ROVING VEHICLE ON LUNAR SURFACE.
Chromogenic color photograph, July 31, 1971, 8 x 10 inches (204 x 254 mm), NASA ID: AS15-86-11603, NASA Goddard press information and “A KODAK PAPER” watermark on verso.

In this rare Goddard Space Flight Center-issued photograph, Jim Irwin loads the Lunar Roving Vehicle (LRV) during one of the Lunar EVAs. This was the first mission to use the LRV, which enabled the astronauts to travel greater distances in a shorter amount of time and provided the opportunity to run additional scientific experiments.

$500 - 700



200

200
APOLLO 17: MIDNIGHT LIFTOFF.
Chromogenic color photograph, December 7, 1972, 8 x 10 inches (204 x 254 mm), NASA ID in red: S-72-55070, “A KODAK PAPER” watermark on verso.

Dramatic nighttime launch of the Apollo 17 space vehicle.

$500 - 700

201
APOLLO 17: EARTH RISE ABOVE GENE CERNAN & THE LUNAR ROVING VEHICLE.
Chromogenic color photograph, December 13, 1972, 8 x 10 inches (204 x 254 mm), NASA ID in red: AS17-134-20473, "A KODAK PAPER" watermark on the verso.

Classic image of the Earth above Gene Cernan at the hi-gain antenna of the Lunar Roving Vehicle.

$1,000 - 2,000



201

202
APOLLO 17: HARRISON SCHMITT WITH THE LUNAR ROVING VEHICLE.
Chromogenic color photograph, December 12, 1972, 8 x 10 inches (204 x 254 mm), NASA ID in red: AS17-137-21011, "A KODAK PAPER" watermark on the verso.

Taken by Gene Cernan during the second EVA after the discovery of the famous orange soil, faintly present in this image.

$500 - 700



202



203



204

203
APOLLO 17: GIANT PANORAMIC PHOTOGRAPH.
Large format vintage silver gelatin print photograph in 4 parts, December 7-19, 1972, each part approximately 9 3/8 x 71 3/4, 79 or 83 1/4 inches, Image IDs in margins: AS17-P-2595, AS17-P-2596, AS17-P-2597 & AS17-P-2598.

Stunning, over 6 1/2-foot, panorama from the Apollo 17 Itek panoramic camera, which was installed in the Scientific Instrument Module (SIM) bay 1 of the Service Module. This was taken on Revolution 36 of the CSM and covers the area around Craters Firmicus, Auzout, Apollonius X and Auzout very close to Mare Crisium [8.5-9 degrees north / 64.6-62.8 degrees east] near the eastern limb of the Moon.

Interestingly, the 24-inch-focal-length optical bar panoramic camera designed and manufactured by Itek Optical Systems Division was based on its KA-80A photo reconnaissance camera that was used by the U.S. Air Force. Essentially, it was a repurposed spy camera.

$3,000 - 4,000

204
APOLLO 17: HARRISON SCHMITT ON THE LUNAR ROVING VEHICLE DURING EVA 3.
Chromogenic color photograph, December 13, 1972, 8 x 10 inches (204 x 254 mm), NASA ID in red: AS17-134-20454, “A KODAK PAPER” watermark on verso.

Harrison Schmitt on the LRV at Station 9 (Van Serg Crater) during the 3rd and final lunar EVA, from the final Apollo mission to the Moon.

$600 - 800

205
APOLLO 17: THE RETURN TO THE LUNAR MODULE DURING THIRD LUNAR EVA.
Chromogenic color photograph, December 13, 1972, 8 x 10 inches (204 x 254 mm), NASA ID in red: AS17-134-20459, “A KODAK PAPER” watermark on verso.

The high-gain antenna of the Lunar Roving Vehicle in the foreground, a good view of the Lunar Module in the center with the American flag to the right.

$500 - 700



205

206
APOLLO 17: A FINAL VIEW OF THE U.S. FLAG AFTER THE LAST LUNAR EVA.
Chromogenic color photograph, December 13, 1972, 8 x 10 inches (204 x 254 mm), NASA ID in red: AS17-145-22216, “A KODAK PAPER” watermark on verso.

The view from Harrison Schmitt’s Lunar Module window after the third and final lunar EVA. Over the LM thrusters the U.S. flag stands at center before the North Massif.

$500 - 700



206



207

207
APOLLO 17: COMMAND SERVICE MODULE ABOVE THE MOON FROM THE LUNAR MODULE WINDOW.
Chromogenic color photograph, December 11, 1972, 8 x 10 inches (204 x 254 mm), NASA ID in red: AS17-147-22460, “A KODAK PAPER” watermark on verso.

Harrison Schmitt captured this image of the CSM from the LM window during the 12th revolution of the Moon.

$600 - 800



208

208
APOLLO 17: COMMAND AND SERVICE MODULE DURING RENDEZVOUS AND DOCKING WITH LUNAR MODULE.
Chromogenic color photograph, December 14, 1972, 8 x 10 inches (204 x 254 mm), NASA ID in red: AS17-145-22254, “A KODAK PAPER” watermark on verso.

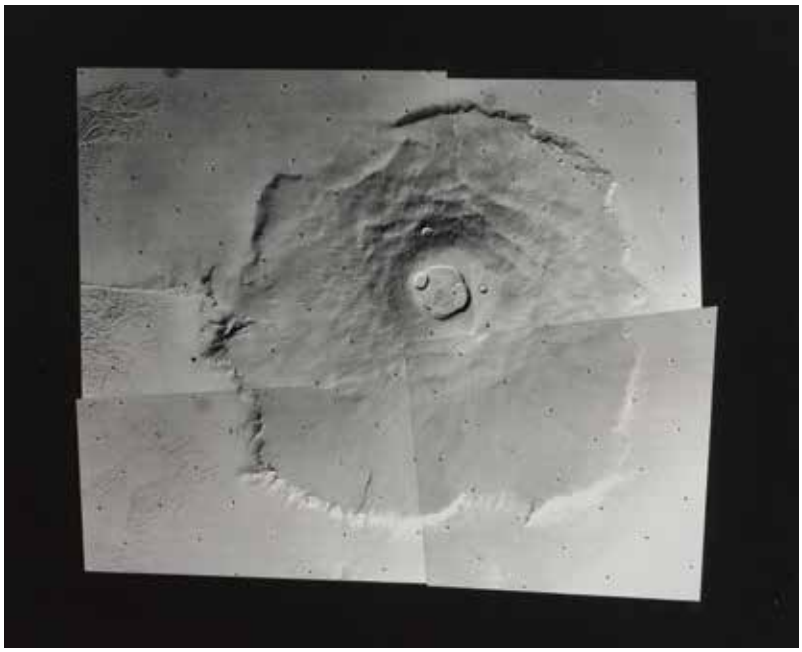
Commander Gene Cernan and Lunar Module Pilot had returned from the final lunar landing site, Taurus-Littrow, and were rejoining Ronald Evans in the Command and Service Module to prepare for the return to Earth.

$500 - 700

209
MARINER 9: PHOTOGRAPHIC MOSAIC OF MARS.
4 silver gelatin prints joined to form single image, January 1972, approximately 260 x 210 mm, laid down to a black mat board. Framed.

Mariner 9, launched on May 30, 1971, was the first spacecraft to orbit another planet and contributed greatly to the exploration of Mars. The present mosaic depicts Olympus Mons, large shield volcano about 2 1/2 times Mount Everest's height above sea level and is about the size of Poland.

$600 - 900



209

210
MARINER 10: MOSAIC PHOTOGRAPH OF MERCURY.
10 silver gelatin print photographs joined to form a single image, March 1974, approximately 370 x 220 mm, *THIS PAPER MANUFACTURED BY KODAK* watermark on verso. Framed.

Mariner 10 was launched in November 1973 and was the first spacecraft to perform flybys of multiple planets. It provided images of Venus and Mercury and was orbiting the Sun when communication ceased on March 24, 1975.

$1,000 - 1,500



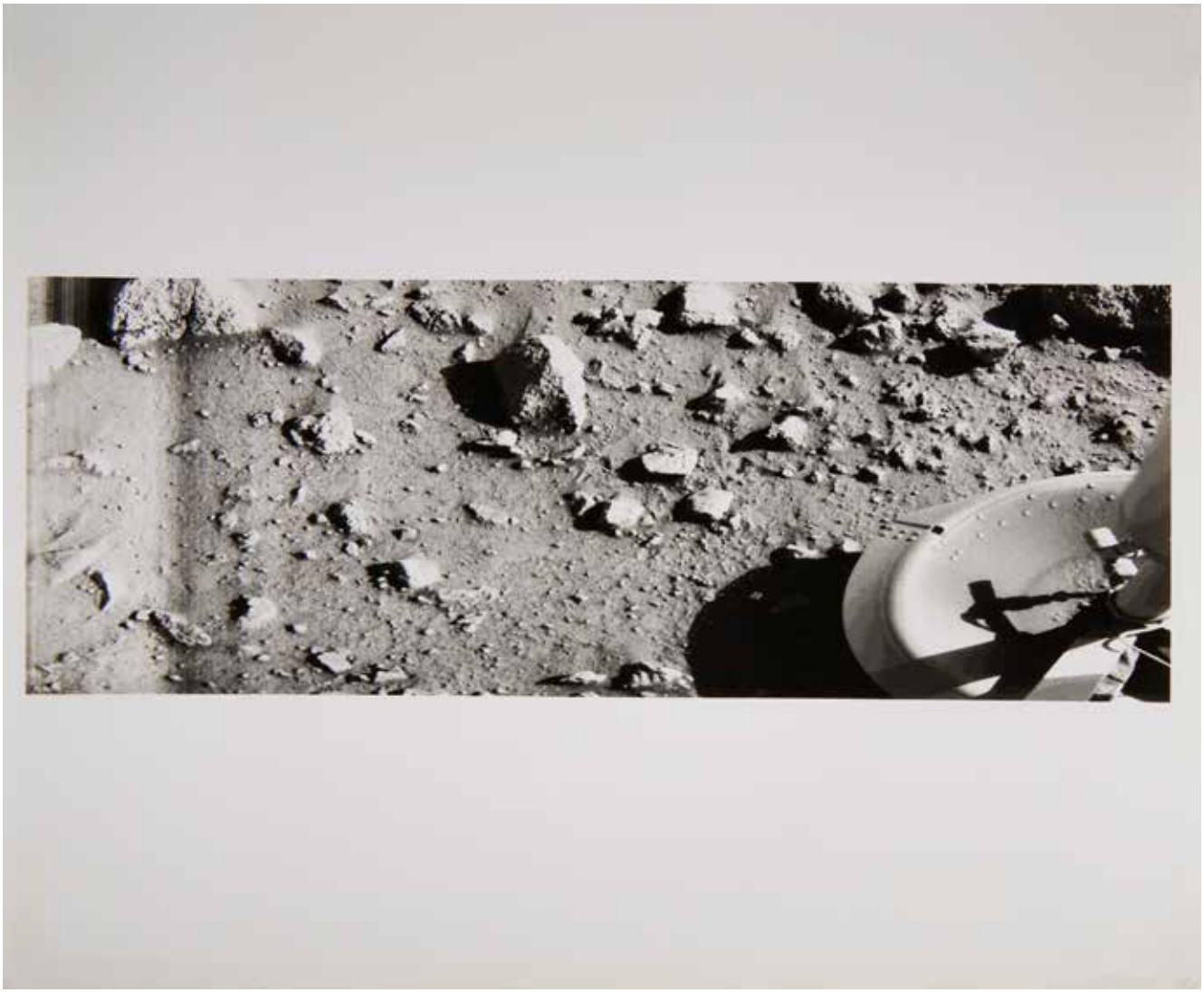
210



211
APOLLO-SOYUZ TEST PROJECT: VIEW OF THE SOYUZ IN EARTH ORBIT.
Vintage chromogenic color photograph, July 17, 1975, 8 x 10 inches (204 x 254 mm), NASA ID in red: AST-1-056, "This Paper Manufactured by Kodak" watermark and NASA JSC press information printed on verso.

Rare "red number" photograph from the first crewed international space mission. The Soyuz spacecraft is stark against the white of the Earth's cloud cover as photographed from the Apollo Command and Service Module.

$400 - 600



212
VIKING 1 LANDER: FIRST PHOTOGRAPH TAKEN ON THE SURFACE OF MARS.
Vintage silver gelatin print photograph, July 20, 1976, 8 x 10 1/8 inches (205 x 256 mm), image ID: Viking 1-44 P-17053, NASA/ JPL press slip affixed to verso, "This Paper Manufactured by Kodak" watermark on verso.

The first photograph ever taken on the surface of Mars, taken just minutes after the successful landing of the Viking 1 Lander - the 7th anniversary of the Apollo 11 Moon landing. The image provides a close view of the Martian surface with both rocks and fine material visible. The Lander's footpad 3 is partially visible in the right side of the image.

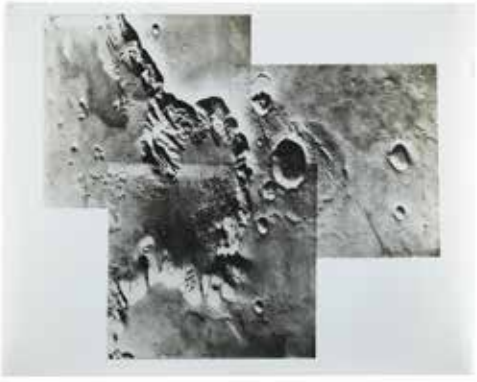
$800 - 1,200













213
VIKING 1 PHOTOGRAPHS.
34 photographs:

6 Viking 1 Lander vintage chromogenic color photographs, July 26 - October 6, 1976, 8 x 10 inches (203 x 254 mm), “THIS PAPER MANUFACTURED BY KODAK” watermark and NASA mimeographed press slip affixed to verso.
Includes Martian sunset and images of the terrain, some of which include partial views of the Lander itself.

3 Viking 1 Lander vintage gelatin silver print photographs, July 23-25, 1976, 8 x 10 1/8 inches (257 x 205 mm), NASA press information mimeographed on verso.
Includes panoramic image that features the Lander with the terrain, the first photograph taken with camera 1.

2 Viking 1 Orbiter vintage chromogenic color photographs, October 1-12, 1976, 8 x 10 inches (203 x 254 mm), “THIS PAPER MANUFACTURED BY KODAK” watermark and NASA mimeographed press slip affixed to verso.

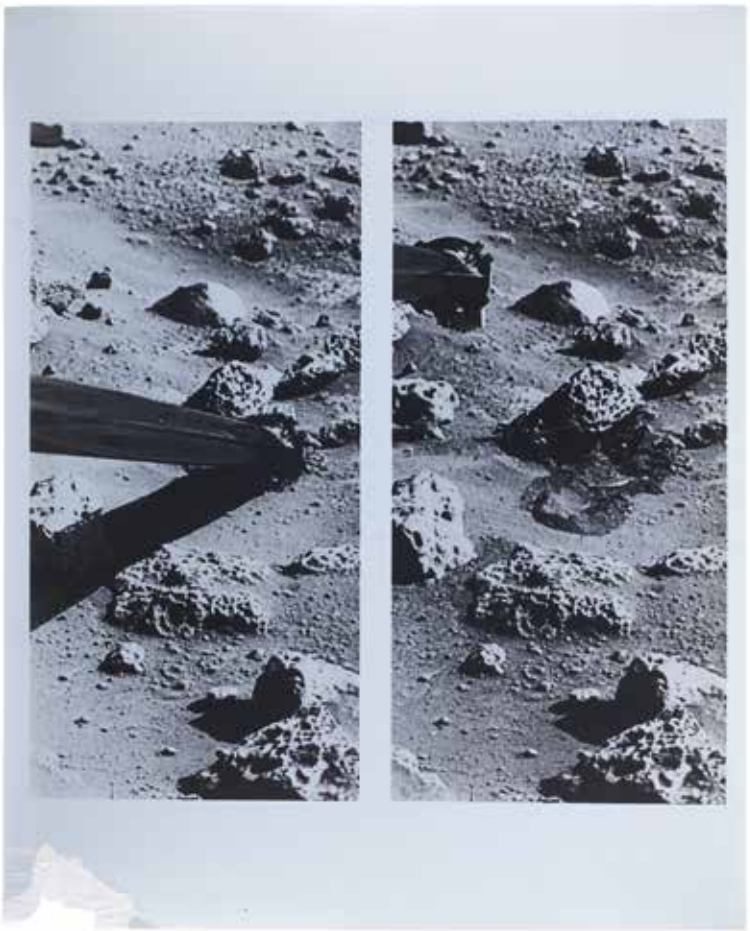
23 Viking 1 Orbiter vintage gelatin silver print photographs, June 22 - September 13, 1976, 8 x 10 1/8 inches (257 x 205 mm), NASA press information mimeographed on verso.
Includes a variety of details, mosaics and a particularly stunning oblique view. Also included is the classic “Face on Mars” photograph of the Cydonia region where part of the terrain resembles a face.

Impressive collection of Viking 1 Lander and Orbiter photographs that provide a sense of the broad scope of the mission and which provided data that was instrumental in forming most of the knowledge of Mars through the late 1990s and early 2000s.

A complete list of photographs provided in the condition report.

$1,200 - 1,800





214
VIKING 2 PHOTOGRAPHS OF MARS.
11 photographs:

Viking 2 Lander, vintage chromogenic color photographs, September 5-8, 1976, 8 x 10 inches (203 x 254 mm), "THIS PAPER MANUFACTURED BY KODAK" watermark and NASA mimeographed press slip affixed to verso.
1. Viking 2-11 P-17686 - First color photograph taken by the Viking 2 Lander.
2. Viking 2-15 P-17690 - "A Utopian Bright Summer Afternoon on Mars."
3. Viking 2-20 P-17982 - A seemless composite of three photographs taken on separate days.

Viking 2 Lander, vintage gelatin silver print photographs, September 3 - October 8, 1976, 8 x 10 1/8 inches (257 x 205 mm), NASA press information mimeographed on verso.
4. Viking 2-8 P-17681 - The first photograph taken by the Lander on the surface of Mars.
5. Viking 2-10 P-17683 - Mars panorama including the Lander itself in the frame.
6. Viking 2-14 P-17609 - Two photographs combined in this mosaic of the landscape northeast of the Lander.
7. Viking 2-24 P-18108 - Demonstration of soil sampler collector arm.

Viking 2 Orbiter, vintage chromogenic color photograph, October 26, 1976, 8 x 10 inches (203 x 254 mm), "THIS PAPER MANUFACTURED BY KODAK" watermark and NASA mimeographed press slip affixed to verso.
8. Viking 2-28 P-18459 - Scene near Mars' north pole.

Viking 2 Orbiter, vintage gelatin silver print photographs, August 5 - October 4, 1976, 8 x 10 1/8 inches (257 x 205 mm), NASA mimeographed press information on verso.
9. Viking 2-1 P-17442 - Crescent phase photograph of Mars.
10. Viking 2-21 P-18022 - Detailed photograph of Mars' moon Phobos.
11. Viking 2-25 P-18153 - Photo-mosaic of north polar ice cap.

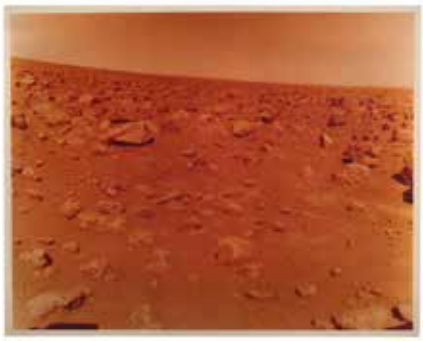
Viking 2 was identical to Viking 1 and followed the latter by less than a month. The collection of photographs here convey a sense of the broad scope of the mission which, combined with Viking 1, provided data that was instrumental in forming most of the knowledge of Mars through the late 1990s and early 2000s.

$800 - 1,200

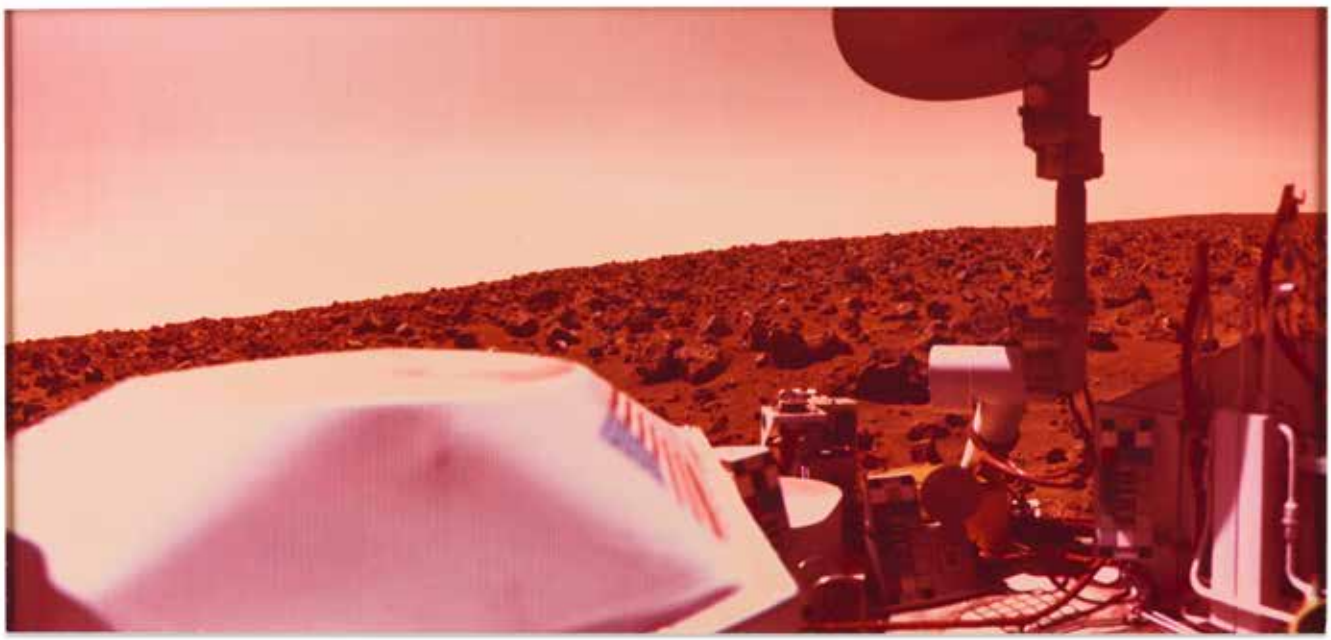








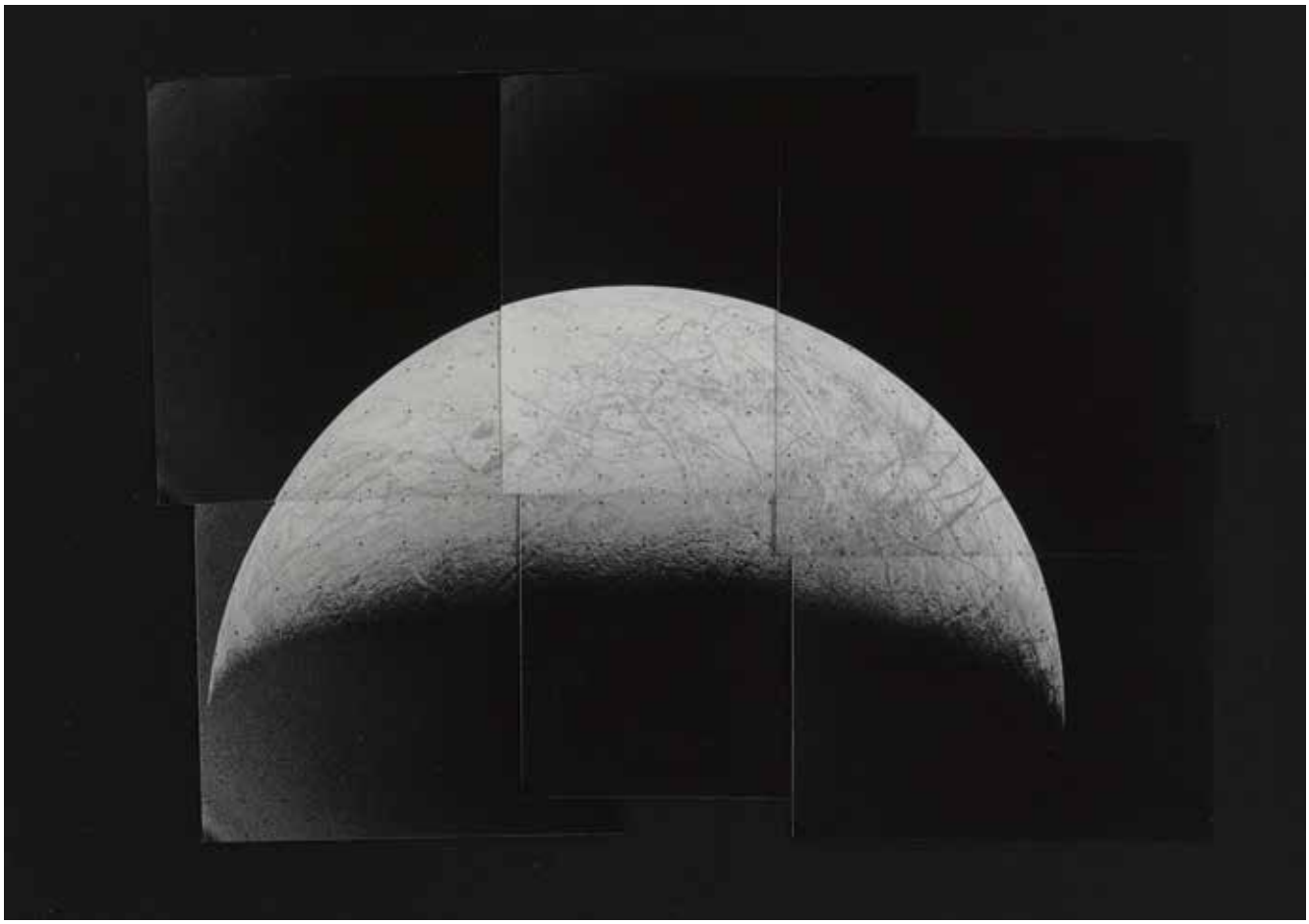


215
VIKING 2 LANDER: LARGE-FORMAT MARS PANORAMA.
Large format chromogenic color photograph, September 24, 1976, approximately 7 1/4 x 15 1/2 inches (185 x 393 mm) (visible), being a panorama of the Mars surface with the Viking Lander 2 visible, matted, image 22A158/021.
Provenance: Gordon Maughan, group leader of the Photographers Group at JPL, from his estate.

Large format view of a boulder-laden field on Mars' Utopian Plain.

$600 - 800



216
VOYAGER 2: PHOTOGRAPH MOSAIC OF JUPITER'S MOON EUROPA.
6 silver gelatin print photographs, June 1979, joined to form mosaic, approximately 190 x 270 mm, *THIS PAPER MANUFACTURED BY KODAK* watermark on verso, hinged to black mat board. Framed.

The NASA/JPL Voyager Program, which employs two robotic interstellar probes, is a modified grand tour of the Solar System that has been active for 45 years. Both Voyager 1 and Voyager 2 have crossed into interstellar space, in 2012 and 2018 respectively, and continue to transmit useful data.

$750 - 1,500



217
STS-1: TRAINING.
Group of 14 vintage chromogenic color photographs, c.1980, 8 x 10 inches (204 x 254 mm), "THIS PAPER MANUFACTURED BY KODAK" watermark on verso.

Fascinating series of photographs of astronauts John Young and Robert Crippen training inside the Space Shuttle *Columbia's* cabin at the Orbiter Processing Facility before STS-1, the first orbital spaceflight of NASA's Space Shuttle program. Young and Crippen trained the longest for any space mission in NASA history before the April 12, 1981 launch.

$600 - 900

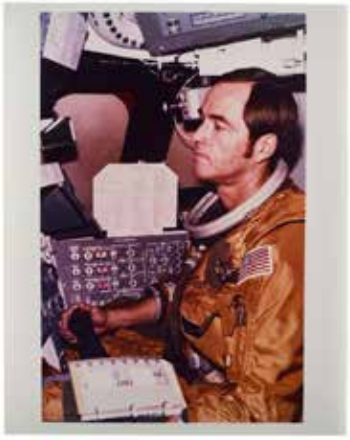













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The following Conditions of Sale, as amended by any published or posted notices or verbal announcements during the sale, constitute the entire terms and conditions on which property listed in the catalog shall be offered for sale or sold by Bonhams & Butterfields Auctioneers Corp. and any consignor of such property for whom Bonhams acts as agent. By participating in this sale, you agree to be bound by these terms and conditions.

If live online bidding is available for the subject auction, additional terms and conditions of sale relating to online bidding will apply; see Conditions of Website use at www.bonhams.com/WebTerms for the supplemental terms. As used herein, "Bonhams," "we" and "us" refer to Bonhams & Butterfields Auctioneers Corp.

1. As used herein, the term "bid price" means the price at which a lot is successfully knocked down to the buyer. The term "purchase price" means the aggregate of (a) the bid price, (b) a PREMIUM retained by us and payable by the buyer (the "buyer's premium"), EQUAL TO 28% OF THE FIRST $50,000 OF THE BID PRICE, PLUS 27% OF THE AMOUNT OF THE BID PRICE ABOVE $50,000 UP TO AND INCLUDING $1,000,000, PLUS 21% OF THE AMOUNT OF THE BID PRICE ABOVE $1,000,000 UP TO AND INCLUDING $6,000,000, PLUS 14.5% OF THE AMOUNT OF THE BID PRICE ABOVE $6,000,000, and (c) unless the buyer is exempt by law from the payment thereof, any Alabama, Arizona, California, Colorado, Connecticut, Florida, Georgia, Hawaii, Idaho, Illinois, Iowa, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Utah, Virginia, Washington, D.C., Washington state, West Virginia, Wisconsin, Wyoming or other state or local sales tax (or compensating use tax) and other applicable taxes. With regard to New York sales tax, please refer to the "Sales and Use Tax" section of these Conditions of Sale.

2. In order to bid at the sale, prospective bidders must submit to Bonhams a completed bidder registration and any other requested information or references. New bidders and bidders who have not recently updated their registration information must pre-register to bid at least two (2) business days before the sale. Individuals will be required to provide government-issued proof of identity and proof of address. Entity clients will be required to provide documentation including confirmation of entity registration showing the registered name, confirmation of registered address, documentary proof of officers and beneficial owners, proof of authority to transact on behalf of the entity and government-issued proof of identity for the individual who is transacting on the entity's behalf.

We may also request a financial reference and/or deposit from bidders before approving the bidder registration. In the event a deposit is submitted, and you are not the successful bidder, your deposit will be returned to you. If you are the successful bidder, any such deposit will be credited to offset the appropriate portion of the purchase price.

We reserve the right to request further information, including regarding the source of funds, in order to complete bidder identification and registration procedures (including completing any anti-money laundering and/or anti-terrorism financing checks we may require) to our satisfaction. If our bidder identification and registration procedures are not satisfied, we may, in our sole discretion, decline to register any bidder or reject any bid or cancel any sale to such bidder.

Every bidder shall be deemed to act as a principal unless prior to the commencement of the sale there is a written acceptance by Bonhams of a bidder registration form completed and signed by the principal which clearly states that the authorized bidding agent is acting on behalf of the named principal. Absent such written acceptance by Bonhams, any person placing a bid as agent on behalf of another (whether or not such person has disclosed that fact or the identity of the principal) may be jointly and severally liable with the principal under any contract resulting from the acceptance of a bid. Every bidder shall be responsible for any use of its assigned paddle or bidding account, regardless of the circumstances.

3. You represent and warrant that: (i) you have provided to us, or will provide upon request, true and correct copies of valid identification and proof of residence and, if applicable, financial and/or corporate documents; (ii) neither you, your principal (if applicable, and subject to Bonhams' prior written acceptance pursuant to section 2 above), nor any individual or entity with a beneficial or ownership interest in either the purchased property or in the purchase transaction is on the Specially Designated Nationals List maintained by the Office of Foreign Assets Control of the U.S. Department of the Treasury nor subject to any other sanctions or embargo program or regulation in effect in the United States, European Union, England and Wales, or other applicable jurisdictions (such programs and regulations, collectively, "Sanctions"); (iii) if you are acting as an agent for a principal, you have conducted appropriate due diligence into such principal, and agree that Bonhams shall be entitled to rely upon such due diligence, you will retain adequate records evidencing such due diligence for a period of five (5) years following the consummation of the sale, and will make these records available for inspection upon Bonhams' request; (iv) neither the purchase transaction (including your bidding activity) nor the purchase funds are connected with nor derive from any criminal activity, and they are not designed to nor have they or shall they, violate the banking, anti-money laundering, or currency transfer laws or other regulations (including without limitation, import-export laws) of any country or jurisdiction, or further any other unlawful purpose, including without limitation collusion, anti-competitive activity, tax evasion or tax fraud; and (v) property purchased by you or your principal (if applicable) hereunder is not and will not be transferred to or used in a country in contravention of any Sanctions.

You acknowledge and agree that we may rely upon the accuracy and completeness of the foregoing warranties.

4. On the fall of the auctioneer's hammer, the highest bidder shall have purchased the offered lot in accordance and subject to compliance with all of the conditions set forth herein and (a) assumes full risk and responsibility therefor, (b) if requested will sign a confirmation of purchase, and (c) will pay the purchase price in full or such part as we may require for all lots purchased. No lot may be transferred.

Unless otherwise agreed, payment in good, cleared funds is due and payable within five (5) business days following the auction sale. Whenever the buyer pays only a part of the total purchase price for one or more lots purchased, we may apply such payments or any deposits, in our sole discretion, to the lot or lots we choose. Payment will not be deemed made in full until we have received good, cleared funds for all amounts due. Title in any purchased property will not pass until full and final payment has been received by Bonhams. Accounts must be settled in full before property is released to the buyer. In the event property is released earlier, such release will not affect the passing of title or the buyer's obligation to timely remit full payment.

We reserve the right to refuse to accept payment from a source other than the registered bidder or buyer of record. Once an invoice is issued, we cannot change the buyer's name on an invoice.

Payment for purchases must be made in the currency in which the sale is conducted. Bonhams' preferred payment method is by wire transfer. For final purchases exceeding US $25,000, all payments must be in the form of wire transfer unless other arrangements have been approved in advance. For final purchases below US $25,000, payment may also be made in or by the following methods:

(i) Cash. Please note that the amount of cash that can be accepted from a given purchaser is limited to US $5,000 per auction sale (whether by single or multiple related payments). If the amount payable exceeds that sum, the balance must be paid by another method.

(ii) Cashier's check, money order, or personal check with approved credit drawn on a U.S. bank. A processing fee will be assessed on any returned checks.

(iii) Visa, MasterCard, American Express or Discover debit or credit card issued in the name of the purchaser or record. Only one debit or credit card may be used for payment of an account balance. This method of payment may not be available to first time purchasers.

To the fullest extent permitted by applicable law, the buyer grants us a security interest in the property, and we may retain as collateral security for the buyer's obligations to us, any property and all monies held or received by us for the account of the buyer, in our possession. We also retain all rights of a secured party under the Uniform Commercial Code (which shall mean the New York Uniform Commercial Code, except where the Uniform Commercial Code of another state governs the perfection of a security interest in collateral located in that state), and you agree that we may file financing statements without your signature. If the foregoing conditions or any other applicable conditions herein are not complied with, in addition to all other remedies available to us and the consignor by law, we may at our election: (a) hold the buyer liable for the full purchase price and any late charges, collection costs, attorneys' fees and costs, expenses and incidental damages incurred by us or the consignor arising out of the buyer's breach; (b) cancel the sale, retaining as liquidated damages all payments and deposits made by the buyer; (c) cancel the sale and/or resell the purchased property, at public auction and/or by private sale, and in such event the buyer shall be liable for the payment of all consequential damages, including any deficiencies or monetary losses, and all costs and expenses of such sale or sales, our commissions at our standard rates, all other charges due hereunder, all late charges, collection costs, attorneys' fees and costs, expenses and incidental damages; and/or (d) reveal the buyer's identity and contact details to the consignor. In addition, where two or more amounts are owed in respect of different transactions by the buyer to us, to Bonhams 1793 Limited and/or to any of our other affiliates, subsidiaries or parent companies worldwide within the Bonhams Group, we reserve the right to apply any monies paid in respect of a transaction to discharge any amount owed by the buyer. If all fees, commissions, premiums, bid prices and other sums due to us from the buyer are not paid promptly as provided in these Conditions of Sale, we reserve the right to impose a finance charge equal to 1.5% per month (or, if lower, the maximum nonusurious rate of interest permitted by applicable law), on all amounts due to us beginning on the 31st day following the sale until payment is received, in addition to other remedies available to us by law.

5. We reserve the right to withdraw any property and to divide and combine lots at any time before such property's auction. Unless otherwise announced by the auctioneer at the time of sale, all bids are per lot as numbered in the catalog and no lots shall be divided or combined for sale.

6. We reserve the right to reject a bid from any bidder, to split any bidding increment, and to advance the bidding in any manner the auctioneer may decide. In the event of any dispute between bidders, or in the event the auctioneer doubts the validity of any bid, the auctioneer shall have sole and final discretion either to determine the successful bidder, re-open the bidding, or to cancel the sale and re-offer and resell the article in dispute. If any dispute arises after the sale, our sales records shall be conclusive in all respects.

We further reserve the right to cancel the sale of any property if: (i) you are in breach of your representations and warranties as set forth in section 3 above; (ii) we, in our sole discretion, determine that such transaction might be unlawful or might subject Bonhams or the consignor to any liability to any third party; or (iii) there are any other grounds for cancellation under these Conditions of Sale.

Conditions of Sale - continued

7. If we are prevented by fire, theft or any other reason whatsoever from delivering any property to the buyer or a sale otherwise cannot be completed, our liability shall be limited to the sum actually paid therefor by the buyer and shall in no event include any compensatory, incidental or consequential damages.

8. All lots in the catalog are offered subject to a reserve unless otherwise indicated in the catalog. The ¤ symbol next to the lot number denotes no reserve. The reserve is the confidential minimum bid price at which such lot will be sold and it does not to exceed the low estimate value for the lot. If a lot is offered subject to a reserve, we may implement such reserve by bidding on behalf of the consignor, whether by opening bidding or continuing bidding in response to other bidders until reaching the reserve. If we have an interest in an offered lot and the proceeds therefrom other than our commissions, we may bid up to the reserve to protect such interest. If the auctioneer determines that any opening or subsequent bid is below the reserve for a lot, (s)he may reject such opening bid and withdraw the item from sale. CONSIGNORS ARE NOT ALLOWED TO BID ON THEIR OWN ITEMS.

9. Other than as provided in the Limited Right of Rescission with respect to identification of authorship, all property is sold "AS IS" and any statements contained in the catalog or in any advertisement, bill of sale, announcement, condition report, invoice or elsewhere as to period, culture, source, origin, media, measurements, size, quality, rarity, provenance, importance, exhibition and literature of historical relevance, merchantability, fitness for a particular purpose, or physical condition ARE QUALIFIED STATEMENTS OF OPINION AND NOT REPRESENTATIONS, WARRANTIES, OR ASSUMPTION OF LIABILITY. Neither Bonhams nor the consignor shall be responsible for any error or omission in the catalog description of any property. No employee or agent of Bonhams is authorized to make on our behalf or on that of the consignor any representation or warranty, oral or written, with respect to any property.

10. All purchased property shall be removed from the premises at which the sale is conducted by the date(s) and time(s) set forth herein, and, if applicable, as further specified in the "Buyer's Guide" portion of the catalog. Lots designated with a "W" and associated purchased lots, if not removed promptly following sale, will be transferred to an offsite warehouse at the buyer's risk and expense, as set forth in more detail in the "Buyer's Guide." Purchased property that is permitted to remain onsite at Bonhams' facility must be removed at the buyer's expense not later than 5:00 p.m. local time five (5) business days following the date of the sale. If not so removed, a storage fee of US $5.00 per lot per day will be payable to us by the buyer beginning at the close of the 14th day following the sale, and we may thereafter transfer such property to an offsite warehouse at the buyer's risk and expense.

Accounts must be settled in full before property will be released. Packing and handling of purchased lots are the responsibility of the buyer and at the buyer's entire risk, as are the identification, application for, and cost(s) of obtaining any necessary export, import, restricted material (e.g. endangered species) or other permit for such lots.

11. The copyright in the text of the catalog and the photographs, digital images and illustrations of lots in the catalog belong to Bonhams or our licensors. You will not reproduce or permit anyone else to reproduce such text, photographs, digital images or illustrations without our prior written consent. Bonhams and the consignor make no representation or warranty as to whether the buyer acquires any copyrights on the purchase of an item of property.

12. Bonhams may, in our discretion, as a courtesy and free of charge, execute bids on your behalf if so instructed by you, provided that neither Bonhams nor our employees or agents will be liable for any error or default (whether human or otherwise) in doing so or for failing to do so. Without limiting the foregoing, Bonhams (including our agents and employees) shall not be responsible for any problem relating to telephone, online, or other bids submitted remotely through any means, including without limitation, any human error, telecommunications or internet fault or failure, or breakdown or problems with any devices or online platforms, including third-party online platforms, regardless of whether such issue arises with our, your, or such third-party's technology, equipment, or connection. By participating at auction by telephone or online, bidders expressly consent to the recording of their bidding sessions and related communications with Bonhams and our employees and agents, and acknowledge their acceptance of these Conditions of Sale as well as any additional terms and conditions applicable to any such bidding platform or technology.

13. These Conditions of Sale shall bind the successors and assigns of all bidders and buyers and inure to the benefit of our successors and assigns. No waiver, amendment or modification of the terms hereof (other than posted notices or oral announcements during the sale) shall bind us unless specifically stated in writing and signed by us. No act or omission of Bonhams, its employees or agents, nor any failure thereof to exercise any remedy hereunder, shall operate or be deemed to operate as a waiver of Bonhams' rights under these Conditions of Sale. If any part of these Conditions of Sale is for any reason invalid or unenforceable, the rest shall remain valid and enforceable.

14. These Conditions of Sale and the buyer's and our respective rights and obligations hereunder shall be governed by and construed and enforced in accordance with the laws of the State of New York. Any dispute, controversy or claim arising out of or relating to this agreement, or the breach, termination or validity thereof, brought by or against Bonhams (but not including claims brought against the consignor by the buyer of lots consigned hereunder) shall be resolved by the procedures set forth below.

15. You accept and agree that Bonhams will hold and process your personal information and may share and use it as required by law and as described in, and in line with Bonhams' Privacy Policy, available online at http://www.bonhams.com/legals/9945/. If you desire access, update, or restriction to the use of your personal information, please email data.protection@bonhams.com.

SALES AND USE TAX

New York sales tax is charged on the hammer price, buyer's premium and any other applicable charges on any property collected or delivered in New York State, regardless of the state or country in which the buyer resides or does business. Buyers who make direct arrangements for collection by a shipper who is considered a "private" or "contract" carrier by the New York Department of Taxation and Finance will be charged New York sales tax, regardless of the destination of the property. Property collected for delivery to a destination outside of New York by a shipper who is considered a "common carrier" by the New York Department of Taxation and Finance (e.g. United States Postal Service, United Parcel Service, and FedEx) is not subject to New York sales tax, but if it is delivered into any state in which Bonhams is registered or otherwise conducts business sufficient to establish a nexus, Bonhams may be required by law to collect and remit the appropriate sales tax in effect in such state. Property collected for delivery outside of the United States by a freight-forwarder who is registered with the Transportation Security Administration ("TSA") is not subject to New York sales tax.

MEDIATION AND ARBITRATION PROCEDURES

(a) Within 30 days of written notice that there is a dispute, the parties or their authorized and empowered representatives shall meet by telephone and/or in person to mediate their differences. If the parties agree, a mutually acceptable mediator shall be selected and the parties will equally share the fees and expenses of mediation. The mediator shall be a retired judge or an attorney familiar with commercial law and trained in or qualified by experience in handling mediations. Any communications made during the mediation process shall not be admissible in any subsequent mediation, arbitration or judicial proceeding. All proceedings and any resolutions thereof shall be confidential, and the terms governing arbitration set forth in paragraph (c) below shall govern.

(b) If mediation does not resolve all disputes between the parties, or in any event no longer than 60 days after receipt of the written notice of dispute referred to above, the parties shall submit the dispute for binding arbitration before a single neutral arbitrator. Such arbitrator shall be a retired judge or an attorney familiar with commercial law and trained in or qualified by experience in handling arbitrations. Such arbitrator shall make all appropriate disclosures required by law. The arbitrator shall be drawn from a panel of a national or international arbitration service agreed to by the parties, and shall be selected as follows: (i) If the arbitration service has specific rules or procedures, those rules or procedures shall be followed; (ii) If the arbitration service does not have rules or procedures for the selection of an arbitrator, the arbitrator shall be an individual jointly agreed to by the parties. If the parties cannot agree on an arbitration service, the arbitration shall be conducted by Judicial Arbitration and Mediation Services, Inc. ("JAMS") or another national or international alternative dispute resolution ("ADR") provider of Bonhams' choice, and the arbitrator shall be selected in accordance with JAMS' Streamlined Arbitration Rules and Procedures or the rules of the other ADR provider selected by Bonhams. The arbitrator's award shall be in writing and shall set forth findings of fact and legal conclusions.

(c) Unless otherwise agreed to by the parties or provided by the published rules of the arbitration service:
- (i) The arbitration shall occur within 60 days following the selection of the arbitrator;
- (ii) The arbitration shall be conducted in New York, New York; and
- (iii) Discovery and the procedure for the arbitration shall be as follows:
  A. All arbitration proceedings shall be confidential;
  B. The parties shall submit written briefs to the arbitrator no later than 15 days before the arbitration commences;
  C. Discovery, if any, shall be limited as follows: (I) Requests for no more than 10 categories of documents, to be provided to the requesting party within 14 days of written request therefor; (II) No more than two (2) depositions per party, provided however, the deposition(s) are to be completed within one (1) day; (III) Compliance with the above shall be enforced by the arbitrator in accordance with New York law;
  D. Each party shall have no longer than eight (8) hours to present its position. The entire hearing before the arbitrator shall not take longer than three (3) consecutive days;
  E. The award shall be made in writing no more than 30 days following the end of the proceeding. Judgment upon the award rendered by the arbitrator may be entered by any court having jurisdiction thereof.

To the fullest extent permitted by law, and except as required by applicable arbitration rules, each party shall bear its own attorneys' fees and costs in connection with the proceedings and shall share equally the fees and expenses of the arbitration.

LIMITED RIGHT OF RESCISSION

If within one (1) year from the date of sale, the original buyer (a) gives written notice to us alleging that the identification of Authorship (as defined below) of such lot as set forth in the UPPERCASE TYPE heading of the catalog description of such lot (as amended by any saleroom notices or verbal announcements during the sale) is not substantially correct based on a fair reading of the catalog (including the terms of any glossary contained therein), and (b) within ten (10) days

after such notice returns the lot to us in the same condition as at the time of sale, and (c) establishes the allegation in the notice to our satisfaction (including by providing one or more written opinions by recognized experts in the field, as we may reasonably require), then the sale of such lot will be rescinded and, unless we have already paid to the consignor monies owed him in connection with the sale, the original purchase price will be refunded.

If, prior to receiving such notice from the original buyer alleging such defect, we have paid the consignor monies owed him in connection with the sale, we shall pay the original buyer the amount of our commissions, any other sale proceeds to which we are entitled and applicable taxes received from the buyer on the sale and make demand on the consignor to pay the balance of the original purchase price to the original buyer. Should the consignor fail to pay such amount promptly, we may disclose the identity of the consignor and assign to the original buyer our rights against the consignor with respect to the lot the sale of which is sought to be rescinded. Upon such disclosure and assignment, any liability of Bonhams as consignor's agent with respect to said lot shall automatically terminate.

The foregoing limited right of rescission is available to the original buyer only and may not be assigned to or relied upon by any subsequent transferee of the property sold. The buyer hereby accepts the benefit of the consignor's warranty of title and other representations and warranties made by the consignor for the buyer's benefit. Nothing in this section shall be construed as an admission by us of any representation of fact, express or implied, obligation or responsibility with respect to any lot. THE BUYER'S SOLE AND EXCLUSIVE REMEDY AGAINST BONHAMS FOR ANY REASON WHATSOEVER IS THE LIMITED RIGHT OF RESCISSION DESCRIBED IN THIS SECTION.

"Authorship" means only the identity of the creator, the period, culture and source or origin of the lot, as the case may be, as set forth in the UPPERCASE TYPE heading of the catalog entry for the lot. The right of rescission does not extend to: (a) works of art executed before 1870 (unless these works are determined to be counterfeits created since 1870), as this is a matter of current scholarly opinion which can change; (b) Chinese, Japanese and Korean paintings and calligraphy (unless, within twenty-one days of the sale of any such lot, the original purchaser gives written notice to Bonhams alleging that the lot is a counterfeit and within ten days after giving such notice returns the lot to us in the same condition as at the time of sale and demonstrates to our satisfaction that the lot is a counterfeit), as current scholarship in these respective fields does not permit unqualified statements as to Authorship or date of execution; (c) titles, descriptions, or other identification of offered lots, which information normally appears in lower case type below the UPPERCASE TYPE heading identifying the Authorship; (d) Authorship of any lot where it was specifically mentioned that there exists a conflict of specialist or scholarly opinion regarding the Authorship of the lot at the time of sale; (e) Authorship of any lot which as of the date of sale was in accordance with the then generally-accepted opinion of scholars and specialists regarding the same; or (f) the identification of periods or dates of creation in catalog descriptions which may be proven inaccurate by means of scientific processes that are not generally accepted for use until after publication of the catalog in which the property is offered or that were unreasonably expensive or impractical to use at the time of such publication.

For purposes of sections (a) and (b) above, "counterfeit" is defined as a work created with intent to deceive.

LIMITATION OF LIABILITY

EXCEPT AS EXPRESSLY PROVIDED ABOVE, ALL PROPERTY IS SOLD "AS IS." NEITHER BONHAMS NOR THE CONSIGNOR MAKES ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE MERCHANTABILITY, FITNESS OR CONDITION OF THE PROPERTY OR AS TO THE CORRECTNESS OF DESCRIPTION, GENUINENESS, ATTRIBUTION, PROVENANCE OR PERIOD OF THE PROPERTY OR AS TO WHETHER THE BUYER ACQUIRES ANY COPYRIGHTS OR OTHER INTELLECTUAL PROPERTY RIGHTS IN LOTS SOLD OR AS TO WHETHER A WORK OF ART IS SUBJECT TO THE ARTIST'S MORAL RIGHTS OR OTHER RESIDUAL RIGHTS OF THE ARTIST. THE BUYER EXPRESSLY ACKNOWLEDGES AND AGREES THAT IN NO EVENT SHALL BONHAMS BE LIABLE FOR ANY DAMAGES INCLUDING, WITHOUT LIMITATION, ANY COMPENSATORY, INCIDENTAL OR CONSEQUENTIAL DAMAGES. IN NO EVENT SHALL THE AGGREGATE LIABILITY OF BONHAMS AND ITS CONSIGNOR TO A PURCHASER EXCEED THE PURCHASE PRICE ACTUALLY PAID FOR A DISPUTED ITEM OF PROPERTY.

Buyer's Guide

BUYING AND BIDDING AT AUCTION

Whether you are an experienced bidder or an enthusiastic novice, auctions provide a stimulating atmosphere unlike any other. Bonhams previews and sales are free and open to the public. As you will find in these directions, bidding and buying at auction is easy and exciting. Should you have any further questions, please visit our website at www.bonhams.com or contact our Client Services Department at Tel: 1-800-959-4383 (toll free, within the US) or Tel: 1-908-707-0077 (outside the US).

Catalogs

Before each auction we publish illustrated catalogs. Our catalogs provide descriptions and estimated values for each "lot." A lot may refer to a single item or to a group of items auctioned together. The catalogs also include the dates and the times for the previews and auctions. We offer our catalogs by subscription or by single copy. For information on subscribing to our catalogs, you may refer to the subscription form in this catalog, call our Client Services Department, or visit our website at www.bonhams.com/us.

Previews

Auction previews are your chance to inspect each lot prior to the auction. We encourage you to look closely and examine each object on which you may want to bid so that you will know as much as possible about it. Except as expressly set forth in the Conditions of Sale, items are sold "as is" and with all faults; illustrations in our catalogs, website and other materials are provided for identification only. At the previews, our staff is always available to answer your questions and guide you through the auction process. Condition reports may be available upon request and are strongly recommended for all intending bidders who cannot view the property in person.

Estimates

Bonhams' catalogs include low and high value estimates for each lot, exclusive of the buyer's premium and tax. The estimates are provided as an approximate guide to current market value based primarily on previous auction results for comparable pieces, and should not be interpreted as a representation or prediction of actual selling prices. They are determined well in advance of a sale and are subject to revision. Please contact us should you have any questions about value estimates.

Reserve

Unless indicated by the ¤ symbol next to the lot number, which denotes no reserve, all lots in the catalog are subject to a reserve. The reserve is the minimum auction price that the consignor is willing to accept for a lot. This amount is confidential and does not exceed the low estimate value.

Auction House's Interest in Property Offered at Auction

On occasion, Bonhams may offer property in which it has an ownership interest in whole or in part or otherwise has an economic interest. Such property, if any, is identified in the catalog with a ▲ symbol next to the lot number(s). Bonhams may also offer property for a consignor that has been guaranteed a minimum price for its property by Bonhams or jointly by Bonhams and a third party. Bonhams and any third parties providing a guarantee may benefit financially if the guaranteed property is sold successfully and may incur a financial loss if its sale is not successful. Such property, if any, is identified in the catalog with a ○ symbol next to the lot number(s).

Bidding at Auction

You must be eighteen (18) years old or over to bid. At Bonhams, you can bid in many ways: in person, via absentee bid, over the phone, or via Bonhams' live online bidding facility. Absentee bids can be submitted in person, online, or via email. Irrespective of previous bidding activity a valid Bonhams' client account is required to participate in bidding activity. You will be required to provide government issued proof of identity, proof of residence, and if you are a company, your certificate of incorporation or equivalent documentation with your name and registered address, proof of your current address, documentary proof of your beneficial owners and directors, and proof of authority to transact. We may also request a financial reference and/or deposit from you before allowing you to bid. By bidding at auction, whether in person or by agent, by absentee bid, telephone, online or other means, the buyer or bidder agrees to be bound by the Conditions of Sale. Lots are auctioned in consecutive numerical order as they appear in the catalog. Bidding normally begins below the low estimate. The auctioneer will accept bids from interested parties present in the saleroom, from telephone bidders, and from absentee bidders who have left written bids in advance of the sale. The auctioneer may also execute bids on behalf of the consignor up to the amount of the reserve, but never above it. We assume no responsibility for failure to execute bids for any reason whatsoever.

In Person

If you are planning to bid at auction for the first time, you will need to register at the reception desk in order to receive a numbered bid card. To place a bid, hold up your card so that the auctioneer can clearly see it. Decide on the maximum auction price that you wish to pay, exclusive of buyer's premium and tax, and continue bidding until your bid prevails or you reach your limit. If you are the successful bidder on a lot, the auctioneer will acknowledge your paddle number and bid amount.

Absentee Bids

As a service to those wishing to place bids, we may at our discretion accept bids without charge in advance of auction online or in writing on bidding forms available from us. "Buy" bids will not be accepted; all bids must state the highest bid price the bidder is willing to pay. Our auction staff will try to bid just as you would, with the goal of obtaining the item at the lowest bid price possible. In the event identical bids are submitted, the earliest bid submitted will take precedence. Absentee bids shall be executed in competition with other absentee bids, any applicable reserve, and bids from other auction participants. A friend or agent may place bids on your behalf, provided that we have received your written authorization prior to the sale. Absentee bid forms are available in our catalogs, online at www.bonhams.com/us, at offsite auction locations and at our Los Angeles, San Francisco and New York galleries.

By Telephone

We can arrange for you to bid by telephone. To arrange for a telephone bid, please contact our Client Services Department a minimum of twenty-four (24) hours prior to the sale.

Online

We offer live online bidding for most auctions and accept absentee bids online for all our auctions. Please visit www.bonhams.com/us for details.

In order to bid online in a sale, you must be eighteen (18) years old or over and you must register to bid via MyBonhams.com. Once you have registered, you should keep your account details strictly confidential and not permit any third party to access your account on your behalf or otherwise. You will be liable for any and all bids made via your account. Please note payment must be made from a bank account in the name of the registered bidder.

Online Bidding Registration for Individuals: Enter your full name, email, residential address, date of birth and nationality and provide a valid credit card in your name which will be verified via Stripe before you are able to bid. If your credit card fails verification, you will not be permitted to bid and you should contact the Client Services Department for assistance. We may in addition request a financial reference and/or deposit from you prior to letting you bid. If you are bidding as agent on behalf of another party, you agree: (i) to disclose this fact to the Client Services Department; (ii) to provide such information as we require to enable us to complete bidder identification and registration procedures (including completing any anti-money laundering and/or anti-terrorism financing checks) on that third party; and (iii) that where your bid is successful, you are jointly and severally liable with that other party for the full amounts owing for the successful bid (whether or not you have disclosed that fact or the identity of the principal). Where you are the successful bidder for any lot with a hammer price equal to or in excess of US $10,000, and if you have not provided such documents previously, you will be required to upload or provide to the Client Services Department your government issued photo ID and (if not on the ID) proof of your address before the purchased lot can be released to you. Notwithstanding the foregoing, we reserve the right to request ID documentation from any bidder or buyer and to refuse to release any purchased lot until such documentation is provided.

Online Bidding Registration for Companies or Other Legal Entities: You must select the option to set up a business account and then provide your full name, email, residential address, date of birth and the full name of the entity. You must provide a credit card for verification either in your name or the name of the entity but payment must be made from an account in the entity's name. If your credit card fails verification, you will not be permitted to bid and should contact the Client Services Department for assistance. We may, in addition, require a bank reference or deposit prior to letting you bid. For all successful bids, we require the entity's certificate of formation/incorporation or equivalent documentation confirming the entity's name and registered address, documentary proof of each beneficial owner owning 25% or more of the entity, and proof of your authority to transact before the lot can be released to you.

We reserve the right to request any further information from any bidder that we may require in order to carry out any identification, anti-money laundering or anti-terrorism financing checks conducted by us. We may at our discretion postpone or cancel your registration, not permit you to bid and/or postpone or cancel completion of any purchase you may make.

Bid Increments

Bonhams generally uses the following increment multiples as bidding progresses:

$50-200.....by $10s

$200-500.....by $20/50/80s

$500-1,000.....by $50s

$1,000-2,000.....by $100s

$2,000-5,000.....by $200/500/800s

$5,000-10,000….....by $500s

$10,000-20,000.....by $1,000s

$20,000-50,000.....by $2,000/5,000/8,000s

$50,000-100,000.....by $5,000s

$100,000-200,000.....by $10,000s

above $200,000.....at auctioneer's discretion

The auctioneer may split or reject any bid at any time at his or her discretion as outlined in the Conditions of Sale.

Currency Converter

Solely for the convenience of bidders, a currency converter may be provided at Bonhams' auctions. The rates quoted for conversion of other currencies to U.S. Dollars are indications only and should not be relied upon by a bidder, and neither Bonhams nor its agents shall be responsible for any errors or omissions in the operation or accuracy of the currency converter.

Buyer's Premium

A buyer's premium is added to the winning bid price of each individual lot purchased, at the rates set forth in the Conditions of Sale. The winning bid price plus the premium constitute the purchase price for the lot. Applicable sales taxes are computed based on this figure, and the total becomes your final purchase price.

Unless specifically illustrated and noted, fine art frames are not included in the estimate or purchase price. Bonhams accepts no liability for damage or loss to frames during storage or shipment.

All sales are final and subject to the Conditions of Sale found in our catalogs, on our website, and available at the reception desk.

Payment

Payment may be made to Bonhams by cash, checks drawn on a U.S. bank, money order, wire transfer, or by Visa, MasterCard, American Express or Discover credit or charge card or debit card. All items must be paid for within five (5) business days of the sale. Please note that payment by personal or business check may result in property not being released until purchase funds clear our bank.

Buyer's Guide - continued

Sales Tax
Residents of states listed in section 1 of the Conditions of Sale must pay applicable sales tax. Other state or local taxes (or compensation use taxes) may apply. Sales tax will be automatically added to the invoice unless a valid resale number has been furnished or the property is shipped via common carrier to destinations outside the states listed in the Conditions of Sale. If you wish to use your resale license please contact the Client Services Department for our form.

Regulated Species Materials
The export of a lot from the United States or import into certain countries may be subject to export or import regulations, licensure and/or other restrictions; in particular, lots containing plant or animal materials such as tortoiseshell, coral, whalebone or certain types of woods, irrespective of age or value, may require the granting of one or more export or import licenses or certificates, or may be banned from import altogether by some countries. Moreover, the ability to obtain an export license or certificate does not ensure the ability to obtain an import license or certificate in another country. Lots that contain such regulated species materials may also not be eligible for exportation or for re-importation into the United States if they are not at least 100 years of age. In addition, resales of lots containing certain regulated species materials may be subject to restrictions in some jurisdictions.

Lots noted in the catalog with a "Y" next to the lot number contain one or more such regulated plant or animal materials, however lots containing regulated material may lack the Y notation. It is the buyer's responsibility to investigate any such restrictions and to obtain any relevant export or import licenses. Please note that this process is governed by local authorities and may take considerable time. Regardless of any delay in the obtaining of an export/import license or certificate or denial thereof, purchased lots shall be paid for in accordance with the Conditions of Sale, and any such delay or denial shall not serve as the basis for cancellation of any sale. Prospective buyers are advised to obtain information from the relevant regulatory authorities regarding export and import restrictions, requirements, and costs prior to bidding.

Prospective buyers should also check with their local (e.g. state) regulatory authorities regarding any local restrictions and/or permit requirements that may apply with respect to purchases of regulated species materials. Upon request, Bonhams may refer the purchaser to a third-party agent to assist the purchaser in attempting to obtain the appropriate licenses and/or certificates. However, there is no assurance that any necessary licenses or certificates can be obtained. Please contact the relevant Specialist Department for a suggested list of shipping agents prior to placing a bid if you are uncertain as to whether a lot is subject to export/import license or certificate requirements or related restrictions.

Collection of Purchases
Scheduling an appointment and payment in full prior to arrival will facilitate the quick release of your property. If you are sending a third party to collect, please provide details to our Client Services Department at invoices.us@bonhams.com prior to your scheduled pickup or we will be unable to release your property.

For your convenience, pre-allocated 30-minute collection time slots are available by appointment Monday through Friday between 9am – 4:30pm local time. To schedule collection of purchases, please contact our Client Services Department at Tel: 1-800-959-4383 (toll free, within the US) or Tel: 1-908-707-0077 (outside the US).

Shipping & Removal
Buyers are to review the Offsite Sold Property Storage section (below) for information regarding lots that will be removed to the offsite warehouse of Door To Door shortly after the sale. These designated lots must be collected by the buyer from Bonhams (at the designated premises where the sale occurred) prior to the day and time designated in the Offsite Sold Property Storage section, or from Door To Door thereafter. If buyers of these designated lots also buy other lots, these lots may also be removed to the warehouse of Door To Door, so all lots remain together and customers can collect or ship from one location. All other items will remain at Bonhams for a period of fourteen (14) days, after which time they may be transferred to offsite storage at the buyer's risk and expense.

For an additional fee, Bonhams may provide packing and shipping services for certain items. If you wish to receive a Bonhams' shipping quote, please indicate this at the time of registration. Carriers are not permitted to deliver to P.O. boxes.

International buyers are responsible for all import/export customs duties and taxes. An invoice stating the actual purchase price will accompany all international purchases.

Handling and Storage Charges
Storage charges of US $5 per lot, per day will begin accruing for any lots not collected within fourteen (14) calendar days of the auction.

Bonhams reserves the right to remove uncollected sold lots to the warehouse of Door To Door at the buyer's risk and expense. Handling and storage and Full Value Protection fees will apply, as further set forth in the Offsite Sold Property Storage section (below).

Offsite Sold Property Storage
All lots marked with a "W" in the catalogue are oversized and subject to additional storage and shipping as set forth below. Lots not so listed will remain at Bonhams; provided, however, THAT IF BUYERS OF W LISTED LOTS ALSO BUY OTHER NON-LISTED ITEMS, THESE OTHER LOTS WILL ALSO BE REMOVED TO THE WAREHOUSE OF DOOR TO DOOR, so that all lots remain together and buyers can collect their entire purchases from one location. For any questions please refer to the Bonhams Client Services Department.

A. NEW YORK Sales (and New York Online Sales). Unless you are otherwise notified:

- **W lots (and additional purchases) from sales occurring on *Tuesdays* and *Wednesdays*** will be transferred to offsite storage at Door To Door on the proximate *Thursdays*. You may collect W lots from Bonhams by 5pm Eastern Time on Wednesdays.

  Purchases will be available for collection on *Fridays* of the same week from Door To Door.

- **W lots (and additional purchases) from sales occurring on *Thursdays*, *Fridays* and *Mondays*** will be transferred to offsite storage at Door To Door on the proximate *Tuesdays*. You may collect W lots from Bonhams by 5pm Eastern Time on Mondays.

  Purchases will be available for collection on *Wednesdays* from Door To Door.

  Collections appointments must be booked twenty-four (24) hours in advance with Door To Door (subject to full payment of all outstanding amounts due to Bonhams and Door To Door).

  Address:
  Door To Door Services
  50 Tannery Rd
  Somerville, NJ 08876

B. LOS ANGELES Sales (and Los Angeles Online Sales)

- You will be notified in advance of the sale of the date and time of the removal of W lots (and additional purchases) to the Door To Door warehouse. Please be advised that removal may occur the day following the day of the sale.

  Collections appointments must be booked twenty-four (24) hours in advance with Door To Door (subject to full payment of all outstanding amounts due to Bonhams and Door To Door).

  Address:
  Door To Door Services
  6280 Peachtree St.
  Los Angeles, CA 90040

The transfer of lots to the warehouse of Door To Door is at the buyer's risk and expense. For sold lots removed to Door To Door, there will be transfer and Full Value Protection charges due immediately upon transfer and daily storage charges will begin to accrue five (5) business days after the transfer.

The per-lot charges of Door To Door Services are as follows (plus any applicable sales tax):

FURNITURE/LARGE OBJECTS
Transfer $75
Daily storage..... $10
Full Value Protection (on Hammer + Premium + tax) 0.3%

SMALL OBJECTS
Transfer $37.50
Daily storage..... $5
Full Value Protection (on Hammer + Premium + tax) 0.3%

Please note, Door To Door does not accept liability for damage or loss due to negligence or otherwise, exceeding the stated value of such goods, or at its option the cost of repairing or replacing the damaged or missing goods.

For more information regarding storage, shipping, or collection from Door To Door please contact Door To Door directly at auctions@dtdusa.com.

Payment
Payments for purchased lots must be made directly to Bonhams. Door To Door will not release property unless the buyer has paid Bonhams in full. All charges for handling and storage due to Door To Door must be paid by the time of collection from their warehouse. Payment may be made by cash, check, or credit card. Please contact Door to Door in advance to ascertain the amount due.

Lots will only be released from the Door To Door warehouse upon production of a "Release Order" obtained from the Cashier's Office at Bonhams.

The removal/storage and/or shipment by Door To Door of any lots will be subject to their standard Conditions of Business, which can be found at https://www.dtdusa.com/terms-and-conditions and are available upon request from the Bonhams Client Services Department or from Door To Door directly.

Auction Registration Form

(Attendee / Absentee / Online / Telephone Bidding)
Please circle your bidding method above.

Bonhams

Paddle number (for office use only)

General Notice: This sale will be conducted in accordance with Bonhams Conditions of Sale, and your bidding and buying at the sale will be governed by such terms and conditions. Please read the Conditions of Sale in conjunction with the Buyer's Guide relating to this sale and other published notices and terms relating to bidding.
Payment by personal or business check may result in your property not being released until purchase funds clear our bank. Checks must be drawn on a U.S. bank.

Notice to Absentee Bidders: In the table below, please provide details of the lots on which you wish to place bids at least 24 hours prior to the sale. Bids will be rounded down to the nearest increment. Please refer to the Buyer's Guide in the catalog for further information relating to instructions to Bonhams to execute absentee bids on your behalf. Bonhams will endeavor to execute bids on your behalf but will not be liable for any errors or non-executed bids.

Notice to First Time Bidders: New clients are requested to provide photographic proof of ID - passport, driving license, ID card, together with proof of address - utility bill, bank or credit card statement etc. Corporate clients should also provide a copy of their articles of association / company registration documents, together with a letter authorizing the individual to bid on the company's behalf. Failure to provide this may result in your bids not being processed. For higher value lots you may also be asked to provide a bankers reference.

Notice to online bidders; If you have forgotten your username and password for www.bonhams.com, please contact Client Services.

If successful
I will collect the purchases myself ☐
Please contact me with a shipping quote (if applicable) ☐
I will arrange a third party to collect my purchase(s) ☐

Please email the completed Registration Form and requested information to:
Bonhams Client Services Department
7601 W. Sunset Blvd
Los Angeles, California 90046
Tel +1 (323) 850 7500
bids.us@bonhams.com

Sale title: Space History	**Sale date:** 8 - 18 July 2023
Sale no. 29177	**Sale venue:** Los Angeles

General Bid Increments:

$10 - 200 .....by 10s	$10,000 - 20,000 .....by 1,000s
$200 - 500 .....by 20 / 50 / 80s	$20,000 - 50,000 .....by 2,000 / 5,000 / 8,000s
$500 - 1,000 .....by 50s	$50,000 - 100,000 .....by 5,000s
$1,000 - 2,000 .....by 100s	$100,000 - 200,000 .....by 10,000s
$2,000 - 5,000 .....by 200 / 500 / 800s	above $200,000 .....at the auctioneer's discretion
$5,000 - 10,000 .....by 500s	The auctioneer has discretion to split any bid at any time.

Customer Number	Title
First Name	Last Name
Company name (to be invoiced if applicable)	
Address	
City	County / State
Post / Zip code	Country
Telephone mobile	Telephone daytime
Telephone evening	

Telephone bidders: indicate primary and secondary contact numbers by writing ① or ② next to the telephone number.

E-mail (in capitals) _____

By providing your email address above, you authorize Bonhams to send you marketing materials and news concerning Bonhams and partner organizations. Bonhams does not sell or trade email addresses.

I am registering to bid as a private client ☐ | I am registering to bid as a trade client ☐

Resale: please enter your resale license number here
_____ We may contact you for additional information.

SHIPPING

Shipping Address (if different than above):

Address: _____ Country: _____

City: _____ Post/ZIP code: _____

Please note that all telephone calls are recorded.

Type of bid (A-Absentee, T-Telephone)	Lot no.	Brief description (In the event of any discrepancy, lot number and not lot description will govern.) If you are bidding online there is no need to complete this section.	MAX bid in US$ (excluding premium and applicable tax) Emergency bid for telephone bidders only*

You instruct us to execute each absentee bid up to the corresponding bid amount indicated above.

* Emergency Bid: A maximum bid (exclusive of Buyer's Premium and tax) to be executed by Bonhams only if we are unable to contact you by telephone or should the connection be lost during bidding.

BY SIGNING THIS FORM YOU AGREE THAT YOU HAVE READ AND UNDERSTAND OUR CONDITIONS OF SALE AND SHALL BE LEGALLY BOUND BY THEM, AND YOU AGREE TO PAY THE BUYER'S PREMIUM, ANY APPLICABLE TAXES, AND ANY OTHER CHARGES MENTIONED IN THE BUYER'S GUIDE OR CONDITIONS OF SALE. THIS AFFECTS YOUR LEGAL RIGHTS.

Your signature:	Date:



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AUCTIONEERS SINCE 1793