



W. C. Mentzer

William Cyrus Mentzer

1907-1971

By Robert W. Rummel

William Cyrus Mentzer died on December 23, 1971, at the Stanford Medical Center in Palo Alto, California. With his passing, the aviation industry lost one of its most distinguished members—a pioneer in the area of high-speed aircraft and in techniques in airline engineering maintenance and overhauling of aircraft. He was highly respected as a leader and innovator by his peers throughout the field of aviation.

Mr. Mentzer's career spanned the entire period of the development of modern transport aviation—from the time of the Ford trimotor to the introduction into service of the giant Boeing 747 aircraft. His personal efforts were recognized as having contributed to the development of no less than fifty aircraft. It was during this period that the air transport industry replaced its fledgling wings and grew to the maturity typified by widespread reliable and safe air transportation systems. "Bill" Mentzer, as he was known to all of his friends, personally impacted developments of this period and left lasting marks of achievement.

William Cyrus Mentzer was born May 27, 1907, at Knoxville, Iowa. He graduated from the University of Nebraska during the spring of 1929 with a Bachelor of Science degree in journalism and from the Massachusetts Institute of Technology (MIT) during 1931 with a Bachelor of Science degree in aeronautical engineering. His early aspiration was to be a journalist. While waiting for a promising opportunity during the summer of 1929, he took a job as a

mechanic's helper in the Cheyenne, Wyoming, shops of Boeing Air Transport, one of the early air carriers that would later become part of United Air Lines. It was this early exposure to aviation that shaped the course of "Bill" Mentzer's life. After graduating from MIT in 1934, he chose to throw his lot with the air transport division of United Aircraft and Transport, a holding company, from which United Air Lines emerged.

Mr. Mentzer's progress through United Air Lines was measured and wholly predictable. He rose from Engineer in 1934 to Senior Vice-President-Engineering and Maintenance during March 1962. During 1938 he became Chief Engineer, in 1945 Director of Engineering, in 1946 Vice-President-Operations, in 1947 General Manager of Engineering, in 1958 Vice-President-Engineering, then Senior Vice-President-Engineering and Maintenance. At the peak of his career, Mr. Mentzer headed an organization consisting of some 6,000 United Air Lines maintenance and engineering personnel.

In 1935 Mr. Mentzer was assigned by United Air Lines' young President, W. A. Patterson, the task of writing specifications for an aircraft that would be larger and faster than any then-existing transport. This led to the development of the triple-tailed Douglas DC-4E, a program participated in by five of the leading airlines of that era. Notwithstanding the intervention of World War II, a somewhat smaller derivative design, the Douglas DC-4, which directly reflected earlier Mentzer efforts, emerged and found widespread use throughout the world.

Mr. Mentzer was one of the first aeronautical engineers to apply scientific methods to the solution of problems encountered in airline engineering and maintenance operations. This general methodology is now recognized as a separate discipline and is generally referred to as operations research or management science.

In 1940 Mr. Mentzer and H. E. Nourse of United Air Lines, Inc., jointly published a paper entitled "Some Economic Aspects of Transport Aircraft Performance." This paper was a mathematical model that related airline operating costs to airplane design parameters. The "Mentzer-Nourse" equations first described in this

paper have been continuously refined and updated, and today are in worldwide use as the "ATA Operating Costs" formulas. All this played an important role in the development of transport aircraft, which have brought the airline industry to its current level of efficiency.

Mr. Mentzer's in-depth studies of the basic character of airline maintenance requirements led to the development of new concepts of airframe and engine maintenance, overhaul, and inspection. Implementation of these concepts produced important operating economics with no degradation in reliability.

During 1957 he received the President's Award, United Air Lines' highest tribute to an employee, for his outstanding work as chairman of a committee responsible for integrating the activities of the entire airline in preparing for operations of the first United Air Lines jets, the Douglas DC-8's, and Boeing 707's. Transition from the "piston" era to the jet era involved detailed evaluations and changes to nearly every facet of every support function of the airline. It was virtually tantamount to remaking the airline to efficiently accommodate jet-type aircraft.

Beginning in 1965, Mr. Mentzer chaired the newly formed U.S. airline Supersonic Aircraft Committee, a committee consisting of the top-ranking engineering airline officials. This Committee was requested to assist the Federal Aviation Administration and the manufacturers in the development of the U.S. supersonic transport aircraft. It participated in the detailed evaluation of manufacturer proposed designs and systems in coordination with the Federal Aviation Administration on the basis of the organized direct participation of appropriate airline technical staffs. Mr. Mentzer also participated in the affairs of the airline "Concorde SST Committee."

Mr. Mentzer, in recognition of his outstanding engineering accomplishments, was elected a Member of the National Academy of Engineering in 1968. Before this, during 1967-68, he served as a Member of the Ad Hoc Committee on Aircraft Operations. He also accepted membership on the Ad Hoc Study Advisory Committee on Aeronautics in 1969 and served as a Member of the Aeronautics and Space Engineering Board of the National Academy of Engineering from May 1, 1969, to his passing.

He also was a Member of the Society of Automotive Engineers, a Fellow in the American Institute of Aeronautics and Astronautics, and a Member of the Corporation Development Committee of the Massachusetts Institute of Technology. He served on the Visiting Committee of the Stanford University School of Medicine and on the Advisory Committee of the Institute of Transportation and Traffic Engineering of the University of California.

The Federal Aviation Administration/Department of Transportation's "Award for Distinguished Service" was presented to Mr. Mentzer on May 27, 1969, for "effective leadership and counsel" in support of two areas of aviation activity. One area was his service as Chairman of the Airline Supersonic Transport Committee and the other was his leadership in the "development of innovative techniques and maintenance procedures which contribute to air safety." This award is reserved for those outside of the Federal Aviation Administration who have made aviation safer, more economical, or more efficient.

During 1969, Mr. Mentzer was also presented by his colleagues in the Air Transport Association of America with their "Nuts and Bolts Award," the highest award that can be granted by that organization.

In 1972 the Guggenheim Medal was awarded posthumously in recognition of Mr. Mentzer's "manifold accomplishments in airline engineering, maintenance, and economic disciplines."

In his private life, he enjoyed a long and happy marriage and a family of three children-William, Jr., Molly, and Sally. He and his wife traveled widely, which, as a history buff, he especially enjoyed.

William Cyrus Mentzer combined a penetrating and analytical mind with personal modesty and skill in facilitating cooperation. The foundations he provided contributed significantly to the evolutionary development of the fine air transportation system enjoyed today.

