

**Albert Myers, Flight Systems Expert, to Receive
2009 IEEE Simon Ramo Medal**

Played Key Role in the Development of the U.S Air Force's B-2 Stealth Bomber

PISCATAWAY, N.J. – 22 June 2009 – Albert Myers, an engineer who was the chief architect of the flight-control systems and managed the flight testing of the B-2 stealth bomber, is being honored by IEEE with the 2009 IEEE Simon Ramo Medal. IEEE is the world's largest technical professional association.

The medal, sponsored by Northrop Grumman Corporation, recognizes Myers for invaluable contributions to the flight-control systems and specifically for flight testing of the B-2 stealth bomber. The award will be presented on 25 June 2009 at the IEEE Honors Ceremony in Los Angeles, Calif. For the first time, the IEEE Honors Ceremony will be broadcast live on the Web through IEEE.tv (www.ieee.tv).

The B-2 stealth bomber changed how air warfare is conducted with its low-observability characteristics, long-range capability and flexible weapons payload, enabling it to put any global target at risk in a matter of hours. Its development contributed to the end of the Cold War, and is still the premier long range strike aircraft today. Behind the success of the aircraft are a number of complex systems operating as an interlocking puzzle, demanding unprecedented levels of system integration. A fault in any single element of the flight system might potentially undermine the entire aircraft.

While at NASA's Dryden Flight Research Center, Myers obtained extensive experience in digital flight control while contributing to a number of experimental test aircraft, including the F-8 DFBW, the world's first digital fly-by-wire aircraft; the F-15-RPRV, the first unmanned aircraft using digital flight controls, and the HiMAT aircraft, a highly advanced unmanned aircraft also using digital control.

Myers, using his extensive knowledge of flight dynamics and digital control at Northrop, was able to overcome the challenges of making the tailless B-2 fly like a conventional airplane with the ability to deliver weapons and maintain stealth properties. He led the design team that implemented the robust flight control and autopilot system that also enhanced the plane's stealth characteristics. And his introduction of a fully integrated fly-by-wire (computer-controlled flight instead of mechanical) flight-control system was revolutionary, requiring integration with the propulsion, weapons and stealth systems. The B-2 was not the first fly-by-wire plane, which Myers had contributed to while at NASA, but its all-wing platform required extremely responsive controls and a much higher level of fault tolerance and reliability to be able to handle missions of long duration.

Myers also provided leadership to the team that overcame the challenge of redesigning the aircraft to operate at low altitude, high speed and the corresponding very high dynamic

pressures. The B-2 was originally designed to operate at high subsonic speeds at high altitudes but was later required to also operate at low altitude at the same high speed. To handle the extreme wind gust loads faced during low altitude high speed flight, Myers and his team added an in-board control surface to each side of the trailing edge of the plane to provide unprecedented levels of gust-load alleviation, in which the flight control system detects and pitches the aircraft into a gust, greatly reducing its effect. The gust load alleviation system design required significant advances in the state-of-the-art in aero-structural systems modeling and control design technology.

As vice president of test operations at Northrop in 1988 and 1989, Myers ensured that the B-2 was ready for its first flight. His team had to overcome challenges including development of an extremely responsive flight-control actuation system; a unique air data system; test and acceptance of all subsystems; and system qualification and flight readiness review of all tests related to the first flight. The work paid off in July 1989 when the B-2 flew for the first time over the California desert. In 1991 the team received the National Aeronautic Association Collier Trophy for the design, development, production and flight testing of the B-2.

A member of IEEE and the National Academy of Engineering, Myers served on the NASA Aeronautics Advisory Board from 1989 through 1998. He received the NASA Exceptional Service Medal and the 1981 Dryden Director's Award. Myers received his bachelor's and master's degrees in mechanical engineering from the University of Idaho, Moscow, and was a Sloan Fellow at the Massachusetts Institute of Technology, Cambridge, where he earned a master's in industrial management. He retired from Northrop Grumman in 2006 as corporate vice president of strategy and technology, having led the company's merger and acquisition activities, from Grumman in 1994 through TRW in 2004. He is currently an independent consultant residing in La Habra Heights, Calif.

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