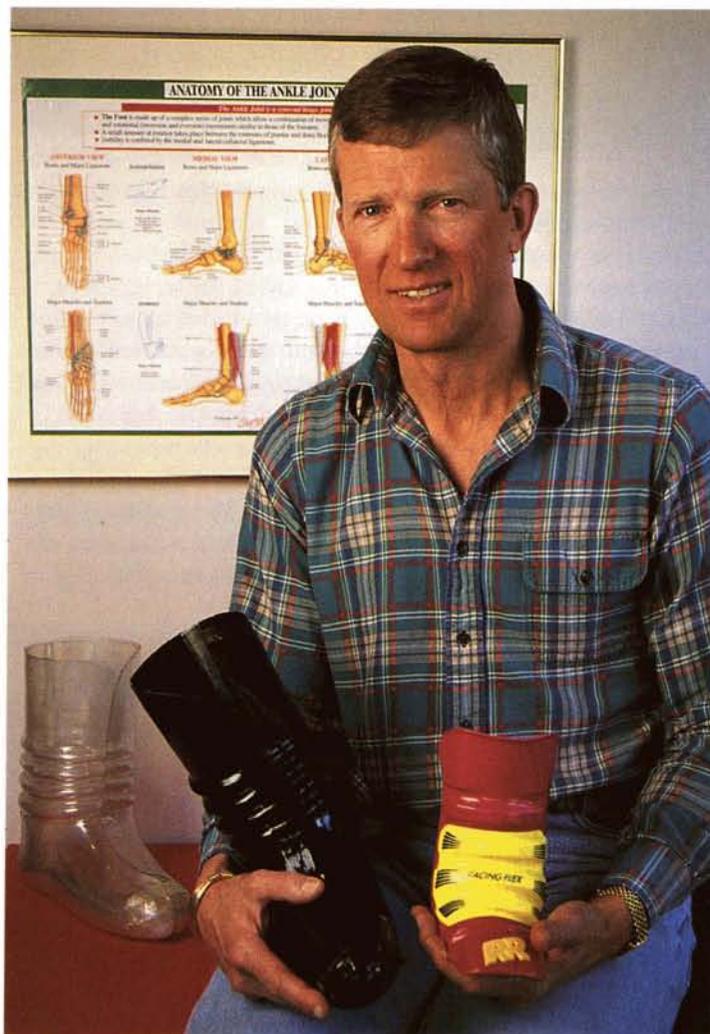


SKI BOOTS

Comfort Products, Ltd., Aspen, Colorado, a design and development firm that specializes in footwear, has been using NASA technology in its products for two decades. The NASA association began back in the 1970s, when Comfort Products adapted astronaut protective clothing technology to ski boot design. Specifically, the company borrowed heating element circuitry that kept Apollo astronauts warm or cool in the temperature extremes of the Moon, and used it to create built-in rechargeable footwarming devices that were supplied to leading ski boot manufacturers.

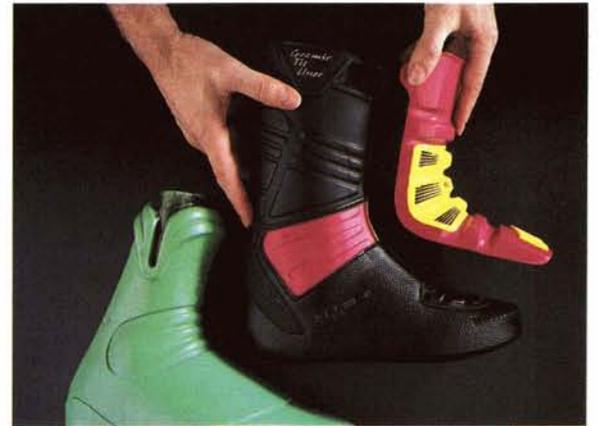
Comfort Products has once again applied NASA technology in a ski boot innovation, one that has proved highly successful with recreational skiers and has found favor among hundreds of world class competition skiers. In cooperation with Raichle Molitor USA, Inc. and the international Raichle organization headquartered in Switzerland, Comfort Products developed the Raichle Flexon concept in ski boots. The Flexon concept is an



adaptation of the accordion-like corrugations of an extravehicular space joint, which offer astronaut flexibility of movement yet prevent kinking or distortion that might interfere with the suit's internal pressurization/temperature control equipment.

Raichle uses the Flexon

technology in a score of different models of its extensive line of ski and snowboarding boots. The design features a convoluted, or corrugated, configuration of the tongue (front of the boot); this design permits the complex curved stiff plastic tongue to flex without substantial distortion. The Flexon



“optimized geometry,” says Raichle sales literature, “provides immediate transmission of power and therefore precision skiing.”

Says Erik O. Giese (left) of Comfort Products: “The idea came from the joints in the space suit, which required articulation without distortion of a pressure vessel. It is also similar to a vacuum cleaner hose flexing without

destruction, versus a paper towel tube that will bend and crimp when flexed.”

The technologically-advanced Raichle line also offers a “ceramic fit” system that assures a perfect fit for every individual foot. The system consists of a chambered “breathing” bladder, filled with tiny hollow ceramic spheres, sewn into the innerboot. When the user puts a

foot into the boot, the spheres adapt to the contour of the individual foot. When the boot is buckled, the air is pressed out of the bladder and the spheres can no longer move. This, says Raichle, provides a precise “hold” for optimal transmission of power.

Above, Erik Giese displays a boot last, or mold (green), the bladder (black and maroon) and the tongue of the boot (red and yellow). The photo **at left** illustrates the lineage of Comfort Products’ boots: on the left is the newest model, in the middle (red) a model with the Flexon technology, and at right a model without the ribbed tongue. The newest model is shown in closeup **at left above**.

