SPACE

Split Capsule to Mars

A space craft, based on present day technology, was described as capable of circling Mars and landing a capsule on the planet for collection of scientific data.

➤ A SPACE CRAFT reportedly capable of circling Mars and landing a detachable capsule on the planet's surface was described by C. R. Gates, chief of the systems analysis section at Jet Propulsion Laboratory, Pasadena, Calif.

Mr. Gates said the proposed "split capsule" craft, based entirely on existing technology, would be equipped to make scientific measurements of Mars directly from the parent vehicle, as well as retransmitting data gathered by the landing capsule.

The system he described at a joint meeting of the Institute of the Aerospace Sciences and the American Rocket Society in Los Angeles incorporates details of the Atlas-Centaur launch vehicle; the Ranger, a lunar spacecraft; and the Mariner A., a Venus spacecraft.

For the Mars probe, the 1,450-pound craft would propel itself by monopropellant hydrazine motors after separation from the launch vehicle. While the released capsule descended into the atmosphere of Mars by parachute, the parent craft would be accelerated laterally to avoid hitting the planet.

The blunt-nosed capsule would contain scientific instruments, batteries and a radio transmitter for one-way communications with the parent craft. The orbiting craft would have scanning instruments mounted on a boom, a directional antenna, electronic equipment and a large reflector for collecting solar energy to supply power after the craft's principal axis is pointed toward the sun.

The plan is based on research carried out by a California Institute of Technology study group under the sponsorship of the National Aeronautics and Space Administration.

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Air Force Uses Computers

➤ MAJOR ADVANCES in the use of computers as management aids are included in the new streamlined Air Force program for keeping up with developments in more than 100 weapons systems.

Lee A. Ohlinger, director of computing and data processing at the Northrop Corporation, Beverly Hills, Calif., said the program will give quick answers to questions at all management levels—from Headquarters Air Force through prime contractors to subcontractors. Previous delays caused confusion and lowered production and morale, he said.

Mr. Ohlinger described WSPACS—Weapons Systems Programming and Control System—as "a man-machine operation." Data supplied by contractors will be stored in computers. When reprogramming needs arise, the computers will determine if proposed changes are financially feasible. The machines will not make decisions, but will help management make them on a sound basis, Mr. Ohlinger emphasized.

"The day of intuitive management by 'seat-of-the-pants' technique is passing," he said. "If scientific management can be applied to industry, it should be equally capable of being applied to the military."

Mr. Ohlinger said the system will yield "intelligent and realistic decision-making based upon scientific principles." The Air Force study program utilized Operations Research teams from six major aircraft companies.

Mr. Ohlinger outlined the program at the joint meeting of the Institute of the Aerospace Sciences and the American Rocket Society in Los Angeles.

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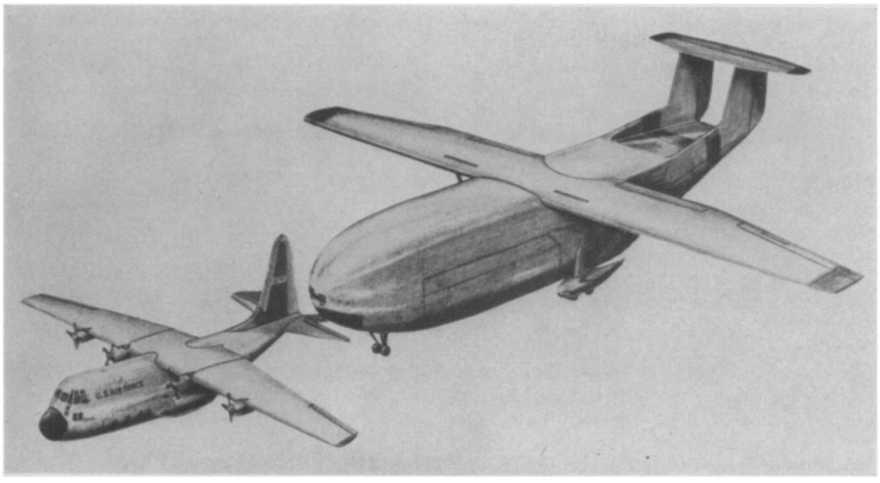

AIR TRAILER—The Air Force's proposed 160-foot C-130A air trailer for carrying Saturn and other missile stages to launching sites is in the drawing board stage at Ling-Temco Electronics, Inc., Dallas, Tex.

TV From Outer Space

➤ TELEVISION announcers of the future may be telling viewers that "the following program is brought to you from outer space."

Putting television broadcasting transmitters in satellites was described as both technically and financially feasible. George M. Ives of the Ramo Wooldridge Laboratories, Canoga Park, Calif., speaking at a joint meeting of the Institute of Aerospace Studies and the American Rocket Society in Los Angeles, said programs originating on earth could be retransmitted via satellite over wide areas.

He said an 18,000-pound stationary satellite placed over the equator could beam programs to both North and South America. No booster capable of putting that large a satellite in orbit now exists. But the proposed Phoenix boosters will be designed to launch payloads even heavier.

Transmitting power would come from nuclear reactors or solar energy conversion systems.

Mr. Ives estimated annual cost of the proposed system at $12,100,000 annually. Almost half the earth's surface would be covered at a cost less than the $15,000,000 now spent annually for transmission and interconnecting facilities serving slightly more than half the people in the United States. The figure for a TV satellite, however, does not include development costs, "which will probably be high," he said.

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Clues to Origin of Life

➤ WHEN MAN REACHES the moon, clues to the origin of life may be discovered.

The moon, unlike the earth, is an object in which organic deposits may have been preserved unchanged, making it easier to determine their origin.

Speaking at a joint meeting of the Institute of the Aerospace Sciences and the American Rocket Society in Los Angeles, three scientists offered a plan for chemical analysis of the moon's surface through gas chromatography. Lunar samples would be converted to gas to disclose their chemical make-up.

They believe the results may help explain the evolutionary transition from non-living to living matter. A study program on the design of the necessary gas chromatograph apparatus is underway at the Jet Propulsion Laboratory, California Institute of Technology, Pasadena, where V. I. Oyama is a senior scientist. Stephen P. Vango does his research at the University of Chicago and E. Milton Wilson works at Aerojet-General Corporation, Azusa, Calif.

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