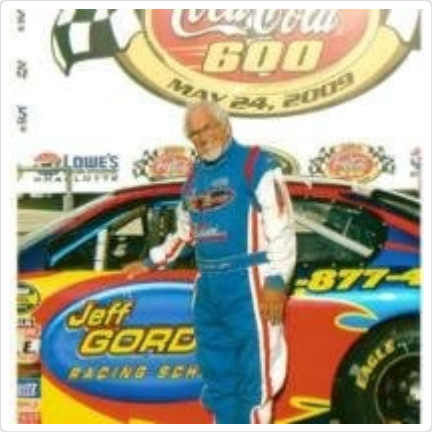

Frank J. Tricas

June 11, 1929 - October 16, 2019

Frank Tricas, 90, of Cary, NC passed away on October 16, 2019 at Western WakeMed hospital from natural causes. He is survived by his wife of 60 years, Barbara Tricas, sons Tim and John, grandchildren Nicole McKernan, Marisa and Bryce Tricas.

Services are being held Wednesday, October 30 at Wake Memorial Park where his ashes will be inurned.

Many who knew Frank noted his technical career in aviation and aerospace. Taken from a previous bio are, in Frank's own words, a history of those accomplishments …

… 50 years of experience in aircraft, space system design, installation and operations. Education consisted of 2 years at El Camino College, California and an advanced high-tech, 4 year program in Communications Engineering.

In 1953 advanced high technology courses were not offered at universities. Whenever available and applicable, he participated in additional self-directed courses at UCLA, USC and other universities. Today, universities, researchers and graduate students work closely with industry and are vital to the high technology development. This is an outgrowth of early students who fought for industrial instructors.

Entering the private sector at the height of the vacuum tube era, high-tech evolution, advanced technology of the future was always on the leading edge in research and development. His efforts included miniaturization of components, solid state devices, chip development and advanced methods of hardware integration. He collaborated with Princeton University in the development of data communications from PWM to PDM. Frank supported RAF NATO force training to install and operate the THOR-IRBM nuclear missile system in the UK.

During his career Frank traveled extensively from across the country and the Pacific region. His projects were based out of Santa Monica, Culver City, Santa Barbara County,

Edwards AFB, Vandenberg AFB, Patrick AFB, the Midwest, Southwest; also NASA Kennedy Space Center, Huntsville and Houston Texas.

The majority of his assignments required a top secret clearance and/or a nuclear secret clearance. His superiors often referred to him as the “problem-solving guru” or the “man who persevered even when the majority disagreed,” a man with integrity and vision who focused on, “How will the decisions we make today affect us 10-years from now?”

Early Assignments
Frank began his career at Flying Tiger Airlines in Burbank, California. There, while securing his education, he was head flight radioman of an AF refurbishment program of 215 C-46 cargo aircraft.

After a short time with the IBEW union and a turnkey installation of the first color television studio at NBC Burbank, Frank got onboard with Coleman Engineering in 1953 on a U.S. Air Force project entitled, Supersonic Military Air Research Track (SMART). The contract requirements were to design, install and operate a rocket-propelled Mach 4 sled track site for testing of ejection seats and capsules in supersonic flight all atop Hurricane Mesa, just outside Hurricane, Utah. Frank was assigned to develop instrumentation components and configure anthropomorphic dummies for sled track testing.

At Coleman, he was assigned to work with Dr. Max Kramer (a former associate of the German Scientist, Werner Von Braun) to apply Kramer’s theory of hydro-dynamic resistance reduction for nuclear submarines. This program entailed field testing material developed in the laboratory. Another of Dr. Kramer’s projects presented an opportunity for Frank to recover significant cost overruns. This project was to research acoustic guidance for air-to-air missile homing sensors by airborne detection, and analysis of B-47 & B-52 jet wakes with an F-94 platform. Frank’s recommendation to replace the photographic processes with electronic devices changed the direction of the project. Installing solid state components and new cables significantly reduced the flight risk on board the F-94 (fire hazards in previous flights).

From Coleman he signed on to develop a new computer at the ALWAC corp. He spent the next 2 years in a successful development where the ferrite core memory and the first computer monitor was developed to replace the typewriter.

Aerospace
Frank joined the Douglas Aircraft Co. in 1958 and held various positions during the development of major space systems. These systems included the Thor Rocket, the

Spartan ABM, the Delta Space Vehicle and the lunar transition stage for Apollo, and Skylab.

He took part in a corporate safety review of the DC-10 flight test out of Long Beach, California.

After several years, Frank was asked to join a team to develop the Douglas Missile and Space System Division (MSSD) where early processes System Engineering were developed.

Frank was also assigned to the Corporate Senior Technical Skunk Works Team where early development of UAV's (unmanned aerial vehicle), predecessor to the modern drone, were field tested.

Frank started his own corporation (Space Craft Industries R&D Inc.) in 1967 while still employed. His company produced printed circuit boards, component stuffing and development of multilayer circuit boards. He supported the first procurement of ferrite chips in that industry.

Aircraft

Frank joined Northrop Aircraft in 1975 to modify the land-based YF-17 into the ship-based F/A-18 for the U.S. Navy. The YF-17 was in competition with the F-16 chosen by the U.S. Air Force as their first line fighter. Frank was tasked by Northrop to develop the cockpit and fire control systems. McDonnell Douglas was the prime contractor. As a member of the IRAD team at Northrop, Frank's team secured a budget sufficient to develop the systems needed for a 21st century fighter.

It was agreed that Frank would have a free hand in recommendations for the systems development. To this end 98% of the switch controls were replaced with video screens. The manual YF-17 system was abolished and automated to a distributive processing system within a computer triad. This new approach was foreign to the existing engineering groups and was seen as controversial.

The F/A-18 system took on the digital fly-by-wire design containing external stores used as distributive processors. The heart of the system was an internal fiber optic network. This network monitored the replaceable units and displayed faults on the cockpit maintenance monitor. Software was developed to fly the F/A-18 with the pilot becoming the augmenter or flight director.

NASA Space Shuttle

Frank then joined Martin Marietta for the GSS program at Vandenberg AFB in California. This program was earmarked for installation and operation of the NASA Space Shuttle on the west coast.

As Principal Telemetry engineer, Frank provided designs for range safety and telemetry networks between the U.S. Air Force and NASA via White Sands, New Mexico. He also collaborated with NASA at communications system at Vandenberg AFB for ground flight hand-off after launch. Other systems he helped develop were the automation of programmable networks at the launch site to configure pre-launch payload test and verification.

Air Traffic Control

From 1984 to 1995 Frank was part of Martin Marietta's advisory team for the Air Traffic Control (ATC) Division in Washington DC. This System Engineering program had an initial operation of one billion dollars with 1700 employees, and was tasked to modernize the FAA's Air Traffic Control System.

The first order of business was to upgrade the 20 year old, (400) terminals, and (23) "En-Route" computer systems. Workshops were conducted to evaluate the FAA management structure and recommend changes, along with the documentation structure required for a systems-engineering type organization.

Additionally, in parallel, a study by Martin Marietta required relocation of approximately 1500 ground-based radars. Frank was the technical interface manager that would make the assessments for interface standardization. The first study showed 5800 unique technical interfaces, but by the end this was reduced to 500.

Frank collaborated with NIST on the development of Open Systems; developed a model presented to IEEE for the interfacing of computers and to the airline industry for future on-board equipage. Congress considered privatizing the Air Traffic Control System because of the noted complexities

A Revisit

In 2001, after a few years in retirement, Frank joined ITT at Cape Canaveral, Florida to modernize the Eastern/Western Missile Test Range in preparing for stellar travel.

A fitting end to a career for a man who now roams among the stars.

(As this is being posted, he reminds us not to think of this as his obituary, but rather an orbit-uary.)

Cemetery Details

Wake Memorial Park Cemetery

7002 Green Hope School Rd
Cary, NC 27519
(919) 465-0888
https://www.wakememorialpark.com/

Tribute Wall

JT

1 file added to the album Out and About

John Tricas - November 03, 2019 at 11:37 AM

JT

1 file added to the album Video Work Projects

John Tricas - November 03, 2019 at 10:48 AM

JT

4 files added to the album Frank's Life History




John Tricas - November 02, 2019 at 02:18 PM

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1 file added to the album Video Work Projects

John Tricas - November 02, 2019 at 12:49 PM