



Rocket Scientist Makes U.S. Olympians Faster

Buffalo Aerospace Engineer Seeks to Give Skiers, Other U.S. Olympians an Aerodynamic Edge

SAUZE D'OULX, Italy, Feb. 11, 2006 — - American skier Bode Miller rockets down courses at speeds near 90 mph. No wonder he gets help from a rocket scientist.

Dr. Michael Holden's day job at Calspan-University of Buffalo Research Center is as an aerospace engineer who tests aerodynamics for the likes of the space shuttle.

His hobby is making skiers fast.

"What you are trying to do is find out for each particular skier," he says, is "what [is] the best way to approach downhill racing -- in terms of marrying the skiing and the aerodynamics."

Wind Tunnel

For more than 20 years, Holden has put Olympic skiers like Miller and Darren Rahlves in a wind tunnel initially designed to test stress on buildings.

At racing speeds, any careless hand, wobbling knee or poorly made piece of equipment can add 20 pounds of resistance -- or drag -- and slow the skier down. By reducing the drag, Holden figures he can chop 2/10 of a second off a downhill racer's time.

That may not sound like much -- but at the 2002 Olympic Games, that was the difference between a gold and silver medal.

"Winning is winning," Holden says. "All of the things add together. You'd be crazy not to take advantage of every aspect of how to win psychologically, physically, equipment-wise."

In some way, the wind tunnel actually is harder on the skiers than the slopes of Italy. There, they have gravity to help them down the hill. In the tunnel on a flat surface, it is just a skier against the wind.

Holden's work goes beyond skiing -- to luge, speed skating and skeleton. He has contributed to seven gold medals.

For Holden, winning truly is a science.

ABC News' John Berman originally reported this story for "World News Tonight."

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