

# SPACE WORLD

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## APOLLO



**R**ising majestically toward the sky at the center of World's Fair Space Park is a 95-foot 4-inch Mercury Atlas weighing about 260,000 pounds capable of developing 360,000 pounds of thrust. This real-life vehicle is complete with capsule and escape tower and capable of placing an astronaut into orbit. It can place a 500-pound payload into a 300-nautical-mile orbit or rocket a 60-pound probe to the Moon. The 90-foot Thor-Delta Rocket nearby can generate 172,000 pounds of thrust, boasts 22 successful launchings including such satellites as TIROS, ECHO, ARIEL 1, TELSTAR, RELAY and SYNCOM. Perhaps the most fascinating pieces of hardware in Space Park is the mammoth "business end" of the Saturn V Moon Rocket. This 85-foot tall "boattail" propulsion section has 5 ten-ton engines capable of a total thrust of 7.5 million pounds. When this "boattail" section is completely assembled with all three stages and the Apollo spacecraft on top towers 360 feet into the air! All three



## The WORLD of SPACE at the WORLD'S FAIR

By William Ronson

of these vehicles are in the open and may easily be photographed. Close by the base of the Saturn is a life-sized Apollo Command Module and the Lunar Excursion Module (LEM). A full scale Gemini Space Capsule is located near the 110-foot-tall Titan II complete with the Gemini capsule. At the center of the area having the Gemini capsule is Aurora 7, the actual spacecraft in which Scott Carpenter made his 3 orbit mission on May 24, 1962. Part of the heat shield has been removed, showing the intricate wiring of the base of the capsule, while one can notice the effect of re-entry heat where part of the lettering has been seared. The opportunity to observe and stand alongside the first type American

spacecraft to orbit the earth should not be missed by anyone coming to the Fair.

Another full-scale vehicle is the Agena developed by the U.S. Air Force, the first orbiting satellite to eject an instrumented capsule. Agena B sent Mariner II past the planet Venus and Ranger IV on her Moon mission. Agena will be used in the Gemini program as the rendezvous docking target in space. Close by is Discoverer XIV ejected by Agena and the first satellite to be snared in mid-air by an Air Force C-119 flying at 8,000 feet near Hawaii on August 19, 1960. Other interesting satellite life-sized exhibits are MARINER II, OSO, OGO, SYNCOM, ALOUETTE, ECHO I, NIMBUS, SUR-

VEYER, RELAY, TIROS, ARIEL, TELSTAR, and a BIOSATELLITE with plastic sections for observing the structure and experiments aboard. One of the main attractions in Space Park is a full-scale model of the X-15 rocket-plane mounted off the ground as in flight. All vehicles, satellites, and the X-15 lend themselves to excellent photographs. Film and cameras are available throughout the Fair area.

One very interesting life-sized model that should be mentioned is the "space shuttle". This is a jet-propelled inter-satellite transfer craft designed for hauling cargo and personnel between orbiting spacecraft and for assembling structures in space. It is 6 feet





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## WORLD of SPACE

### at the WORLD'S FAIR

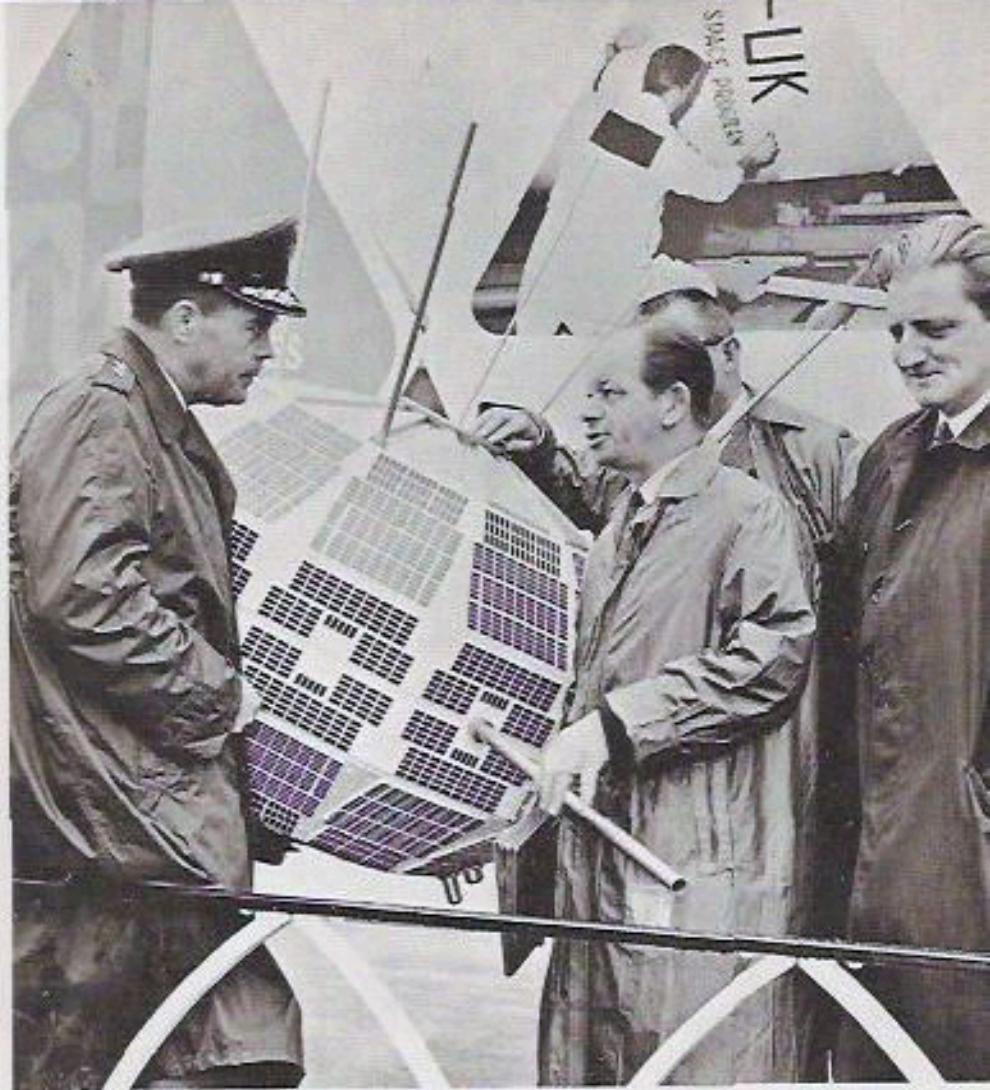
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as 3 mechanical arms, and complete with its own radar and power. This realistically vehicle was developed by Air Aeronautical Systems Division technicians.

Hall of Science houses a "Key Into Space" exhibit presented by the Martin-Marietta Corporation that appears to take visitor to a space station 350 miles away from Earth. Ten other companies present displays related to advancement in science building.

Displays and space exhibits are seen throughout the Fair. Climb into SPACE WORLD'S Fair- and we'll take a quick tour. The first to Space Park is the enormous Ford building. In Ford's "Hall of Science" are colorful exhibits related to space communications developed by the Philco Corporation (a Ford subsidiary). A radio telescope picks up the signals of stars, life detection apparatus for Venus and Mars are shown, and a demonstration of the light can be observed. The Transportation and Travel Building

96-foot-high Moon Dome which shows accurate relief of the surface of the Moon. A small admission fee takes you on a 360-degree cinematic trip "To The Moon Beyond" shown on a concave screen that encircles the audience. After, the first automotive company to obtain big missile contracts for \$50 million, has a giant Saturn Rocket mounted in the center of a pool spraying millions of water which is in a fine spray. Chrysler Corporation built the bottom sections for the Saturn rocket. General Motors is one pavilion to be seen both at day and night. This is a cameraman's paradise with one changes of light across 110-foot canopy. GM takes you on a Moon Voyage past scale models of craters and canyons dotted with "lunar crawlers". In GM's "Hall of Progress" can be seen a cosmic space chamber and applications of Solar Energy. The



Maj. General Fuller Bailey, USAF with Lt. Col. Shorty Powers in SPACE PARK. Mr. O. B. Lloyd Jr., behind Powers and Mr. Edward Pearce, NASA.

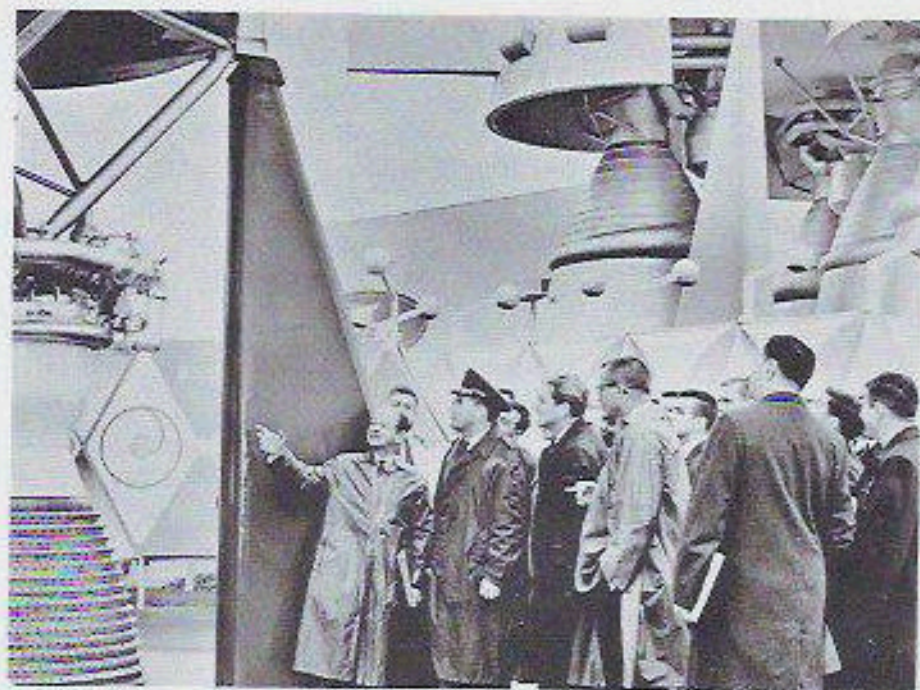
SKF Pavilion shows a history of Motion Engineering beginning with the wheel and ending with Rockets. SINCLAIR's 45-foot-long exhibit depicts earth development 4.5 billions of years ago complete with erupting volcanoes, flashing lightning, and bubbling streams, the appearance of marine life and the formation of oil 600 million years ago.

In the United States Pavilion a "Challenge to Greatness" theme presents America's past and future to a Landing On the Moon. State Pavilions having space displays are New Mexico, the home of White Sands, New England's "Walk On The Moon" and a reproduction of Dr. Robert Goddard's first successful liquid propellant rocket fired at Auburn, Massachusetts in 1926. In the Missouri pavilion is a copy of Lindberg's "Spirit of St. Louis", a replica of Glenn's space capsule

and a full-sized Gemini 2-man spacecraft built by McDonnell Aircraft. The Westinghouse building displays the new time capsule to be deposited in the ground at the end of the World's Fair for 5,000 years. This new time capsule (one was deposited in the earth at the close of the 1939 World's Fair) will include a record of the first manned flights into space and related material.

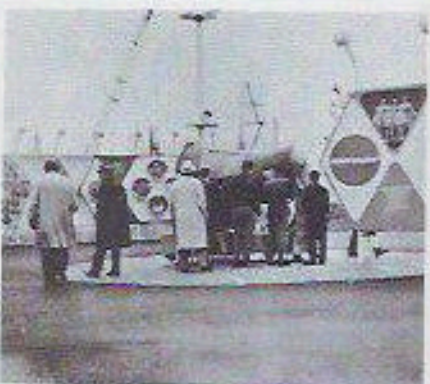
The Industrial Area has a "Birth Of The Earth" exhibit at the Travelers Insurance Pavilion. An 80-foot walkway shows, along its length, a glass and plastic mural of the origin of our planet. Bell Systems takes you on a 15-minute armchair ride in a "floating wing" showing advances in communications (space included) and a life-sized TELSTAR Satellite. General Electric's "Corridor of Mirrors" has giant photos of engineers work-





Lt. Col. Shorty Powers and Maj. General Fuller Bailey, USAF in SPACE PARK, N.Y. World's Fair and group of Space Park Guides who have just completed their course, near G-Titan-missile. Left to Right Shorty Powers, Maj. Gen. Fuller Bailey, USAF, Mr. Edward Pierce, NASA and Mr. O.B. Lloyd Jr., NASA. (Public Affairs Chief.)

Miscellaneous photos of the fair.



ing on laser rays, space technology and nuclear experiments. A Sky Dome spectacular, using a new technique, continuously changes the scene from electrical storms to spinning atoms introducing one of the prime attractions at the Fair. This is a demonstration of controlled nuclear fission, a sight not to be missed! The Better Living Building has many examples of man's technological achievements including application of these advancements in the home.

The Better Living Building houses an attractive and large display of philatelic material, stamps and envelopes on the space age from June until October. The display will include the First Official Missile Mail of The United States and other missile flown covers. Kodak provides a comprehensive explanation of the science of photography and a "lunar roof" for pictures of the visitors "in space".

The DuPont pavilion devotes itself to the "Wonderful World of Chemistry" with space theme applications presented to the tune of a musical revue.

The Fair Grounds boasts many attractive sights such as the Unisphere, the biggest steel map of



the earth ever constructed, produced by U.S. Steel. Looking straight ahead from the Unisphere can be seen the famous statue of the Man Throwing a Rocket which appears on the World's Fair Postage Stamp, and beyond the Fountain of The Planets. This magnificent fountain sends 10,000 tons of water into the air in different patterns to a height of 150 feet while rockets are released from 450 launchers. This fountain covers 25,000 square feet. There are also Lunar and Solar Fountains, the Court of The Stars, and the Astral Fountains. All are beautifully lit at night. This show is really in the space age! COME TO THE FAIR!

