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FEBRUARY 1986

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**Scouts Get Ready For Lift-Off
At Alabama's Space Camp**



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United States

You don't have to be a NASA astronaut
to find out what it feels like
to travel on a mission into space.

Hundreds of Scouts and Cub Scouts blast into
orbit every year from the United States Space Camp —
and they never leave the soil of Alabama.

Space Camp

BY BARBARA NIELSEN

Photographs by Billy Grimes

TWO CONNECTED VINYL domes—one orange and white, and one yellow and white—loom among the red-dirt hills and pine trees near the Alabama Space and Rocket Center in Huntsville, Ala. Home to the United States Space Camp, its double-glass doors bear a prophecy: "Through these doors walk America's future scientists and astronauts."

Scouts and other young people from around the nation agree that the Rocket Center's Space Camp is the next best thing to orbiting the Earth. At this one-of-a-kind camp, they experience the launch, orbit, re-entry and landing of a shuttle; squirm into space suits; work with computers, and enjoy the sensation of walking in space.

"Overall," says Cannon Morgan, a Webelos Scout from Sausalito, Calif., "I think this camp is the best in the U.S."

The United States Space Camp was the brainchild of German-born scientist Wernher von Braun, the rocket specialist who helped America launch the space age. He knew that the long-range success of space exploration depended on future generations. It was his dream to involve youth in the space program, to get them interested in space and science.

"Why can't we excite youngsters about science in the same way that we excite them about sports?" he asked Edward O.

Buckbee, director of the Space and Rocket Center, a nonprofit museum owned and operated by the state of Alabama.

In 1982, six years after von Braun's death, Buckbee saw to it that the Space Camp became a reality. Using equipment donated by NASA (which showcases its accomplishments at the Space and Rocket Center), he created an astronaut mini-training center—a place where 20th-century campers are given the hands-on experience that von Braun dreamed of.

By their second day at camp, kids toss around terms like "EVA," "MS" and "ET" with the same ease that they work the dials and switches on the panel at Mission Control.

"What does 'EVA' mean?" repeats camper Tony Foiani, a Scout from Troop 176, Las Cruces, N.M. "That's easy. It stands for extravehicular activity—'space-walking' in human terms. 'MS' is mission specialist. And 'ET' means external tank, *not* extraterrestrial. I guess it could stand for both, but one's a lot smaller and cuter than the other."

The camp offers programs for two age groups. Level I campers (11-, 12- and 13-year-olds) are divided into teams with eight to 10 campers each. During their five days at camp, they build and launch miniature rockets, play with computers and experience weightlessness. They learn about space careers, try on space suits and prac-

tice splashdown and rescue techniques in an indoor swimming pool.

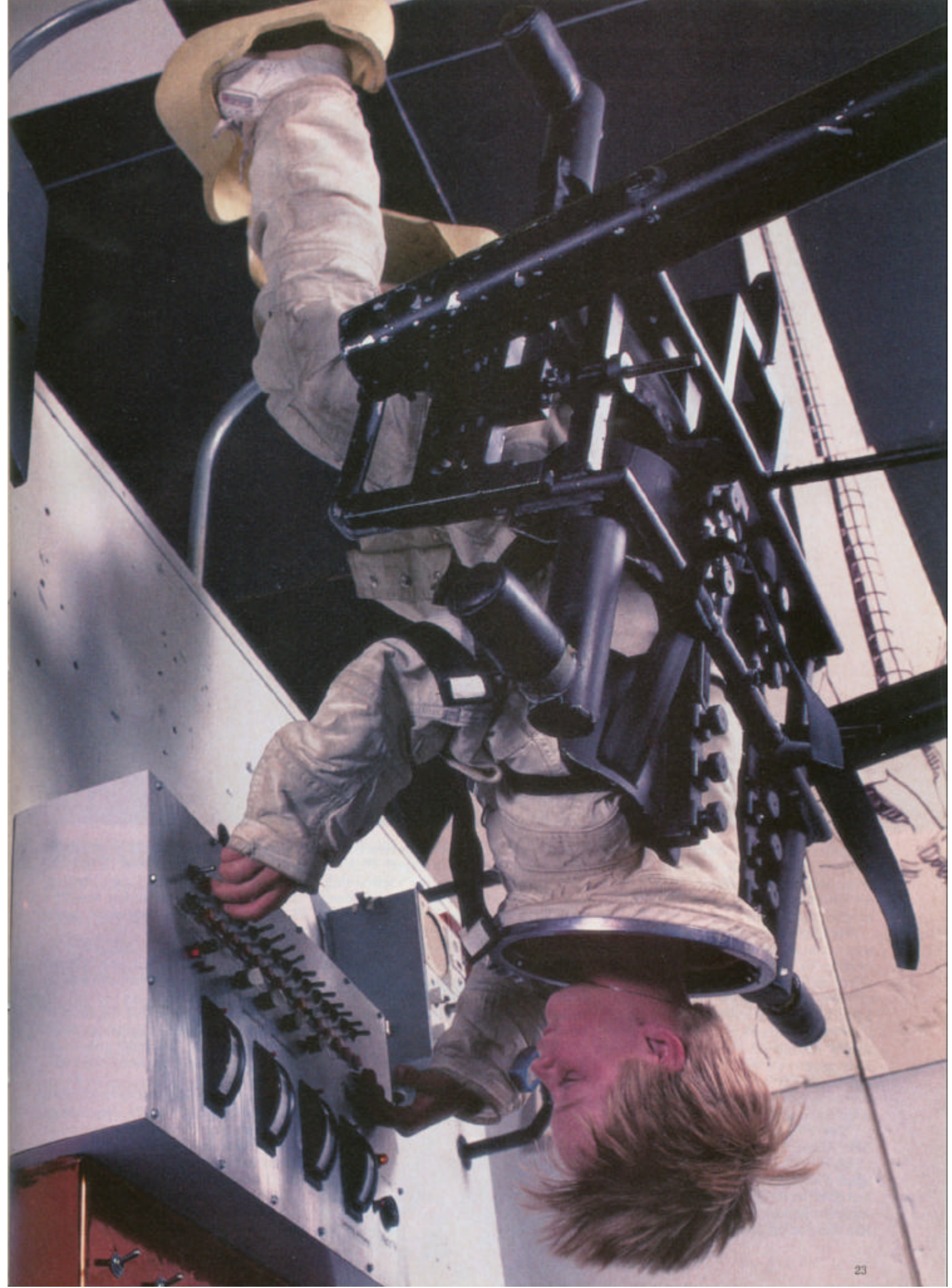
On their final day at camp, each team stages a shuttle mission. While half of the team is assigned to positions in the shuttle cockpit, the other half stays "on the ground" at Mission Control, where they man a complex array of dials and switches.

Level II campers (14-, 15- and 16-year-olds) undergo more intensive astronaut training. Divided into two teams of 40 campers, they become familiar with the challenges of working and living in space. They design models of a space station and stage two half-day missions that test their knowledge of what they've learned.

Some team members simulate a space walk. During the Level II mission, three campers emerge from the shuttle in space suits and perform given tasks. One works from the Bama-Arm, a replica of the Canada-Arm that astronauts use in space. The other two are strapped into 5-DF (Five-Degrees-of-Freedom) chairs, just like the ones used by astronauts in training. They duplicate the feeling of being in space.

The camp's counselors are college stu-

Right: Bolton Walters learns that an astronaut must be able to work at any angle, including upside down.





dents from around the country. Many are majoring in subjects like computer science or aeronautical engineering. Quite a few are former Boy Scouts. All have an interest in space and science.

A typical day at camp begins with astronaut conditioning (exercises), rated among campers as a least favorite activity. The rest of the day is devoted to learning about a different aspect of space. On Gravity Day, Level I campers experience zero-gravity ("zero-g" in space camp lingo) on the zero-gravity machine; 3-g's (three times their body weight) on the Lunar Odyssey ride; and 1/6 gravity on the 1/6 gravity trainer, the same machine that astronauts used when training to walk on the moon.

"The 1/6 gravity trainer is neat," says Matt Kozsuch, a Scout from Troop 66, St. Clairsville, Ohio, who hopes to design space stations one day. "You get to hop up and down on these big springs. You do the kangaroo hop and the moon walk. It's just like being on the moon."

After the campers have experienced the differences in gravity firsthand, PLATO the computer reviews the day's lesson with them. When camper Scott Cachot, a Scout with Troop 225, Biloxi, Miss., inserts a disk into PLATO, the blue screen reads, "For the next few minutes, PLATO is going to introduce you to the concept of

gravity." PLATO tells Scott some important facts about gravity. After he has read them, Scott presses the "next" button. "Let's figure out our moon weight," PLATO's screen reads. "At the '>' type in your weight on earth."

Scott types in "71."

"Got it," reads the screen. "On our moon, you'd weigh only one-sixth your 71 pounds, or 12 pounds."

Space campers agree that the life of an astronaut is fine until it comes to eating freeze-dried meals. "Everything about this camp is great except the food," says Matt Kozsuch.

One camper decided that he wasn't going into space until McDonald's Corp. opened a restaurant there. Scott Cachot says that eating freeze-dried chicken, rice and ice cream isn't too bad. "But," he warns, "don't touch the corn."

As a concession to young appetites, Space Camp officials sent out for pizza one day. "We were in the middle of our mis-

Above: David Gill, in an exercise that imitates EVA (extravehicular activity), finds out what it's like to make repairs in space.
Below: Wriggling into a space suit is like donning a sleeping bag with sleeves.





Above: On the flight deck of the spacecraft, David Gill (left) and Tom McConaghy study the bewildering set of instruments and switches. Below: Practicing for a splashdown rescue, Bobby Gaines (right) and Matt Kozsuch climb aboard a hoist.



Every step in a mission is authentic. Real NASA equipment adds to the sense of actual space travel. Of course, sometimes a mission has to be called off on account of a pizza party.

sion," recalls Tony Foiani, "when suddenly the counselor made an announcement over the headphones. 'This mission is called off,' he said, 'on account of pizza.' Well I don't mind cancelling a mission for something as important as pizza!"

Trying on a 60-pound space suit is one of the highlights of the week. "It's weird,"

On the "ground" keeping careful watch on a space flight in progress are all the people of "Mission Control." Zane Tohwedder makes final checks on the state of the booster rocket just before the signal for launch.



says Bolton Walters of Troop 5 in Austin, Tex. "You have to lay down and scoot into it. It's like getting into a sleeping bag."

Bobby Gaines of Troop 113 in Montgomery, Ala., agrees. "Then once you have it on," he says, "it feels real big and baggy. It's like wearing metal pajamas."

Level II Scouts go a step further when trying on space suits. Suit techs (suit technicians) help the astronaut-in-training get into the bulky suit, which is splayed across the table in the glassed-in "Suit-Up Area," a restricted area with signs that warn, "Caution: Clean Environment."

"Feet first," says James Sansel of Troop 121, Aiken, S. C., as he fits his feet into the boot-like shoes of the space suit. "Then the arms." He leans over the table and wiggles his arms into the sleeves, while the suit techs hover on either side. They help him inch the heavy sleeves over his arms, like squires helping a knight don his armor.

When Sansel stands, the suit techs zip up

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the suit, attach the air hoses and hand him a pair of gloves. "It's tight and hot until you get the air hoses hooked up," says Sansel. "And when you try to walk, it feels like there's lead in your shoes."

After five days at a camp that's out of this world, campers have experienced the space age like few others have. By the time they receive their "Space Camp Wings" and a certificate at the camp's graduation ceremony, many are already making plans to return. "I'm thinking of a career in space," says Benny Ledford of Troop 75, Florence, Ala. "I've been to the camp twice, once on Level I and this time on Level II. I'm coming back next year, too."



Several campers
left the graduation
with thoughts of
someday finding a
career in the
exciting world out
beyond the earth's
friendly
atmosphere.



Scout James Sansel, who was honored as outstanding camper on graduation day, also plans to come back. "It's fun," he says. "I'd like to work in space someday. I want to be a mission specialist. He's the guy who gets to go out on space walks and repair satellites and stuff."

Wernher von Braun would have been pleased, listening in at Space Camp's Mission Control: "We have auto sequence start," says the launch director over the headphones.

The commander answers, "Auto sequence start. T minus 15 ... t minus 9, t minus 8..."

Launch Director: "We have main engine start."

Commander: "Roger, three engines."

Launch Director: "Engine steady. We have a lift-off."

(For information about Space Camp, write to Edward O. Buckbee, Director, Alabama Space and Rocket Center, Tranquility Base, Huntsville, AL 35807. Camp sessions run every week from March through Labor Day. In addition to Space Camp, the Center offers weekend Outer Space Tours for Scout groups.) ♣