

**John Russell (Russ) Clark**

**Senior Vice President LTV  
Aerospace**

**1935 to 1984**

John Russell "Russ" Clark, internationally known aircraft designer and Vought executive, was continuously engaged in the aerospace business from the late 1920s through 1980. His Vought career began with United Aircraft, in Stratford, Connecticut, October 1, 1935. He retired from Vought (LTV Aerospace) in 1972, but continued as a member of the board of directors until 1973 and as a consultant to the company until 1984. During his forty nine years associated with Vought, he moved through the ranks from design and project engineering to being the founding head of the Vought Astronautics division in 1959 and subsequently the head of the Vought Aeronautics Division from 1964 to 1969 with 26,000 employees and sales of \$500 million at the division's peak. From 1969 to 1972 he was Senior Vice President, Technical, LTV Aerospace.



Russ was born in Rockport, Massachusetts in 1908. He grew up in Annisquam, a neighboring small village on Cape Ann. He worked many odd jobs through his school years and with the help of his family and partial scholarship funding he was able to attend the Massachusetts Institute of Technology. He began his studies in Electrical Engineering. However, when Lindbergh made his successful transatlantic flight, Russ enthusiastically changed to Aeronautical Engineering at the start of his junior year in 1927. He was in the Army Air Corp. at MIT and had his first airplane ride in the spring of 1928 in a Curtiss "Jenny" Biplane, which was used as a trainer in WWI. In the summer of 1928, he attended a six week training program at Mitchell Field in Long Island. The instructors were WWI combat pilots. He flew in Curtiss Falcon Biplanes and did such things as aerial gunnery with a gun camera.



After graduating from M.I.T. with a B.S. degree in Aeronautical Engineering in 1929, he began his career as a structural design and test engineer with Berliner Joyce Aircraft in Baltimore, Maryland, predecessor of North American Aviation. In late 1929, he was responsible for the structural design of the fuselage, wing attachments and tail structure of the XP-16, a biplane, two seater fighter for the US Army Air Corp. It was successful, was purchased and produced. In the fall of 1930, he was responsible for the structural design of the fuselage of the XJ-1 and shared design of the wing. It was a single seat biplane for the US Navy, with the upper wing having a gull wing. It performed well but did not go into production due to competition. In 1932, the OJ series of observation and scout aircraft was begun and Russ was the structures lead man, designer for the landing gear, fuselage and tails. The OJ series was in production from 1932 to about 1935. It was a very successful airplane that was convertible from sea planes to land planes. In late 1932 and early 1933, he was involved in the XFJ-2 fighter project, but with the depression there were no orders. From 1933 to 1935, Russ worked for North American Aviation as senior structures design engineer and later assistant chief of structures.



When in 1935, North American moved to California, Russ began his career with United Aircraft Corporation, in Stratford, Connecticut, in the Sikorsky division, as chief of structural design for the hull of the four engine flying boat, the XPBS-1. In mid project, he was made project engineer responsible for the whole XPBS-1 design. He continued to work on other flying boat projects until late 1938, when Mr. Sikorsky wanted to build a practical helicopter. Russ was his chief project engineer with a staff of 10 to 12 engineers. He was also chief of quality control and in charge of all preflight operations. Thus, Russ was the chief project engineer on the world's first successful helicopter, the VS-300. During development, Mr. Sikorsky himself was the test pilot and Russ and Bob Labinsky would hold guy wires on each side of the machine to protect him against roll over. In the winter of 1939, Russ was the project engineer and in charge of design on a proposal to the US Army Air Corp. for their first helicopter, the R-4 program.



Russ moved to the Vought side of United Aircraft in late 1940, at the request of C.J. McCarthy. He was soon asked to take over as the chief project engineer on the development of the XF4U-1 fighter for the US Navy, that became the famous WWII "Corsair". Under Russ' direction, many modifications were made to the XFU-1 that made it so successful. He continued to be the chief project engineer of the Corsair family of airplanes from about January 1941 until 1945. In early 1943, Russ witnessed the first test of an F4U aboard an aircraft carrier. In October 1944, Russ and Paul Baker went to the South Pacific as naval technicians. They advised operating personnel on new programs on the Corsair, on maintenance, and learned first hand of operations.

In the summer of 1945, Russ became chief project engineer on Vought's first jet fighter, the XF6U-1, nicknamed the "Pirate". In 1947, he took over as chief engineer for the new jet fighter, the XF7U-1, the "Cutlass" The building of this aircraft in the experimental department was under his control as he

was appointed Chief of Experimental Manufacturing and Flight Test operations. He was also responsible for moving those departments from Connecticut to Grand Prairie in 1948.

In 1952, Russ became Assistant Chief Engineer Aircraft Development. He put together and headed a design team to win the competition for a new Navy Supersonic fighter. This successful record breaking F8U-1, "Crusader", built from 1955 to 1970, won the Collier Trophy for outstanding design. It also won the Thompson trophy for the highest speed of any military aircraft in the world. The F8U-1P , photo recognizance version, was the airplane that took the famous pictures flying over Cuba at the time of the Cuban missile crisis. It was also the outstanding fighter of the Vietnam War. A small scale gold plated model of the F8U was awarded by Vought through its President, Fred Detweiler to each of the following: to Russ for designing the F8U-1; to Lyman Josephs, his project engineer and to John Konrad, chief pilot. The patent for the F8U Crusader was issued to Russ Clark, and to Lyman Josephs and Conrad Lau who assisted him in the design.

In late 1958, Russ was made Director of Engineering, over all programs, aircraft and missiles. In August 1959, he became General Manager of the new Astronautics Division and in 1960 was promoted to Vice President, General Manager of the Chance Vought Astronautics Division. He was instrumental in convincing NASA that Vought should take over the complete design, management, construction and launch activities for the four stage rocket launch Scout vehicle, and in securing the construction of the first stage propulsion system for the Saturn I trial test system for Apollo. Another program of the division was "Mallar", Manned Lunar Landing and Return, which later became accepted by NASA as the basis for the Apollo program, and the LEM, Lunar Excursion Module. Other programs included the "Dynosaur", manned space flight program for the Air Force in 1960-61; research on EVA, Extra Vehicular Activity, back packs astronauts use; "carbon carbon" research material which became the foundation that led to Vought making the leading edge and nose cone for the Space Shuttle to withstand the high temperatures. In 1961, Russ became the Vice President and General Manager of the LTV Astronautics Division. At that time, projects from the Temco side were taken over as well.



In 1963, Russ played a role in helping Vought win the competitive bid for the new Navy light weight attack aircraft, the A-7. In February 1964, he was made Vice President, General Manager, of the Aeronautics Division, which was the equivalent of being President of the division as later heads were called. Programs during his administration included the production of the A-7 series of aircraft, also during the Vietnam War period; the XC-142 VSTOL; the SLAM, Supersonic Low Altitude Missile, program; competition for the VFX and for the S-3A; and the winning of subcontracting for a large amount of structural work for the Boeing 747.

In 1965, LTV created the LTV Aerospace Corporation. Russ was appointed to the Board of Directors and served from 1965 to 1973. In 1969, he became Senior Vice President, Technical, for all LTV Aerospace activities. He formally retired January 1, 1972 but continued to work as a consultant, performing his last major program for Vought in 1984. Russ died October 28, 1986. Russ was married to Dot for 56 years and they had three children.

Russ Clark, as a recognized expert in his field, served on many U.S. government committees, including: NACA Committee on High Speed Aerodynamics; U.S. Air Force Scientific Advisory Board; Chairman of the committee on Major Acquisitions on the U.S. Commission on Government

Procurement. Awards received included: "Meritorious Civilian Service Award" by the U. S. Air Force, and the "Elder Statesman of Aviation Award" by the National Aeronautic Association; Fellow of the American Institute of Aeronautics and Astronautics. He was a Life Member of the Navy League, an active member of the American Helicopter Society and the Society of Automotive Engineers. Russ continued his association with MIT over the years and served as the following: a member of the visiting committee at MIT for its department of Aeronautics and Astronautics and a guest lecturer; an educational counselor for MIT in Dallas; and President of the North Texas Chapter of the MIT Club. He received many patents for his inventions pertaining to aircraft and missiles. In the early 1960s, he had approximately twenty three patents which was a record in Vought history up to that time.