MEDALIST FOR 1957

For the development of a long line of successful civil and military aircraft and for notable contributions to aeronautics in public service.

ARTHUR EMMONS RAYMOND

Arthur Emmons Raymond, engineer and developer of many famous aircraft, was born March 24, 1899, in Boston, Massachusetts, and grew up in Pasadena, California, where his father owned the Raymond Hotel. He was graduated from Harvard in 1920, and in 1921 received the M.S. degree in aeronautical engineering from Massachusetts Institute of Technology.

Returning to California, Raymond first went into the hotel business with his father, but took courses in structures at the California Institute of Technology and in 1925 accepted a shop job with the Douglas Aircraft Company in Santa Monica. A few weeks later, Donald Douglas, needing a good man in stress analysis, asked Edward P. Warner at MIT to recommend his best student in that field. Warner wired back: “He is Arthur Raymond. He works in your shop.”

Douglas immediately transferred Raymond to the task of analyzing stresses in a pontoon strut in the Douglas Aircraft Company’s engineering department, consisting of about a dozen engineers including Douglas himself. In 1927 Raymond was promoted to Assistant Chief Engineer, and became Chief Engineer in 1936.

Under Raymond, an impressive list of aircraft was developed, including the DC series from DC-1 to the Jet-powered DC-8; the B-19; the A-20 (Havoc) attack bomber and its successor the A-26; the Navy’s “Dauntless” (SBD) dive bomber; the TBD torpedo-bomber series, and 39 other experimental types, including a line of guided missiles.

Raymond is best known as the lead designer of the DC-3, “The Plane That Changed the World.” The military equivalent of the DC-3 was the C-47. About 10,600 DC-3s and C-47s were eventually built between 1934 and 1945, making it the most produced airliner of all time. At the time of Raymond's death, about 2,000 DC-3s were still flying and about 400 were still in commercial service.

From 1927 until 1934 Raymond also served as Assistant Professor of Aeronautics at California Institute of Technology, and there followed closely the wind-tunnel tests of the DC-2 transport and other outstanding aircraft. In 1939 he became Vice President in Charge of Engineering at Douglas.

Apart from the aircraft developments associated with his company, Raymond has given many other valuable services to aviation. During World War II he undertook studies for the Secretary of War relating to the bombing of Japan. In 1954 he was appointed a member of the Kelly Committee to study the defense of the nation against atomic attack. He has served as a member of the Steering Group of the Technical Advisory Panel of Aeronautics of the Department of Defense, and as a member of the National Advisory Committee for Aeronautics.

In 1951 he gave the Wilbur Wright Memorial Lecture, his subject being "Well-Tempered Aircraft," in which he described the factors responsible for the success of some aircraft designs and the failure of others.

Following his retirement from Douglas in 1960, he served as consultant to the President of The Rand Corporation and as Trustee of Aerospace Corporation, acted as a special consultant to James E. Webb, Administrator of NASA, and was a member of the Space Systems Division Advisory Group of the Air Force. He was also a founding member of the National Academy of Engineering.

He died just 2 days before his 100th birthday on March 22, 1999.