

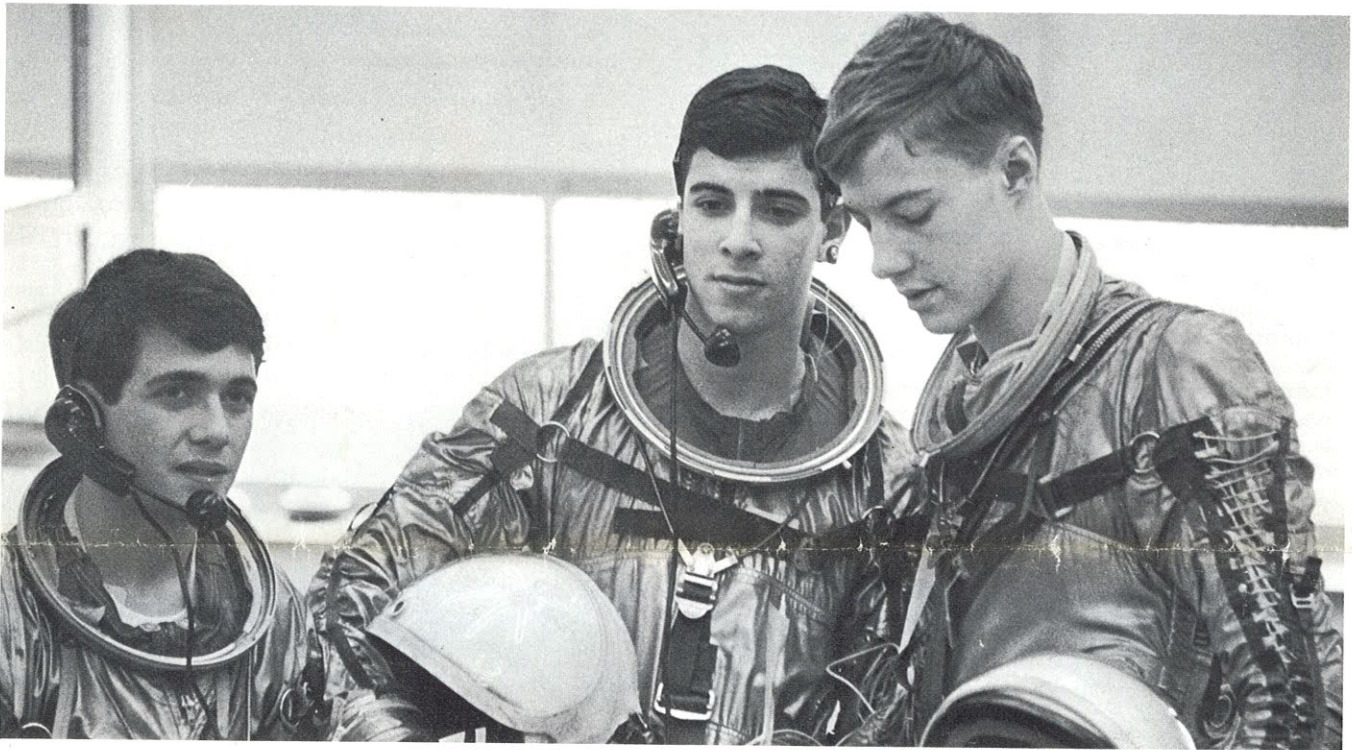
# Vector NEWS

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## NORTHEAST HIGH . . . A SPACE MAGNET



Pilot Lewis Hirsch, command pilot Warren Kurnick and engineer Donald Nibouar after five days in 'orbit'.

If NASA isn't careful, a group of young Philadelphia high school students may reach the moon first — on paper, anyway. Philadelphia's Northeast High School has been designated as a Magnet school by the Federal Government, based largely on the school's unusual extracurricular activity known as Project SPARC, short for Space Research Capsule. Project SPARC consists of a 12½ foot capsule, patterned after the Apollo spacecraft; a complete mission control center; and more than 60 hard-working students, some of whom have already been "in orbit."

Magnet schools are those schools that specialize in a particular field of study such as business, science, or the arts. As Magnet schools, they are eligible for federal funds to expand their programs. Students in a given metropolitan area may attend a Magnet school to specialize in a field for which they have unusual aptitude or interest. Northeast High School will emphasize the aerospace sciences, including mathematics, chemistry, physics, biology, and, after school, Project SPARC.

The equipment for the project was designed entirely by the students, under the direction of its founder, physics teacher Robert Montgomery, Jr. Mr. Montgomery has traveled extensively in Europe, and has done research on the young people of sixteen countries. He organized Project SPARC to see if it was possible to perform original research at the high school level.

The most recent project test consisted of a five-day, simulated earth-orbital flight by three "astronauts" in a completely sealed capsule. The capsule contained its own oxygen-replenishment system, flight controls, and refrigerated food-storage compartment.

Months of preparation went into the five-day test. The astronauts followed a strict routine of flight experiments, exercise, eating, and sleeping.



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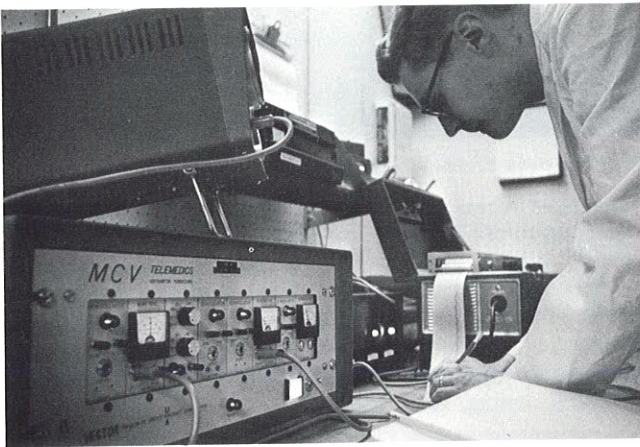
Under the guidance of Dr. David S. Cristol, Chief of Urology at Jeanes Hospital, Philadelphia, and project medical director, the students received complete pre- and post-physical examinations including exercise ECG with the Telemedics RKG-100 Radio Electrocardiograph monitor. Throughout the simulated flight (121 hours, 26 minutes, 9 seconds), periodic checks were made on the astronauts' conditions.



Astronaut Hirsch undergoes ECG during pre-flight physical.

In addition to providing excellent research training for students, Project SPARC is contributing important medical data to studies in adolescent medicine. A full medical record of this particular flight included electroencephalograms, electrocardiograms, respiration rates, temperatures, and blood pressures, much of it taken with medical telemetry equipment provided by the Telemedics Department.

Each of the astronauts was equipped with a pocket-size, battery-powered transmitter and a supply of Telectrodes — the disposable adhesive type of electrodes developed by Vector. The physiological data was radioed to monitor-



ing equipment in the ground control center for real-time observation or for recording for later playback. The physiological monitoring equipment in the ground control center included an MCV multiparameter monitor for EEG, ECG, respiration and temperature. An RKG monitor and an RKG-100 meter and alarm system were used for additional ECG measurements.

### A Really Big Show . . .

The National Aeronautics and Space Administration is making final plans for its Apollo/Saturn V manned lunar landing mission.

Among its many important considerations, the NASA Public Affairs department has its problems too — how to accommodate the 400,000 cars and their million or so passengers expected to view the launch from the Cape.



Assisting the young astronauts with adjustments on their medical monitoring transmitters (above), Donald Hall and Charles Robinson of the Telemedics Department radio instructions to the space capsule.

The project has gained the interest and support of the National Aeronautics and Space Administration. Just after "blast-off", a telegram of encouragement was received and forwarded to the crew of the capsule. It was signed: "Alan B. Shepard, Jr., Chief, Astronaut Office, NASA MSC, Houston, Texas." At the project's annual banquet, guest speaker Edward P. Andrews, Manager, Apollo Applications Payload Integration, NASA, expressed his words of encouragement to an audience of students and parents.



(l. to r.) Dr. William B. Rich, Speaker Services and Conferences Officer (NASA), SPARC astronaut Lewis R. Hirsh, Donald P. Nibouar, Warren S. Kurnick, Robert A. G. Montgomery, Project Coordinator, and Edward P. Andrews, Manager, Apollo Applications Payload Integration (NASA).

It is not the intent of Project SPARC to train students for space travel. "I'd much rather be designing the circuitry, or working out flight plans, than be an astronaut," said one SPARC member. "I've learned a lot from working on Project SPARC, but I think the most important thing is that I've learned how important it is to work closely with other people."

Immediately following the five-day flight, Mr. Montgomery was assigned to work with the Philadelphia School Board in planning the expansion of Northeast's "Space Center."

A simulated, seven-day earth-orbital mission by three astronauts is planned for April 11, 1967. ■

## VECTOR NEWS

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