AVIATION AND ME

FRED O. DETWEILER

Presented to the Men's Club
Sherman, Texas
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My first memory of seeing an airplane in flight was in Columbus, Ohio, in 1918, during the first World War. A couple of years later, in my home town of Granville, Ohio, a barnstorming pilot got permission to use a nearby farmer's pasture as his flying field. For two or three days, a brief ride could be had in his open cockpit plane for $2 or so. My boyhood income was totally inadequate for his price. I watched with wonder the spectacle of the airplane jouncing over the uneven pasture then suddenly flying clear of the field and into the sky.

Small bi-planes, such as this Curtiss-Wright JN-4, mesmerized a generation of youngsters who inspired the growth of the aviation industry.

My exposure to the aviation industry lasted twenty-eight years, from 1933 to 1961. My induction into the aircraft engine manufacturing industry was not the result of special preparation nor planning. It was a matter of circumstance.

In March 1933, our nation's domestic economy

was in terrible shape. Nobody needed a brand-new Bachelor of Arts with an economics major and minors in history and English. My home town, with its 1,465 inhabitants, held no employment opportunities.

I was in love with a college classmate at Denison University who came out of New England and returned there after her graduation. She had landed a job as a stenographer at Pratt & Whitney Aircraft in East Hartford, Conn.

My parents kindly grubstaked me to money for board and room to seek employment in what was then called the "Insurance Capital of the World," but none of the great insurance companies was impressed with my job application.

However, after three months of job hunting, my application was accepted by Pratt & Whitney Aircraft. I was told that my job was only temporary. I was hired at 40¢ per hour as a factory time clerk and was assigned to the Heat Treating and Electroplating Department.

It was then that I learned that sometimes what you know is not so important as who you know. Edna had interceded for me. One year later, we were married.

By that time, I had moved from the time clerk job and was working as a clerk in the accounting department. From then on, I served as an office worker for the remainder of my career. I was only on the periphery of important events, like design breakthroughs or production triumphs. Nevertheless, it was exciting and rewarding employment.

I would like to tell you a little of the company I worked for and a few of my personal experiences with the flying machine.

Pratt & Whitney in East Hartford, 1939.

Pratt & Whitney Aircraft Company, locally known as simply "the Aircraft" was situated in East Hartford directly across the Connecticut River from Hartford. The Aircraft was founded in 1925 by a group of senior management, engineering and production experts who had resigned high positions in the Wright Aeronautical Company in order to "go it on their own." These men wanted to be free to develop their ideas about new designs for large air-cooled radial engines for aircraft. Such engines gave promise of being more efficient and reliable than traditional liquid-cooled engines. The men and their ideas obtained financial backing and went right to work in leased manufacturing space in the Hartford plant of Pratt & Whitney Tool Co. one of the new venture's backers.

This small group of highly competent men seemed to possess an unusual degree of enthusiasm and dedication to the notion that they now had an opportunity to make a genuine contribution to the

progress of aviation. Their timing was favorable as the Army and the Navy both had begun to take the use of aircraft seriously. Also, there were the first stirrings of interest in civil aviation.

The first experimental model of their engine design was finished on Christmas Eve in 1925. A few days later, it was started up and throttled down at once. In an experimental engine, it was prudent to work in gradual steps to full power. The design goal established for the project was for the engine to weigh no more than 650 pounds and to produce 400 horsepower. The finished engine weighed less than the 650 pound limit and turned up 410 horsepower. These results were far better than had ever been achieved before. The men who produced the engine christened it the "Wasp."

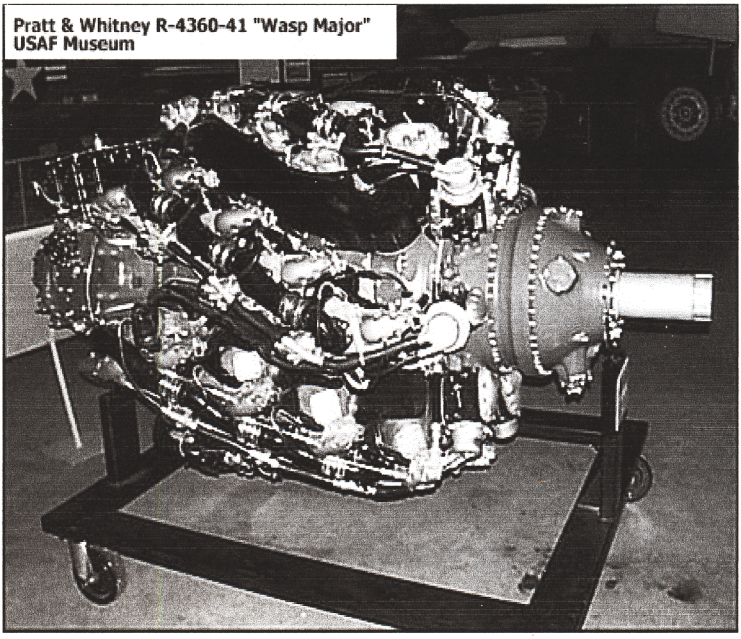
I joined the company in its eighth year. By this tine, the Wasp model had been improved and its horsepower rating was increased. Siblings of the Wasp had been produced. A smaller model was called Wasp Junior and a larger one, the Hornet. Without question, the validity of the basic concept had been established, and both the Navy and the Army were using these engines.

My lowly position was to me a very stimulating experience, and I sought to learn all I could about aircraft engine production. After about five years with the company, I had the good fortune to be chosen with four other men in office positions to be a class to learn about the engine by doing. We were assigned a work space in the shop along with tools and a very tired, used Wasp Junior engine. An engineer was named as our instructor.

We became a team under the careful guidance of our instructor to tear the engine down to its parts

and then to re-assemble it. We finished our job, after making plenty of mistakes and correcting them . Then the engine was sent for complete overhaul by the experts before being flown again.

From the start, the company had used the motto, "There is no substitute for quality," which was repeated on large signs posted through the factory. In addition, each engine was delivered with a nameplate which read "Pratt & Whitney Aircraft - Dependable Engines." The company employees were highly

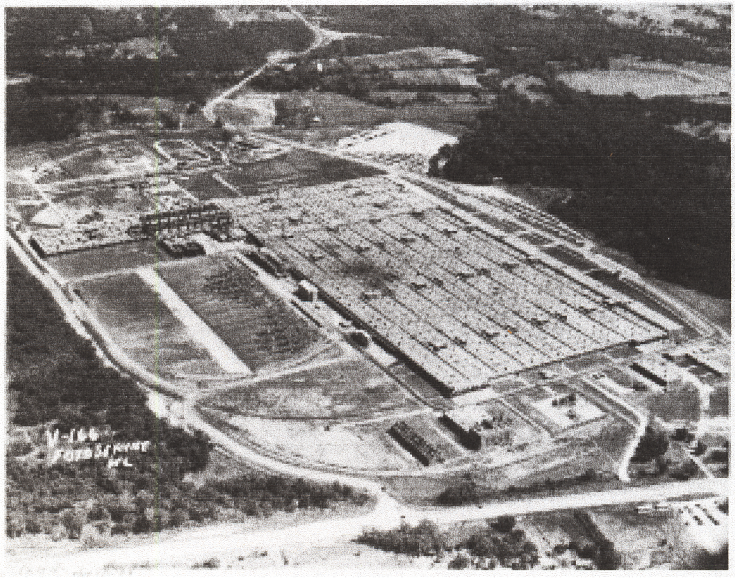


motivated to insure that the label was justified. Of course each part was given 100 percent inspection. After final assembly, each engine was given a "green run" on a test stand where the engine was carefully run-in. Then the engine was completely torn down re-inspected, re-assembled, and given a final test run before being put in its shipping box.

Air-cooled engines were winning the annual Thompson and Bendix air races held in Cleveland in the late thirties and were setting new records which were made possible by design improvements in airplanes, engines and propellers. Meanwhile requirements for air-cooled engines were increasing and those for liquid-cooled engines were declining. The main factor in these trends was the continuing improvement in the ratio of horsepower to engine weight. Another was the notion that military liquid-cooled engines might be disabled immediately if an enemy's lucky shot punctured the cooling system, causing the engine to overheat and seize up in seconds.

By the time of World War II, all new projects for American military planes were designed around the air-cooled variety, except for the P-51 Mustang. Our nation's planes on hand at the war's outset — the P-38, P-39 and P-40, with liquid-cooled engines, were used to good effect, as were many liquid-cooled British, German, and Italian aircraft.

The wartime expansion of American military aircraft production was enormous, as were facilities for the production of all things needed by ourselves and our Allies to carry on the war. Pratt & Whitney built three new plants within an hour's drive of its East Hartford headquarters. In addition, it licensed Buick, Chevrolet, Ford, and Nash to produce various models of its engines. Then the Navy requested Pratt & Whitney to construct an entirely new and complete factory in Kansas City, Missouri, and to operate it for additional production. I was one of a cadre of ninety people sent out from East Hartford to do this job. The huge plant covered about 80 acres under a roof and employed 32,000 men and women. The entire operation performed very successfully.



The huge Pratt & Whitney plant in Kansas City was located at Bannister and Troost. It gave a big boost to the city's economy and was a source of pride to then-Senator Harry S. Truman.

When the war ended, we immediately went into reverse. I had the responsibility for closing down the Kansas City operations, delivering the empty plant and idle machinery to the government's Defense Plant Corporation, and the materials, supplies, and records to the Navy Department. When the Kansas City plant was decently buried, I left Pratt & Whitney Aircraft with many regrets and great respect for the people in the organization and pride in their achievements.

The vision and leadership of the company was established by its founder and chairman, Fred Rentschler. He demonstrated his ability to see the broad picture. As soon as our country entered the war, Rentechler established the policy of maintaining the total amount of company profit each year during the

war at the same dollar amount as for the year preceding our entry. Not the percentage of profit on the vastly increased production, but the same total profit in dollars. This was accomplished by voluntary price relinquishments when the nominal prices set for the wartime production would have resulted in earnings higher than the company's self-imposed limit.

During the war, the Kansas City operation was conducted entirely under a contract with the Navy which stipulated no profit and no loss. I confess a feeling of pride that I was a member of a company which had made a unique contribution to our country's war effort.

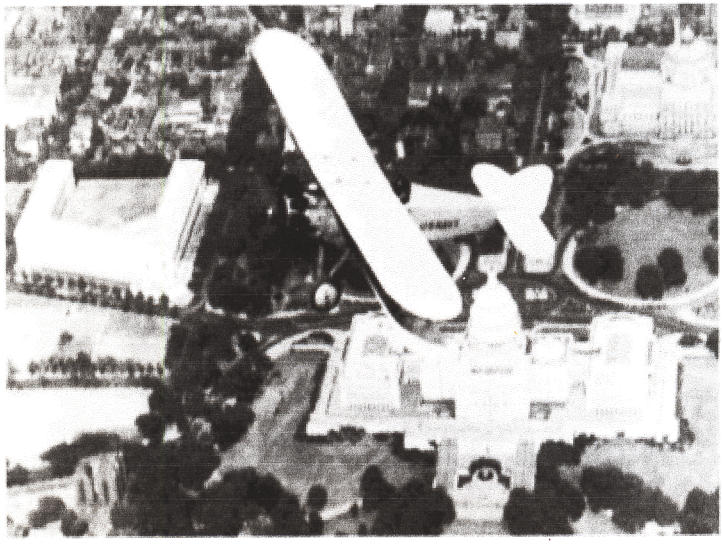
I left Pratt & Whitney with an understanding that progress is mostly made in small increments resulting from patient persistence in solving little, troublesome problems. However, once in a while advances in aviation knowledge and performance have required genuine heroics.

I want to tell you about the late Apollo Soucek, Rear Admiral, USN. In a way, his exploit tells quite a bit about the spirit of development in aviation during the first part of this century when aviation was more of an art than a science.

Man has always wanted to fly faster. And higher. Apollo Soucek, then a Navy lieutenant, wanted to set a record, which was then about 38,000 feet.

The human organism has a hard time breathing above 25,000 feet. People also feel uncomfortably cold above this altitude. At 40,000 feet, the temperature is about 70 below zero Fahrenheit and the air is so thin that human blood begins to boil.

In 1929, Apollo Soucek took a Wasp-powered Wright Apache airplane to 39,140 feet, a new record. In those days there were no environmental devices



Apollo Soucek flies over the nation's capitol in 1929. The Naval airfield in Virginia Beach was named in his honor.

to protect flight personnel in an open cockpit aircraft, except a bottle of oxygen. Soucek flew with his ears and nose plugged to insure breathing only the pure oxygen flowing through a tube into his mouth. Near the peak of his climb over Washington D.C., his goggles frosted over, forcing him to remove them in order to see the flight instruments. Without goggles, his eyes began to freeze. He held the goggles a few inches in front of his eyes as a crude windbreak with one hand; with the other, he held back the supercharger spring that would immediately reduce power for a dive if he lost consciousness. The stick was between his knees. When he had reached his ceiling, the Apache fell off into a spin for 2,000 feet before he could recover. But he had a new altitude record – 39,140 feet.

A few weeks later, a German pilot pushed the

record to 41,794 feet, Soucek spent months of preparation to beat the German. His brother, Zeus, designed electrically heated goggles and gloves. A rubber bulb fastened to the control stick served as a crude oxygen regulator when squeezed by hand. Soucek then battled his way to 43,166 feet over Washington with the temperature at 80 degrees below zero, trying to climb higher. Once more, he set a new altitude record.

After the war, when the huge Air Force B-36 was put into service, it had the capability of flying above 40,000 feet. The crew compartments were pressurized, heated and furnished with adequate oxygen. One B-36 suffered a "blowout" – the difference in air pressure inside the compartment and the rarified outside air at high altitude simply forced the covering panel off and the great explosion of air outward swept the bombsight off its mounting and out of the aircraft. As I now recall, none of the crew was lost in this unusual accident.The plane immediately dived for lower altitude where human life could survive.

In another instance, Air Force Colonel Randy Lovelace, an Aero-Medical doctor, wanted to learn more of the body's reaction to sudden changes of air pressure and temperature when it became necessary for flight personnel to leave an aircraft at high altitudes. Although he learned what he could from the experiences of others who jumped at lower altitudes, he needed more precise information, in medical terms, for altitudes which the newer planes could attain.

It suddenly occurred to him that he was better trained to make the necessary observations than anyone else. He arranged a mission for a bomber crew to take him up as high as possible and to assist him in leaving the plane. After he jumped, with parachute and protective clothing, such as a crew member would

Randy Lovelace became NASA's Medical Director in 1964 and is credited with countless innovations in aviation medicine.

wear, he became semi-conscious for a brief period, but he recovered in time to regain control of himself and his parachute. He landed as he had planned. He was extremely modest about his experiment, and discussed it only in objective, technical terms.

Pioneering is never easy, sometimes dangerous and the outcome is always in doubt. I was privileged to know Apollo Soucek and Randy Lovelace in years after their exploits. Both were exceptionally fine officers and fine gentlemen.

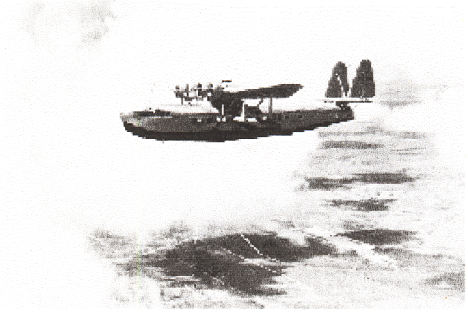
After Kansas City, I was assigned to one of Pratt & Whitney's sister companies, Sikorsky Aircraft Company at Bridgeport, Conn., a producer of helicopters. Here I got to know another fine gentleman of aviation, Igor Sikorsky.

Born in Kiev in 1889 to a noble family, Sikorsky had many advantages, including a first-class education. He loved music. He excelled in mathematics and was trained as an engineer in Russia. In 1909 he built the first helicopter. When it was fired up, it fluttered and strained mightily, but could not lift itself off the ground. However, he later designed some very good aircraft for the Russian army in the first World War.

Also in Russia he built the world's first multi-engined airplane. It was an elegant craft and appeared to have been influenced by yacht design. The after part of the fuselage was fitted out as a lounge, and there was a captain's cabin in the front. A prom-

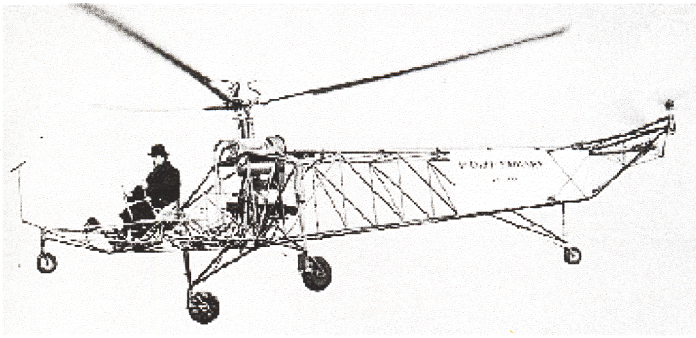
enade deck was built on either side of the airplane so that a steward could walk on the outside of the airplane during flight from the captain's cabin to the lounge. The lounge was beautifully finished with excellent cabinet work done in choice woods.

Sikorsky came to the United States in 1919 and attracted a following of elite Russian *émigrés*. In 1923, he formed the Sikorsky Aircraft Company on Long Island. Ten years later, when I landed a job at Pratt & Whitney, Sikorsky flying boats of several sizes were being used for places accessible by water. Explorers Martin and Osa Johnson (she wrote *I Married Adventure*) owned two of these for expeditions to Africa and Borneo, where they landed them on lakes and rivers. Later, huge Sikorsky flying boats were built for Pan American's flights to Lisbon, Rio De Janeiro, Honolulu, Manila and the Orient.



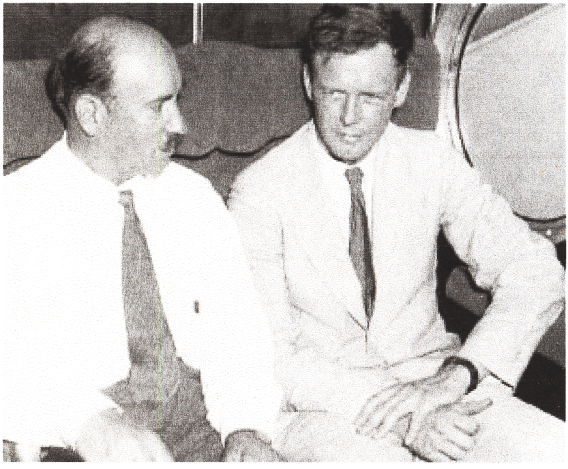
A Sikorsky flying boat.

In 1939, Igor Sikorsky was able to pursue his first love – the development of a helicopter for true vertical flight: taking off and landing without a runway. A primitive looking experimental helicopter was built and tested. It did take off vertically and land vertically; it could hover in one spot in the air, dart from side to side and back up in the air. However, forward flight was not conquered at first. But not long



Sikorsky never flew without his lucky fedora. Marine pilots often came by his office to wear it for a moment, hoping it would protect them as well.

The Sikorsky "S." Helicopters quickly became used in rescue operations and nothing brought more hope than the familiar sound of a chopper approaching.



Sikorsky with Charles Lindbergh, another aviation pioneer Detweiler admired. Lindbergh worked as a consultant for United Aircraft in the 1930s.

afterward, it was mastered, too. From that time on, The Sikorsky Aircraft Company devoted its talents entirely to development and production of helicopters and gave up airplane manufacture.

My acquaintance with Igor Sikorsky came about seven years later, just after World War II. He enjoyed the admiration and affection of his colleagues. It didn't matter that he retained a quaint accent in speaking English, or that he never removed his overshoes in the office when the weather was bad. He was a gentle person, courtly in manner, with an obvious personal warmth for those around him.

Sikorsky was a philosopher as well as an engineer. He was a practicing Christian and published a slender hard-cover book called "The Lord's Prayer," a contemplative look at the various parts of the prayer.

United Aircraft Corporation, which owned the Pratt & Whitney Aircraft, Hamilton Standard Propellers, Sikorsky Aircraft, and Chance Vought Aircraft Divisions, assigned me to Chance Vought in 1948 as Assistant General Manager of the Division.

My first job was to oversee the completing of production of an airplane which was being phased out (probably the XF6U-1 Pirate, precursor of the Cutlass), and at the same time, to begin clearing the plant and moving its people, machinery, equipment, supplies and materials to Texas. Over the course of a year, we uprooted over 1,400 employees and their families, transforming about 4,500 Connecticut Yankees into neophyte Texans. Also, 1,040 freight cars of goods were shipped to Dallas.

Vought Management Team 1949-1953

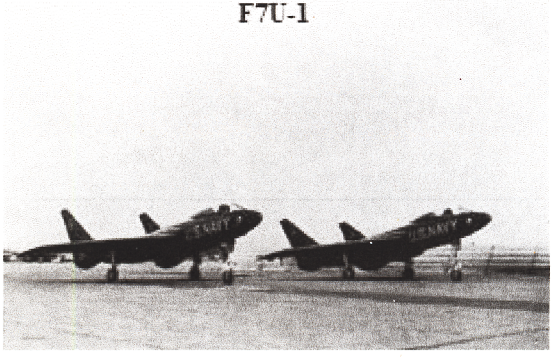
Frederick O. Detweiler, General Manager
J.D. Hodapp & A.W. DeShong, Assistants to GM
J. J. Gaffney, Administrative Assistant
N.V. Turney, Division Controller
Paul S. Baker, Engineering Manager
Fred N. Dickerman, Chief Engineer
B.D. Taliaferro, Factory Manager
J. J. Hospers, Sales Manager

The Corsair was conceived as a high speed Navy fighter by the Chance Vought engineering department in East Hartford under Chief Engineer Rex B. Beisel. To accommodate its large propeller in the smallest possible low-drag airframe, an inverted gull wing configuration was used. The F4U-1 achieved first flight on May 29, 1940.

Admiral Chestet W. Nimitz reported "Day-to-day fighting in the South Pacific has proven the Corsair decidedly superior to all models of the Japanese Zero." Invaluable during World War II, it was also used extensively in the Korean Conflict.

The first new aircraft to go into production at the Grand Prairie plant was the F7U-1 Cutlass. Taking advantage of German aeronautical research, Vought engineers created designs for a highly unconventional tailless fighter. The wing had a sweepback of 38 degrees. Like any delta-winged design, the Cutlass needed an unusually long nose gear to achieve the necessary angle-of-attack for takeoff.

F7U-1



The first F7U-1 flew in March 1950. Difficulties with the engine and other problems led to an extensive redesign of the Cutlass as the F7U-3. The first of this model flew in December 1951.

A later version, the F7U-3M, was the first Navy aircraft to carry missiles. It carried four Sparrow 1 air-to-air missiles.. The Cutlass served until the end of 1958.

The F7U twinjet Cutlass was the first U. S. jet fighter designed from the outset to use afterburners; it was the Navy's first supersonic jet and the Navy's first swept-wing fighter. More than 1,200 were made at CVA.

I flew the Cutlass in VF-81 starting in September 1954. We were the first operational squadron to get the bird. The first flight was an eye opener. We took off in afterburner and, after having been flying the F9F-5, the climb out was spectacular. I got the gear up passing through 2,500 feet. It was an advanced aircraft in many ways. First to have a fully irreversible hydraulic control, a bane to metalsmiths who could hardly keep the system from leaking. Of its four pumps, the NY Airbrake had a swash plate that contributed small brass filings into the system and eventually blocked the by-pass valve leading to brass in the control cylinder and locked controls. Fox Turner, the XO of V-83, had to punch out over Oceania when his stick went rigid as in concrete. Gave him a bloody nose. Later, while on weapons and carqual in Gitmo, we had to flush our control systems and found all the birds were contaminated. Ran Gitmo out of hydraulic fluid. LCDR Charlie Smith and I were the discoverers of this condition.

The Cutlass had four 20 MM canons mounted over the intakes. They had muzzle blast deflectors to prevent gases from entering the engine intake. Problem was, they were rigidly installed at the factory and we could not boresight the guns! Had a pattern all over the place and we could not get hits! This feature also led to some tubes vibrating loose and we came close to shooting ourselves down. One pilot came back with a big panel shot off the starboard side of the cockpit.

Carrier work was something called experimental.

To begin with, we tried to old tried-and-true take a cut, high dip, and flare. Problem was the tip of the tailhook would be pointed up and we'd get a hook skip over all the wires. Thankfully, we began CQ with a clear deck because there was no barricade that would stop us.

After figuring out that our nose high attitude was the cause on no traps, we started using a cut further out in the groove, and holding the attitude. This led to float and on one pass, yours truly touched down by the island and had a neat time getting back airborne on burners while skimming the water. I have no recollection of who was the CO of Tico at that time but he must have had at least one ulcer.

A true test of the bird came early in deployment to the Med. I was Ready Cap on Cat One reading a comic book provided by the captain when the 1MC blasted "Launch the ready, Cap!" I thought it was a drill. Weather was 2-300 overcast and 1/2 to 1/4 vis. But, I threw away the comic book, hit start on both engines, brought them up to 100 percent, got the burner signal, hit burner and WHAM - I was airborne! Closed the canopy as the gear came up and got a vector at buster (a/b). Never did sight the bogey and after being directed back to the ship, I was down to 2800 lbs of fuel. Had been airborne about 20 minutes. I knew I was in trouble so I shut one engine down and did a max conserve while the ship did a pull forward. I managed to find the ship by flying up its wake and got aboard with about 600 lbs remaining. Total time of the flight was just over 40 minutes.

The F9s took over Ready Cap after that. The bigger problem with the Cutlass was that they were "not carrier suitable" in the days of constant pressure arresting gear. Unless we had a good 35 knots of wind over

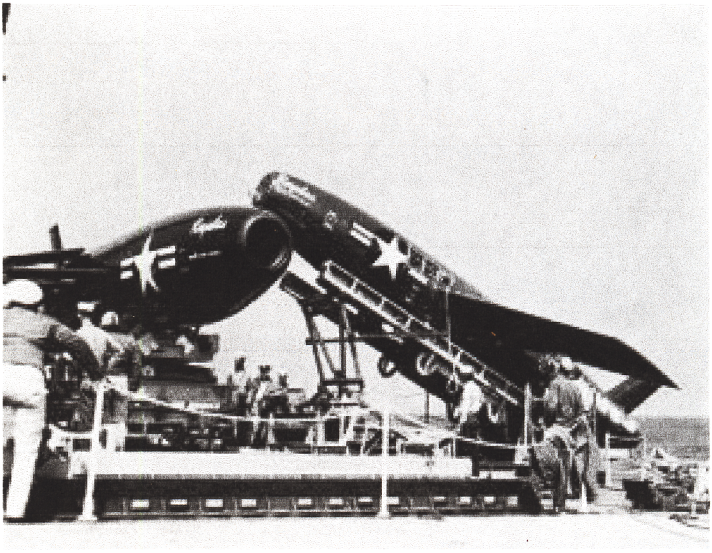
the deck, we were going to over stress the nose gear. When we did and it collapsed, the pilot had a compression fracture of the spine and his days of flying were over. I did the accident investigation on one of these collapses and it was all too clear that all pilots had at least one trap where they'd seen stars and had gone over the stress limits. Those without a broken back, like me, were just plain lucky.

The bird flew just great when all systems were go. On maintenance test flights, I went Mach 1+ many times with no problems. Maneuvering was fine at mid level altitudes but higher up you had to be careful. The Cutlass was the first to have post stall gyrations that were beyond recovery.

We tried using the Cutlass in air-to-ground but it was not a stable platform and hits were wild. The greatest pleasure I had with it was doing fly bys at 650 kts + in burner and at something like 50 feet. Man oh Man was that fun!

07/21/2005
Robert J. Thomas
Tallahassee, Florida

Other Vought test pilots included astronauts Wally Shirra, John Glenn and Richard Gordon.



REGULUS

In 1946, the Navy asked for a missile that could go to sea in a submarine, be launched easily by Navy personnel from that submarine, and accurately deliver a nuclear warhead. Chance Vought Aircraft responded with the Regulus I, the forerunner to today's Polaris and Poseidon missiles.

The Regulus I was the Navy's first offensive guided missile. It could be fired from submarine, aircraft carrier, cruiser, guided missile ship, and land bases. A total of 514 were built.

The Regulus II was larger and faster than Regulus I. It flew at a speed greater than Mach 2. A total of 54 were built.

THE F-8 CRUSADER

Early in the morning on March 25, 1955, Vought's XF8U-1 Crusader piloted by John Konrad lifted off the dry lake bed at Edwards Air Force Base on its initial history-making flight. The slender, knife-winged fighter flew faster than sound in level flight and, in the words of a Navy officer, "took the Navy out of the third row and put it right up front!"

The specification to which the Crusader was eventually produced called for a maximum speed only slightly above Mach 1, but Vought engineers set their sights at almost twice that speed. This was one of the main reasons for the Navy selection of the Chance Vought candidate as the winner of a day fighter design contest in May 1953. J. R. "Russ" Clark, then an aeronautical engineer, played a leading part in the design and development of the Crusader.

In the course of its first 52-minute flight, the XF8U-1 exceeded Mach 1. Although using 42-degree wing sweep, the XF8U-1 reached supersonic speed by a combination of exceptionally low drag plus the thrust pro-

vided by its Pratt & Whitney J57-P-12 turbo-jet engine.

Vought engineers devised a variable incidence wing that is one of the keys to the whole design approach to the Corsair. The Crusader wing represents a neat and simple solution to a host of engineering and aerodynamic problems.

Despite its complexity and sophistication, Crusader development was extraordinarily brief. Within six months of the prototype's first flight, the first production F8U-1 took the air, on September 30, 1955. The Crusader completed its carrier qualification trials on the USS *Forrestal* by April 1956.

The first prototype continued flying on development work for nearly six years, with well over 500 flight-hours, before being presented to the Washington Smithsonian Institute in 1961. One of the initial F8U-ls established the first American national speed record above 1,000 miles per hour.

For flying a Crusader at 1,015.428 miles per hour over China Lake, California, on August 21, 1956, Navy Commander R. W. "Duke" Windsor was awarded the Thompson Trophy for that year. Vought shared in the honor. Only once before in its 45-year history had the Trophy honored fighter aircraft.

(Information from the following websites: Connecticut Air & Space Center, the U.S. Centennial of Flight Commission, Chance Vought/ LTV Archives, and Vought Heritage.)

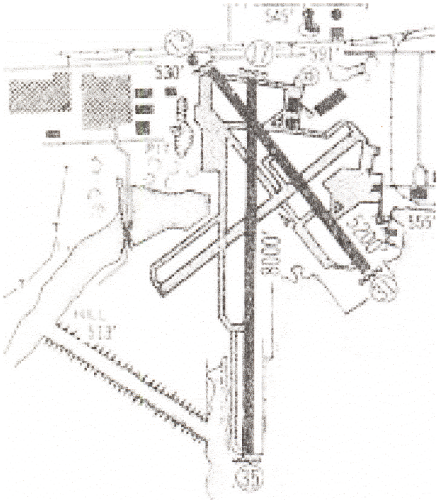
I was never a pilot, but my bosses made it very clear that travel on company business by train, bus, or ship was a cardinal sin when air transportation was available. So I have had to do a lot of flying. Most of my flying was routine, passenger stuff, but there have been a few outstanding memories for me.

I remember a flight from New York City to Kansas City on a TWA DC-3 in 1942. The flight took 28 hours. The train beat me by two hours. Lest you think that this plane was merely flying very slowly, I must say that most of these hours were spent seated in the airplane on the ground. We arrived at St. Louis and had some kind of mechanical problem so that the pilot did not want to take off until repairs were made. We had arrived about the time that the maintenance people were quitting for the day. About sunset, the St. Louis terminal closed for the night. So, like the other passengers, I sat in the airplane all night.

I flew in a Navy airplane from Dayton, Ohio to Washington D.C., in something less than ideal weather before cross-country navigational aids guided the airways. Suddenly, the plane made a panic climbing turn to avoid the shoulder of one of Pennsylvania's mountains. I recall vividly seeing the trees through the mist just off our wing. We were lucky.

Another time, I was the only passenger in a light, twin-engine plane and sat in front along side the pi-

lot. Coming into Dallas Naval Air Station, the plane touched the runway and the landing gear began to fold. The pilot could not hold us on the runway and we rolled off onto the soft earth and nosed over. I crawled out – crawled pretty fast, too, because I knew that there is sometimes a fire with this kind of landing. But, there was no fire this time, although fire equipment came screaming out to greet us. The pilot also crawled out, and once again we were lucky.



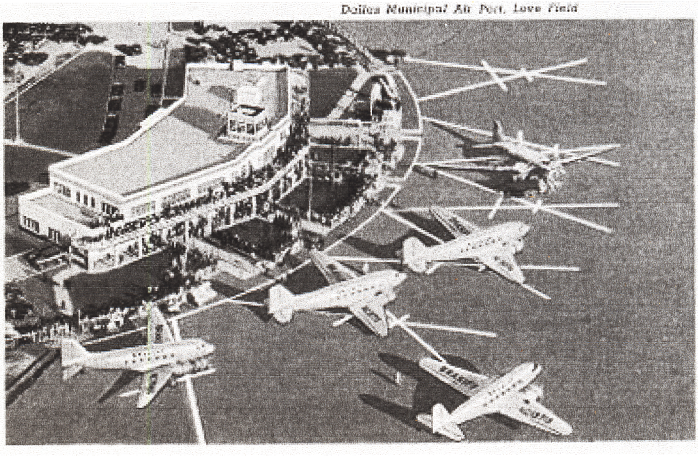
The Hensley Field (Dallas NAS) runways in 1960. Hensley was one of the first naval fields adapated for jet flight and was the primary field for Chance Vought aircraft.

Perhaps the most uncomfortable ride I have had was from Jacksonville, Florida, to Guantanamo Naval Air Station in Cuba. I was in a Navy cargo aircraft. There were very few passenger seats in the plane and they were occupied by Navy officers. In addition to cargo, the plane contained a number of enlisted personnel, my traveling companion, and myself. We pulled down folding seats attached to the inside wall of the cargo space. They were called "MacArthur seats" and consisted of strips of canvas stretched across a tubular metal frame. Our flight was less than two hours, but after fifteen minutes in

the MacArthur seat I was sure that it was an "instrument of the Devil."

Compensating for this, it was the Navy which gave me the most comfortable ride imaginable. I was an admiral's guest in a "zebra" airplane. It, too, was a cargo aircraft. But the after part of the fuselage was fitted out with luxurious VIP accommodations. The admiral and I each had a private cabin which included a comfortable bed, chair and table with a well-secured water bottle. It was a late night departure from Honolulu. I retired in comfort, slept well, and found the admiral waiting for me to join him in a hot breakfast, prepared for us by a regulation Navy steward. Shortly after breakfast, we landed at Moffett Field near San Francisco.

Leaving my military experiences now, I remember a delightful flight one bright morning from Mexico



A postcard view of Dallas' Love Field early in its history. Detweiler spent much of his aviation career flying in or out of Love Field.

City riding in a DC -3 with both passengers and cargo in the cabin. The cargo included barbed wire, live chickens, bags of onions, drums of gasoline and cans of oil, and assorted noises and odors. We were bound for waystations in the mountains of western Mexico and the little city of Manzanillo on the Pacific coast, The flight was scheduled for only two round trips a week. It was quite useful in this very rugged country without railroads or good highways.

The flight had a crew of one. The pilot took our tickets and luggage, told us to board the plane and then ignored us. At each landing, he had to buzz the field once or twice to chase the cattle and burros off the grass runway. It was the pilot who loaded and unloaded the plane at each stop, with the help of a local worker whose only uniform was a pair of trousers. There was no air terminal, only a shed roof set upon posts to protect the gas and oil cans and any waiting cargo. It was the pilot who pumped the fuel into the tanks, from drums of gasoline, with a hand pump.

At one stop, we were delayed because the starter would not work. It was the pilot who took off the engine cowling and worked on the starter for a short time, then replaced the cowling and told us to re-board the plane. I was quite at ease then, for I knew that we were in the hands of a competent man.

I got off the plane in the little city on the Pacific Ocean feeling some of the wonder that man could fly at all. Our flight had accomplished in a few hours what otherwise would have been an arduous journey over the mountains covering many days, or perhaps not even possible at all with the cargo our flight carried.

Of course, I also have memories of many wonderful sights from the air. Any of our major cities on a clear night is a spectacle from above. In daylight, the bright green island of Elba set in the deep blue of the Mediterranean; the rosy, white eminence of Mont Blanc, which our pilot obligingly circled; the Grand Canyon; Mount Rainer in the Cascades; the jagged southern tip of Greenland with its sparkling icebergs off-shore – all are sights to remember.

I have never taken flight for granted. I have been associated with engineers who have struggled to find answers to very troublesome questions, answers which might result in small increases in aircraft performance and reliability.

When I was employed by the Aircraft in 1933, the world speed record for level flight was about 250 miles per hour, nearly twice the speed of World War I aircraft. The records in those days were set by specially prepared racing planes with souped-up engines.

Today, large air liners carry a multitude of passengers, mail and freight between all of the major cities of the world at speeds around 500 miles per hour. Such flights are repeated daily, routinely and are not news at all. But it is a matter of news on rare occasions when something goes wrong.

In the development of aviation, advances in military flying equipment and techniques and performance have been phenomenal – absolutely amazing. We used to say that military aviation was about fifteen years ahead of civil aviation. Today, military aviation and civil aviation are so very different that such a measure has no significance.

In spite of the mentions I have made of the contributions to aviation's progress made by the en-

gineers, I should point out that the contributions to development made by flight and operating personnel have also been great. It is these people who are the genuine critics of each development in aircraft operations.

It has been many years since I have been close to aviation. I am way out of date. But I am certain that the people involved in aviation are continually working for improvement in the performance and reliability of equipment for our use of the air.

Frederick O. Detweiler
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