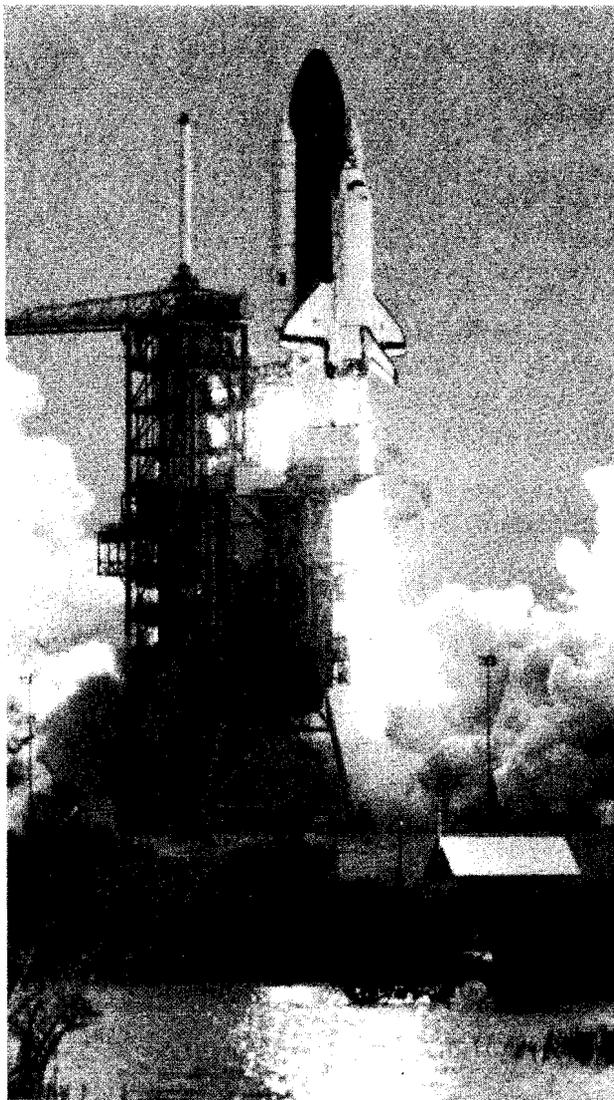


Goddard Space Flight Center Greenbelt, Md.

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*STS-3 Commander Jack Lousma (l)
STS-3 Pilot Charles G. Fullerton (r)*



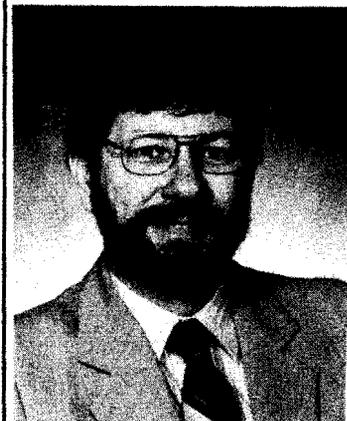
STS-3 launch at the Cape



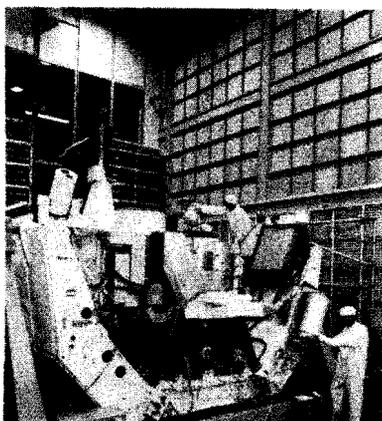
*Kenneth Kissin, mission
manager, OSS-1*



*Dr. Werner Neupert, mission
scientist, OSS-1*



*James S. Barrowman, project
manager, "Getaway Special"*



OSS-1 payload pallet

Please pass on to all Goddard personnel my congratulations and thanks for their brilliant work on STS-3. STS-3 was another in the series of successes that have distinguished the Space Shuttle program and have brought to NASA the plaudits of the free world. The credit for this success belongs to every member of the NASA team, government and contractor--irrespective of grade, skill, or organization. It points the way to similar achievement and success for our future missions.

*--- Associate Administrator for Space
Transportation Systems, NASA HQ,
James A. Abrahamson*

Columbia carried science and performance investigations on third flight

OSS-1 is the shorthand name for the STS-3 payload managed by Goddard which included eight experiments mounted on a U shaped pallet tucked inside the orbiter's 60ft cargo bay, plus another experiment located in the cabin area.

Six of the experiments provided needed new data on the orbiter's environment in space, and the changes caused by the presence of the orbiter itself. These measurements provided valuable scientific data on the near-Earth environment. Two other experiments studied the Sun, and another investigation studied plant growth in zero-gravity. Here's a summary of the OSS-1 experiments:

Shuttle-Spacelab Induced Atmosphere Experiment (SSIA)

The SSIA experiment measured the optical properties of the orbiter's "atmosphere," also called its contaminant cloud. Astronomers need to know how much the particles could degrade the view for their instruments--a speck of dust in the field of view can be mistaken for a star.

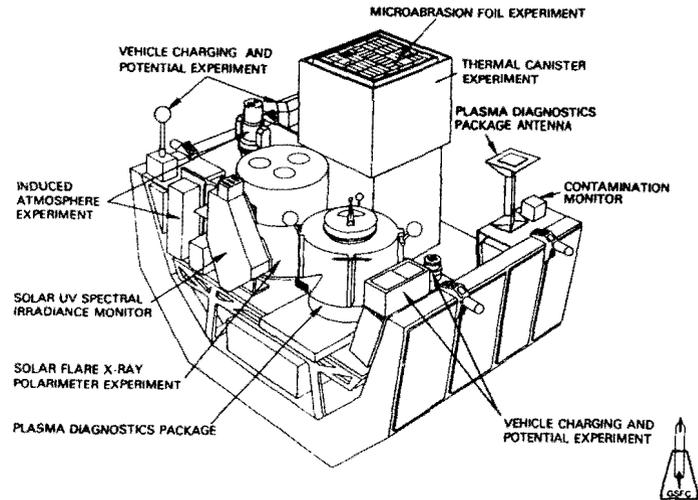
Vehicle Charging and Potential Experiment (VCAP)

Over 90 percent of Columbia's surface is covered with nonconducting materials where electrical charges might build up. This could give experiments false electrical readings. The VCAP experiment looked at how these charges accumulated and the resulting changes in the orbiter's electrical potential (voltage relative to the surrounding ionosphere). Also, a Fast-Pulse Electron Gun shot electron beams to induce changes in the potential.

Plasma Diagnostics Package (PDP)

The purpose of the PDP was to define the electromagnetic environment around the orbiter so that scientists can take those conditions into account when they interpret data from future plasma experiments. The orbiter's movement is likely to create a wake in the ionosphere, distorting electromagnetic fields and plasma.

OSS-1 PALLET MOUNTED INSTRUMENTS



Microabrasion Foil Experiment (MFE)

The MFE measured micrometeoroids in interplanetary space that impact foil-covered sensor panels in Columbia's cargo bay. Scientists can study the panels for the size and shape of micrometeoroid craters and any captured particles.

Contamination Monitor Package (CMP)

This experiment monitored the buildup of volatile materials inside the orbiter's cargo bay during launch, orbital operations and landing. Data will be correlated with Shuttle and payload operations, degradation of the OSS-1 instruments' performance and results from the Induced Environment Contamination Monitor.

Thermal Canister Experiment (TCE)

Experiments exposed to an airless space environment experience harsh extremes of temperature. In sunlight, temperatures may reach a scorching 200°C (400°F), while just around the corner in the shade, it's a frigid -200°C (-330°F).

On Earth, heat pipes control temperatures effectively. The TCE studied how this technology works in the weightlessness of space. The heat pipes can absorb excess heat produced by an experiment and carry it

Continued to page 8

STS-3 countdown smoothest yet***Columbia treks over three million miles, lands after eight days in space at White Sands, New Mexico***

Over a million people gathered at the Cape March 22 to witness the third successful launch of the world's first reusable space transportation system. The third test flight of the Columbia drew more than the previous record crowd at the last Apollo launch in 1972.

The STS-3 launch was a "barnburner" according to Commander Jack Lousma, beset only by a minor ground equipment problem, which delayed the planned 10 a.m. launch by an hour. Despite that hitch, the STS-3 countdown was the smoothest yet.

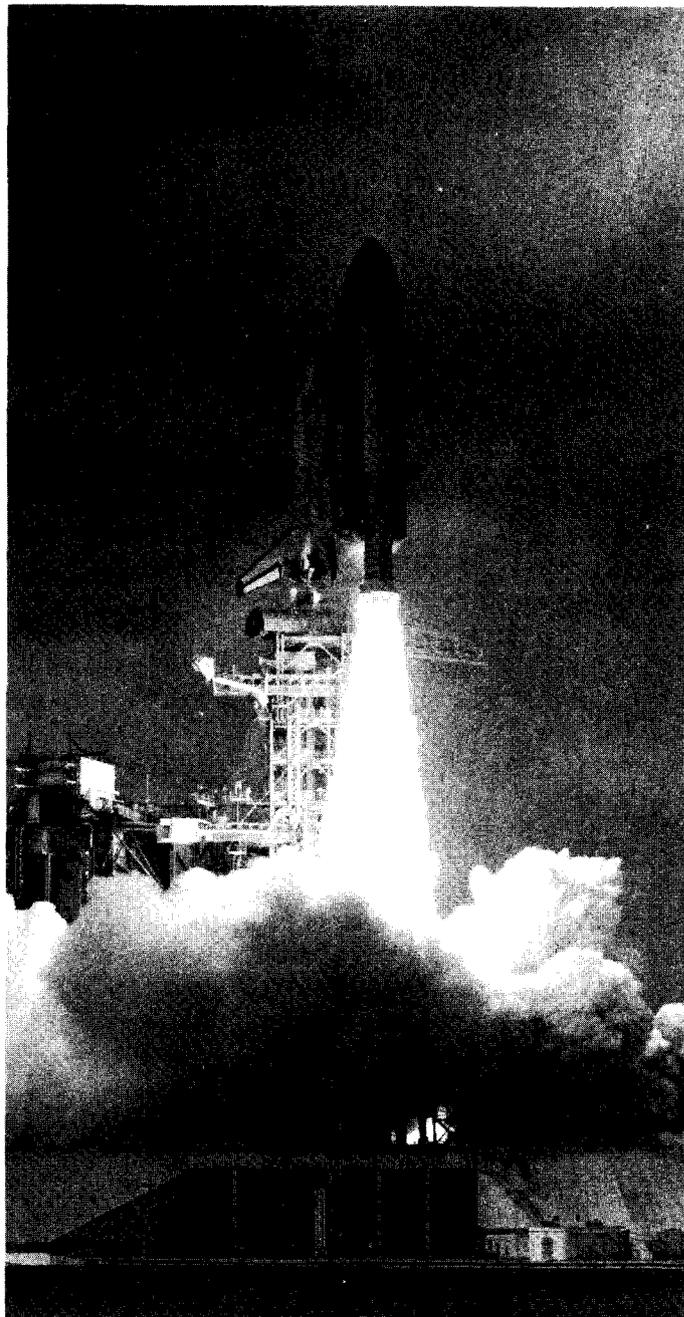
Once the Columbia cleared the launch site, she was on her way to what soon will be a routine trip into space, where someday satellites will be deployed and retrieved by the Shuttle, and where manned space stations will be built, enabling scientists to conduct their work beyond the Earth's boundaries.

But this flight was just a test, carrying the most comprehensive series of experiments yet on the third of four scheduled test flights before the Shuttle becomes operational.

Three hours after liftoff, Columbia's payload bay doors opened, exposing the Goddard managed OSS-1 payload pallet to the rigors of space. The experiments were primarily designed to make measurements of the environment surrounding the orbiter in space to give scientists more information about conditions they will face with future experiments on the Shuttle.

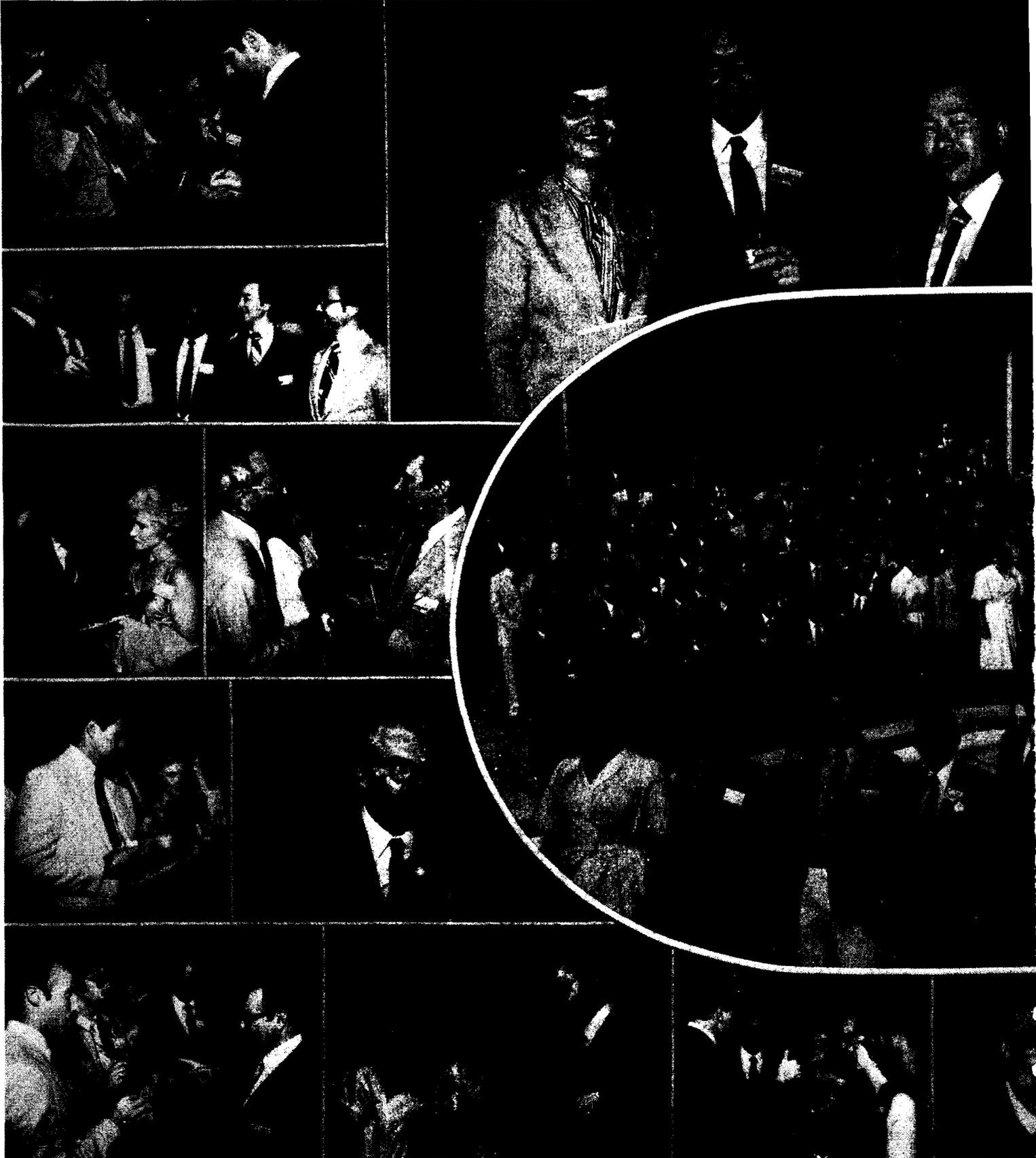
The STS-3 experiments, or OSS-1 (Office of Space Science) payload, were dedicated to scientific investigations in space plasma physics, solar physics, astronomy, life sciences, and space technology. Also, during the mission, the Canadian built remote manipulator arm got its second workout by grappling and hoisting one of the nine OSS-1 experiments.

The "robot arm" grabbed the 353 pound Plasma Diagnostics Package (PDP) and moved it in and out of a beam produced by the Fast-Pulse Electron Generator located in the cargo bay. It also investigated the surrounding environment within 15 meters of the orbiter to measure and locate the sources of fields, electromagnetic interference, and plasma contamination.



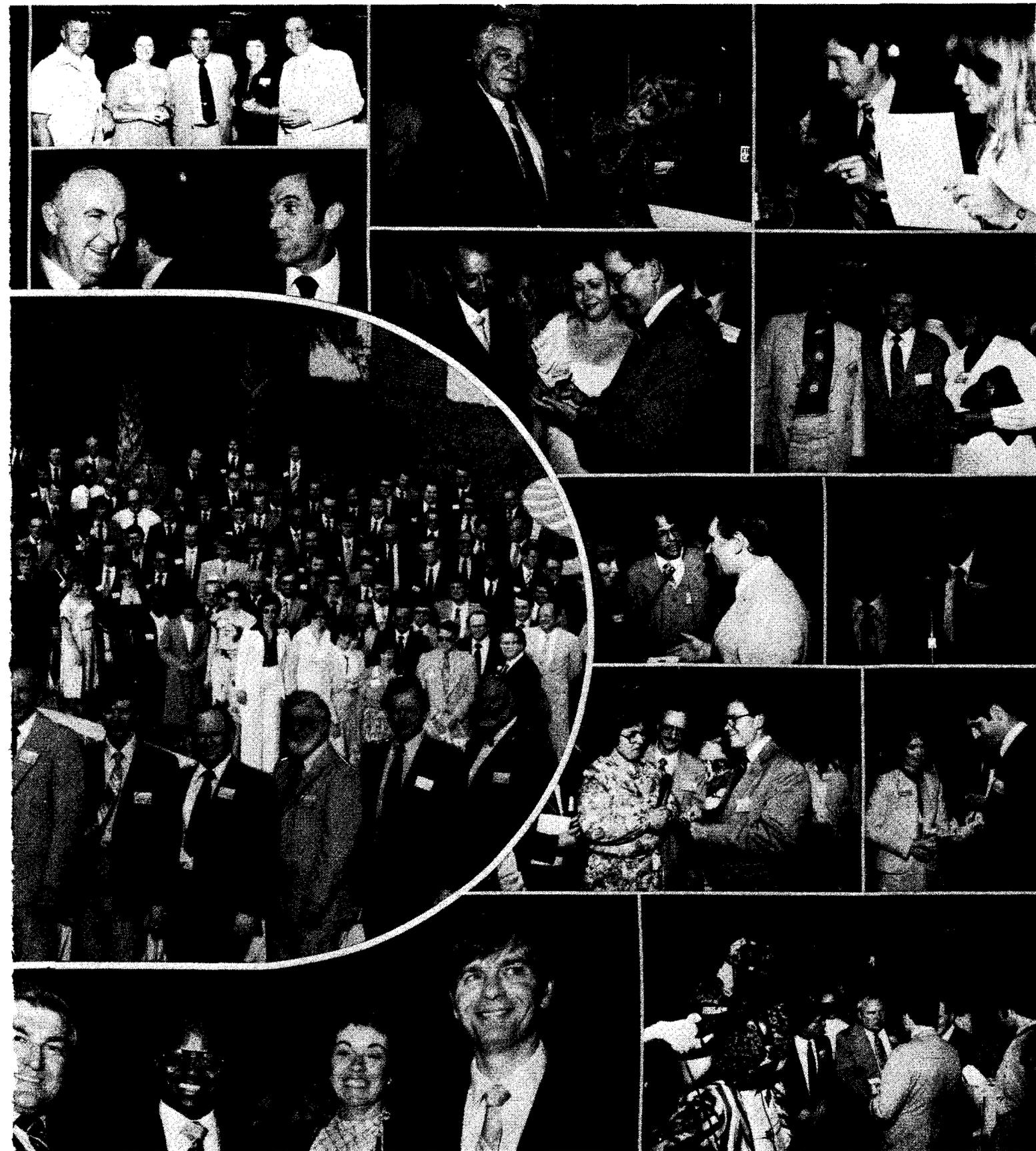
STS-3 was a tremendous success according to NASA officials and scientists, who are pleased with receiving most of the data they had hoped for. Strong, gusty windstorms delayed the landing of STS-3 by a day, but Columbia landed safely at White Sands, New Mexico on March 30 after eight days, 129 orbits, and over 3 million miles in space. STS-4 is scheduled for a late June launch with a possible landing on July 4.

Kennedy hosts NASA's Manned Flight



NASA honored 210 Civil Service and Contractor employees at the Kennedy Space Center during a ceremony. They were chosen because of their outstanding contribution in support of the Space Shuttle mission.

at Awareness Launch Honoree Program



the STS-3 mission as part of the Manned Flight Awareness Launch Honoree Program. These people
s. Goddard honorees are located at the bottom of the inner circle.