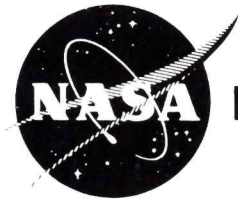
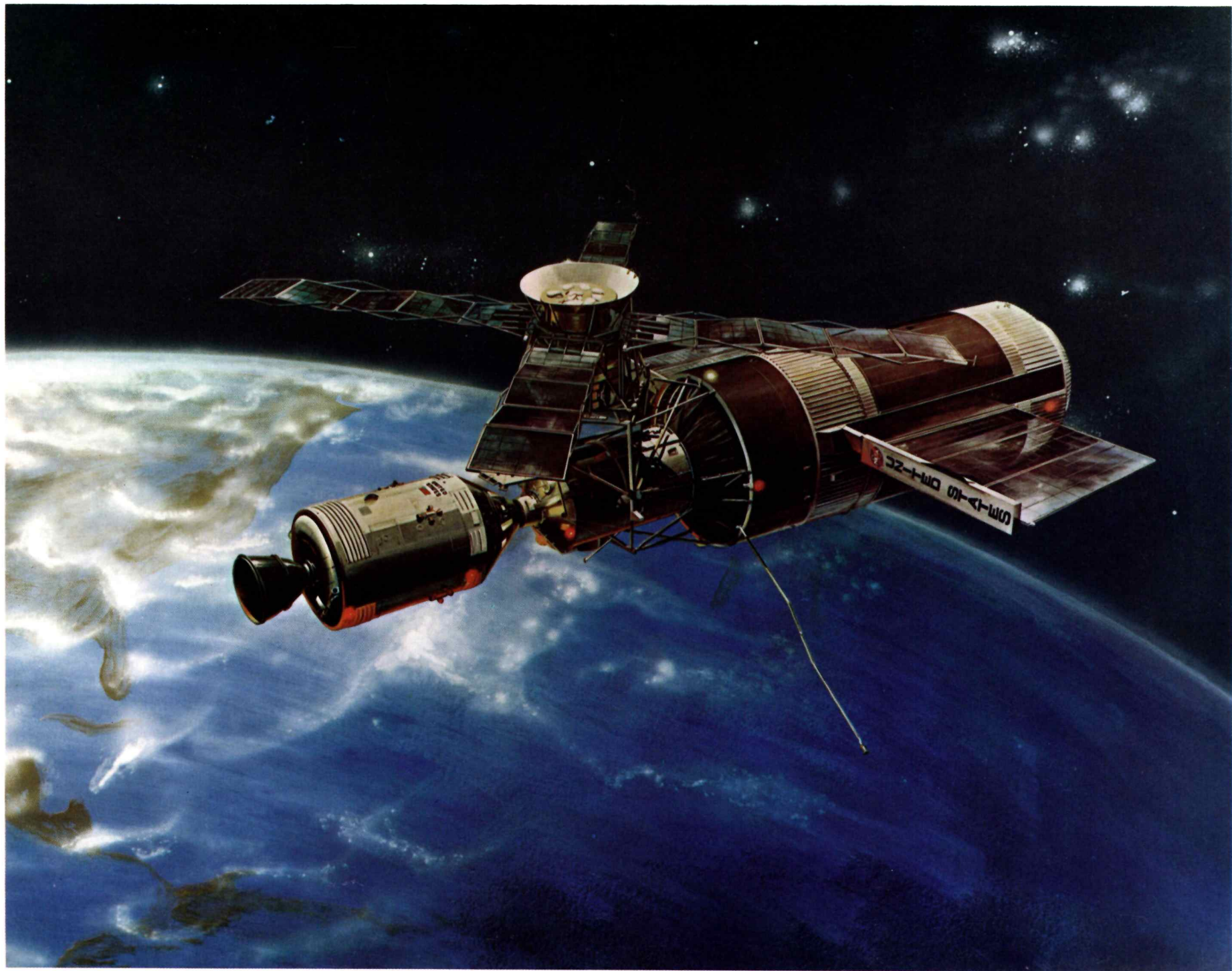


LAUNCHES OF SKYLAB 1 & SKYLAB 2



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

SKYLAB 1 & 2 LIFTOFFS—A composite of two photographs showing the launches of the Skylab 1 (on left) and Skylab 2 missions. Four components of the Skylab space station were the payload for the unmanned Skylab 1 space vehicle. The Skylab 2 space vehicle launched the Command/Service Module with the three crewmen aboard into Earth orbit. The CSM is the fifth major component of the space station. The Skylab 1/Saturn V space vehicle was launched from the Kennedy Space Center on May 14, 1973. The Skylab 2/Saturn 1B space vehicle, with Astronauts Charles Conrad Jr., Joseph P. Kerwin and Paul J. Weitz aboard, was launched from KSC on May 25, 1973. Note the launch escape tower on the manned Skylab 1 space vehicle.



SKYLAB — MANNED ORBITAL SCIENTIFIC SPACE STATION



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

SKYLAB

MANNED ORBITAL SCIENTIFIC SPACE STATION

Skylab is the name of an experimental space station program of the National Aeronautics and Space Administration (NASA). An extension of the manned Mercury-Gemini-Apollo space programs, the Skylab Program will make extensive use of the hardware and technological knowledge developed during those previous missions.

The Skylab Program is designed to expand our knowledge of manned earth-orbital operations and to accomplish carefully selected scientific, technological, and medical investigations.

Three groups of experiments are of particular importance: an earth resources experiment package designed for investigating and application of remote sensing of the earth resources, a series of medical experiments associated with the careful extension of man's living and working in space for longer periods of time, and several high-resolution astronomical experiments for studying the sun at short wavelengths not observable from the earth.

The Skylab Program, scheduled to begin in 1973, will consist of earth-orbital missions--approximately 235 nautical miles altitude--using the payload of the Saturn V and Saturn IB launch vehicles. The series of missions will begin with the orbital insertion of an unmanned Saturn workshop (SWS). This will be followed by three manned missions using a Saturn IB and an Apollo command and service module (CSM) that will rendezvous and dock with the SWS. The first manned mission is scheduled on the day following the orbital insertion of the workshop. The crew will enter the assembly and stay up to 28 days. The crew will enter the CSM, undock, and return to Earth leaving the SWS in orbit. This will be followed by two subsequent manned missions of up to 56 days duration each.

Because of the unique design, which incorporates the huge third stage of the Saturn V launch vehicle and provides an orbital facility equal in volume to a medium-sized home, the

program is expected to provide the United States with the capability to develop and maintain permanent space stations that will be of increasing benefit to mankind.

The goal of the Skylab Program is the accomplishment of four basic objectives.

1. Scientific investigations in earth orbit. --These investigations are designed to take advantage of space operations to learn more about the universe, the space environment, the phenomena that exist in the solar system, and the manner in which these phenomena influence our earth environment.
2. Applications in earth orbit. --Applications experiments include the development and evaluation of efficient techniques using man for sensor operation, discrimination, data selection and evaluation, control, maintenance and repair, assembly and setup, and mobility. These experiments include studies in meteorology, earth resources, and communications.
3. Long-duration space flights of men and systems. --The unique capabilities of man as a participant in space flight activities will be exploited in the Skylab Program. Techniques are being developed for measuring the life-support systems and subsystems of space vehicles. Man's psychological responses and aptitudes in space will be evaluated and his postmission readaptation to the terrestrial environment will be analyzed as a function of progressively longer missions.
4. Effective and economical development of future space programs. --The Skylab missions will give man the capability to operate in space for increasingly longer periods of time. The technology developed will provide the basis for the design and development of future long-duration space stations.



C. CONRAD



J. KERWIN



P. WEITZ



A. BEAN



O. GARRIOTT



J. LOUSMA



G. CARR



E. GIBSON



W. POGUE



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

CREWS FOR SKYLAB

THE MANNED ORBITAL SCIENTIFIC SPACE STATION

Skylab, a 100-ton manned orbital scientific space station, is scheduled to be launched and placed in near-earth orbit early in 1973. The Program is designed to expand our knowledge of Manned Earth Orbital Operations and to accomplish selected scientific, technological, and medical investigations.

The first flight, designated Workshop Launch, will be unmanned and will be used to place the space station in orbit. It will be followed over an eight-month period by three manned flights which will take the crews to and from the orbital laboratory.

Three-man crews will go aloft for each of the manned flights — the first will last up to 28 days; the other two will be up to 56 days. The crews will include a commander, science pilot and pilot. They have been selected on the basis of astronautical, scientific and medical skills.

Prime crewmen for the First Skylab Mission are Charles Conrad, Jr., Commander, Joseph P. Kerwin, Science Pilot, and Paul J. Weitz, Pilot. Conrad, a U. S. Navy captain, flew on Gemini V and XII flights, and was commander of Apollo 12 with a total of 506 hours in space. Kerwin is a doctor of medicine from the Northwestern University and a commander in the U. S. Navy Medical Corps. Weitz holds a masters degree in aeronautical engineering from the U. S. Naval Postgraduate School. Both Kerwin and Weitz will be making their first trip into space.

Prime crewmen for the Second Skylab Mission are Alan L. Bean, Commander, Owen K. Garriott, Science Pilot, and Jack R. Lousma, Pilot. Bean was lunar module pilot on Apollo 12. He graduated from the University of Texas with

a degree in aeronautical engineering and is a U. S. Navy captain. Garriott, Science Pilot, holds a doctorate in electrical engineering. Lousma, a Marine major, has aeronautical engineering degrees from the University of Michigan and the U. S. Naval Postgraduate School. Neither Garriott nor Lousma have flown in space.

The Third Skylab Mission prime crew will consist of three space rookies. Commander, Gerald P. Carr is a U.S. Marine lieutenant colonel with a masters degree in aeronautical engineering from Princeton University. Science Pilot, Edward G. Gibson, has a doctorate in engineering and minor in physics from California Institute of Technology. William R. Pogue, Pilot, is an Air Force lieutenant colonel with a masters degree in mathematics from Oklahoma State University.

Backup crewmen for the First Skylab Mission are Russell L. Schweickart, Story Musgrave and Bruce McCandless, III. The backup team for the Second and Third Skylab Missions will be Vance D. Brand, William B. Lenoir and Don L. Lind.

The crew's day will be a busy one with activation of systems, housekeeping, and other flight functions. Approximately 28 percent of their time will be devoted to conducting experiments and keeping records. In addition, the crew will have eight hours of sleep and the rest of the time will be taken up with eating, personal hygiene, rest and recreation.

The temperature outside the Skylab will vary between 200° Fahrenheit above to 200° below zero, but inside the Skylab, the crew will have shirt-sleeve environment.

After the first 28 days, the crew will have accumulated over a half ton of experiment film, specimens and records to stow and bring back to earth in the Apollo command module.



C. CONRAD

J. KERWIN

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O. GARRIOTT

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G. CARR

SKYLAB PRIME CREWS



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

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PRIME CREW OF FIRST MANNED SKYLAB MISSION
Joseph P. Kerwin Charles Conrad, Jr. Paul J. Weitz



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

FIRST MANNED SKYLAB CREW—These three astronauts are the prime crew of the first manned Skylab mission. They are, left to right, Joseph P. Kerwin, science pilot; Charles Conrad, Jr., commander; and Paul J. Weitz, pilot. The model depicts the Skylab space station cluster. Skylab will evaluate systems and techniques designed to gather information on Earth resources and environmental problems. Solar telescopes will increase man's knowledge of our Sun and the multitude of solar influences on Earth environment. Medical experiments will increase knowledge of man himself and his relationship to his earthly environment and adaptability to space flight. Additionally, Skylab will experiment with industrial processes which may be enhanced by the unique weightless, vacuum environment of orbital space flight. The first manned mission will last up to 28 days.

LIFE ABOARD THE SKYLAB SPACE STATION IN EARTH ORBIT



GARRIOTT PREPARES A MEAL



BEAN, LOUSMA IN MDA



KERWIN READY FOR A NAP



WEITZ, CONRAD WORK IN SPACE



GIBSON AT ATM CONSOLE



POGUE, CARR FLOAT IN MDA



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

KERWIN READY FOR A NAP

Scientist-Astronaut Joseph P. Kerwin, Skylab 2 science pilot, is strapped into a sleep restraint aboard the Skylab space station in Earth orbit. Kerwin is in the Orbital Workshop crew quarters. Kerwin is wearing the special cap which contains biomedical instrumentation for the M133 Sleep Monitoring Experiment. The purpose of the M133 experiment is to evaluate quantity and quality of sleep during prolonged space flight by the analysis of electroencephalographic (EEG) and electrooculographic (ECG) activity. This picture was taken with a hand-held 35mm Nikon camera.

BEAN, LOUSMA IN MDA

Astronauts Alan L. Bean (left) and Jack R. Lousma are photographed in the Multiple Docking Adapter (MDA) during activity aboard the Skylab space station in Earth orbit. Bean is the Skylab 3 commander, and Lousma is the Skylab 3 pilot. This picture was taken by Scientist-Astronaut Owen K. Garriott, Skylab 3 science pilot, using a hand-held 35mm Nikon camera. The three crewmen remained at the space station for a total of 59 days.

GARRIOTT PREPARES A MEAL

Scientist-Astronaut Owen K. Garriott, Skylab 3 science pilot, reconstitutes a pre-packaged container of food in this scene of life aboard the Skylab space station in Earth orbit. Garriott is at the wardroom table in the crew quarters of the Skylab Orbital Workshop. This picture was taken with a hand-held 35mm Nikon camera. The Skylab crewmen had an assortment of some 70 items, including ready-to-eat, rehydratable and frozen foods, from which to choose their meals.

POGUE, CARR FLOAT IN MDA

Astronauts William R. Pogue (left) and Gerald P. Carr float in the zero-gravity of space aboard the Multiple Docking Adapter (MDA) of the Skylab space station in Earth orbit. Carr is the Skylab 4 commander, and Pogue is the Skylab 4 pilot. This picture was taken by Scientist-Astronaut Edward G. Gibson, Skylab 4 science pilot, using a hand-held 35mm Nikon camera. The three Skylab 4 crewmen lived in the weightless environment for a total of 84 days.

GIBSON AT ATM CONSOLE

Scientist-Astronaut Edward G. Gibson, Skylab 4 science pilot, is photographed standing at the Apollo Telescope Mount console in the Multiple Docking Adapter of the Skylab space station in Earth orbit. The picture was taken with a hand-held 35mm Nikon camera. This control and display console served as the control center for the Apollo Telescope Mount experiments and systems. The Multiple Docking Adapter functioned as a major experiment control center for solar observations, metals and materials processing, and Earth resources experiments.

WEITZ, CONRAD WORK IN SPACE

Astronauts Paul J. Weitz (left) and Charles Conrad, Jr. are photographed going over work checklists in the Multiple Docking Adapter (MDA) during activity aboard the Skylab space station in Earth orbit. Conrad is the Skylab 2 commander, and Weitz is the Skylab 2 pilot. This picture was taken by Scientist-Astronaut Joseph P. Kerwin, Skylab 2 science pilot, using a hand-held 35mm Nikon camera.