



A. D. Welliver

Albertus D. (Bert) Welliver

1934-1994

By Philip M. Condit

Bert Welliver, senior vice-president of engineering and technology research and engineering for the Boeing Company, died March 22, 1994, at the age of sixty.

He was recognized throughout the international aerospace industry for his technology leadership in the development of new aircraft propulsion systems, advanced airplane design, and manufacturing.

His vision and leadership in promoting a close working relationship between engineering and manufacturing, together with pioneering modern engineering design tools, proved invaluable to Boeing process improvement efforts in the late 1980s and early 1990s.

He was one of the key architects in shaping the company's approach to designing and building the new 777. In the 1991 book on Boeing, *Legend and Legacy*, Bert discussed the innovative approach to the new airplane:

This is as big an experiment as the original 747 was, because we're trying to redesign The Boeing Company even as we design this airplane. Some friends of mine have told me Boeing may be going too far and too fast, that the process is ten years ahead of where Boeing should be. My answer is that we can't

sit around for ten years doing nothing. Yes, it's a gamble, but I think we can do it. If there's one thing current management can leave as a legacy to future management, it's to fix our system of designing and building airplanes and get rid of all the non-value added work."

There is no doubt that he was a driving force behind the Boeing approach to designing and building airplanes in the future, even before there was a 777 program. His focus was to initiate improvement in order to maintain market leadership.

He was a visionary who looked beyond traditional practices toward involving people in teams to redefine and improve processes. The Boeing experience on the 777 program has proved Bert right.

Born in Danville, Pennsylvania, on February 26, 1934, Bert graduated from the Pennsylvania State University in 1956 with a degree in mechanical engineering. He joined Boeing in 1962 after spending six years with the research division of Curtiss-Wright Corporation.

During his thirty-two years with Boeing, he conducted extensive research into all aspects of aircraft propulsion systems and worked on the development of the Boeing 747 propulsion systems installation as well as the supersonic transport (SST) program, supersonic tactical aircraft, and other military programs. As a corporate senior vice-president, he served on the company's executive council and had responsibility for all Boeing critical, high-level engineering and technology development activities.

Bert worked closely with federal science and technology leaders in identifying and revitalizing the nation's aeronautical research and technology priorities. He served on the executive committee of the Council on Competitiveness.

He was a past chairman of the Aeronautics and Space Engineering Board of the National Research Council's Commission on Engineering and Technical Systems and a past member of both the National Aeronautics and Space Administration's Aeronautical Advisory Board and the United States Air Force Scientific Advisory Board.

As the Boeing senior engineering executive, he was active in efforts to improve the relationship between Boeing and its engineering and technical employees. Bert was a guiding force behind establishing the Boeing Technical Fellowship program in 1990.

He was recognized also for his leadership in Boeing efforts to encourage minority students to study mathematics, science, and engineering, including establishing Boeing engineering scholarships at the nation's historically black colleges and universities. In 1991 he was appointed to the board of directors of the National Action Council for Minorities in Engineering.

Bert was a fellow in both the American Institute of Aeronautics and Astronautics and the Royal Aeronautical Society, and a member of the National Academy of Engineering.

In 1987 he was honored as a Pennsylvania State Outstanding Engineering Alumnus and was elected as an alumni fellow in 1991.

Bert took a vital interest in engineering and business education and served a number of institutions in an advisory capacity. Those schools included the University of Washington, the University of Southern California, Stanford University, and the Massachusetts Institute of Technology.

At Pennsylvania State, he served the College of Engineering through membership on the Industrial and Professional Advisory Council, and the advisory committee for the National Science Foundation Coalition of Schools for Excellence in Education and Leadership.

Away from the job he enjoyed outdoor activities, particularly fishing, and he was an avid woodworker. Visitors to Bert's office at Boeing headquarters often were shown photographs of his greatest sources of pride: his family and his latest woodworking projects.