

Chapter 09 CONVAIR VOLTEE AIRCRAFT 1954 – 1961



I took leave, the last two months of my six years active duty in the Navy, got married (See chapter 02) went to work for Convair San Diego, California. Our plans were to find temporary work during the summer and then go to BYU on my GI Bill.

My Bishop Calvin Judd was a second level supervisor at Convair helped get me a special assignment in the CONVAIR TEST EQUIPMENT PRECISION MODEL SHOP, starting 1 April 1954. The shop was primarily high skilled machinist with many years of background and experience. My first few months were not very stressful as I gained the name of “SCREW-UP” because they felt that I ruined several items that were given to me to work on. I didn’t have the precision tools and experience that I needed, and they were very expensive. I didn’t seem to fit in as I was unskilled working with extremely skilled people. “DON’T GIVE IT TO “SCREW-UP” TO WORK ON AS HE WILL DISTROY IT”, was the common comment.

The assignment of the CONVAIR TEST EQUIPMENT MODEL SHOP to support the special equipment required for testing the CONVAIR Air Craft that was being developed. We fabricated the various brackets, special test gear, wiring harnesses, etc., This was a wide range of projects. The F-102 “Delta Dart” jet and the CONVAIR LINER 240 were just completing and going into production. The F-106 Delta Dagger” design was the high priority

getting the aircraft ready aircraft design development



project, first test to fly. The and support was

for the projects as shown below. I had some at least small involvement on each aircraft.

I really liked the work and put a lot of effort into my assignments. It took a few months, but then electronic technology entered the testing and became a major impact on the Model Shop. Those who gave me a hard time were now coming to me for help. I submitted a few suggestions and received awards. One of them was pulsing - reversing the polarity of the plating machine which improved the plating and reduced the time required.

I was promoted to the night "Camera Bench". I would check out the 35-mm cameras, fabricate brackets and did whatever was required for the cameras ready to be placed in the Aircraft that was being flight tested. I was given the schedule of the test requirements and I had to have the cameras and mounting brackets, etc. ready for the test flight the next day.

The main suggestion that I made was an R-C Intervalometer. The mechanical Intervalometer was a set of cams milled by the Machinist to pulse a 35 MM camera taking



pictures of a duplicate instrument panel (same as the pilot was seeing) located in a remote area of the aircraft being tested. The fabrication of the Mechanical

Intervalometer was a long process and they were way behind in the



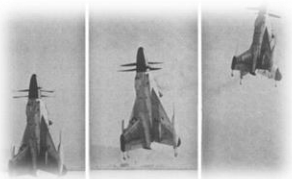
production and not meeting the demands for the flight-testing requirements. I asked one of the Instrumentation Design Engineers if there was a



precision timed pulse required. He said no, they needed to be able to

select the pulse speed for the camera to meet the requirement of the 35 MM camera. The timing was not critical. I submitted a suggestion of using an RC Intervalometer that would do a simple charging of a capacitor with a variable (pot) adjustable control to replace the Mechanical Intervalometer at a great savings in cost. It gave me a special feeling to see the production of a device made from my suggestion and design.

One example of first planned test of an air craft taking off from sitting on its tail and transitioning to horizontal flight. I had known of the flight test and had the camera ready for a special flight that was scheduled for the 'Pogo Stick". The **Convair XFY Pogo** tail-sitter



was an experiment in vertical takeoff and landing. The Pogo Stick had delta wings and three-bladed contra-rotating propellers. In May 1951, Lockheed and Convair were awarded contracts in the attempt to design, construct, and test two experimental VTOL

fighters that would be suitable for use by the Armed forces. The Navy wanted an aircraft that could take off vertically from a ship. On 19 April 1954, a Convair engineering test pilot and Marine reservist, Lieutenant Colonel James F. "Skeets" Coleman, made the first tethered flight in the Pogo. (Hovering Test of the aircraft with safety constraints). This was a propeller type aircraft sit on its tail for taking off.

I knew about the special upcoming test flight as I had to get the camera ready. So, the next day, I skipped going to school and took my wife to the secret place (The Naval Auxiliary Air Station in Brown Field, California near the Mexican Border South of San Diego) where the test was to be conducted. Why was it kept secret? If it failed, they didn't want all the publicity. My wife and I were some of the few that witnessed the first successful Conversion Vertical takeoff Aircraft and landing of a vertical Aircraft (VTOL) in the world on November 2, 1954 when it transitioned and flew horizontally for 21 minutes. Just two days later, the aircraft made its public debut.

The Navy awarded contracts to Convair and Lockheed to design, build, and fly experimental VTOL fighters in May 1951. Each company agreed to build two prototypes, but in the end, they built only one Lockheed XFV-1 and one Convair XFY-1 Pogo. The Lockheed XFV-1 never made a vertical takeoff and landing, only taking off horizontally. The XFY-1 could not only takeoff and land vertically it could also transition to horizontal flight and back and did so many times.



It had been a great day for Convair, with the success of the Pogo flight, but only received minor publicity. However, the disaster of the Convair XF2Y Sea Dart at about the same time on 4 November 1954 received publicity world wide.

Five SeaDart aircrafts were built and there were plans to build 22 for the Navy. The first four had two retractd water-skis and the last SeaDart only had single water-skis. The SeaDart had gone though a test period of water taxing and several water take offs and landings. The big public debut was the same day as the official debut of the Pogo, except there was a lot of interest to see the Navy Jet fighter take off on the water.

I was aware of the event, both from my camera bench scheduling and all the publicity on the Radio and news papers. I was unable to see it as I had to “punch in” on the tome clock at work about the same time as of the flight.



Convair test pilot Charles E. Richbourg made the initial flight tests of the number two Sea Dart. On August 3, 1954, Richbourg took the Sea Dart through the sound barrier. This made the Sea Dart the first (and to date the only) seaplane to go supersonic. Unfortunately, Richbourg was killed on November 4 of that year while demonstrating the number two Sea Dart over San Diego Bay to Navy officers and press representatives. It seems that the aircraft had gotten pushed past its safety margin during a low-altitude, high-speed fly-past, and the plane disintegrated in midair as a result of pilot-induced pitch oscillations. Bits and pieces of flaming debris fell into the bay. I still remember the rather vivid photos of this accident that appeared in *Life Magazine* and all the Newspapers. All Sea

Dart operations were suspended after the crash. There were some additional tests made, but no additional Sea Darts were built or used.

Three of the Surviving YF2Y-1 Sea Darts are with the San Diego Aerospace Museum at Balboa Park, San Diego. One of the Sea Darts is mounted at the entrance of the Museum.

I was promoted to an “RDT” and assigned to the RDT Lab. Research and Development Technicians were called an RDT. This was like being the top ranked enlisted person, working with the Commissioned Officer. We were assigned out to help various Design Engineers with their projects. This was a fun and exciting assignment.



A full go-ahead for the Atlas design was ordered in January 1955 as Weapon System WS107A-1. At Convair the project was known as the Model 7. It was considered the same priority as the WWII Manhattan Project (Atomic Bomb). In September 1955, faced with intelligence reports of Russian progress on their ICBM, the Atlas received the highest national development priority. The project became one of the largest and most complex production, testing, and construction programs ever undertaken. The first propulsion system and component tests were conducted in June 1956; the first captive and flight-test missiles were completed later that same year.

“The **SM-65 Atlas** was the first intercontinental ballistic missile (ICBM) developed and deployed by the United States. It was built for the U.S. Air Force by Convair Division of General Dynamics at the Kearny Mesa assembly plant north of San Diego, California. Atlas became operational as an ICBM in October 1959 and was used as a first stage for satellite launch vehicles for half a century. The Atlas missile's warhead was over 100 times more powerful than the bomb dropped over Nagasaki in 1945.

An initial development contract was given to Consolidated Voltee Aircraft (Convair) on 16 January 1951 for what was then called MX-1593, but at a relatively low priority. The 1953 testing of the first dry fuel H-bomb in the Soviet Union led to the project being dramatically

accelerated. The initial design completed by Convair in 1953 was larger than the missile that eventually entered service. The Atlas program was formally given the highest national priority. Atlas development was tightly controlled by the Air Force's Western Development Division, (WDD), later part of the Air Force Ballistic Missile Division. Contracts for warhead, guidance and propulsion were handled separately by WDD. The first successful flight of a highly instrumented Atlas missile to full range occurred 28 November 1958. Atlas ICBMs were deployed operationally from 31 October 1959 to 12 April 1965.”

I was one of the first “RDT” selected to be assigned to the new Convair Atlas Missile project. The new company was called Convair Astronautics and I was assigned to the Atlas telemetry group. The old method of instrumentation Aircraft was that the aircraft came back when the aircraft landed and you could access the recording devices. With a Missile, the Test data must be “real time” radioed back. That process is called “Telemetry”. After being in that group for about a year, my evaluation showed that I was doing Engineer level work and was promoted to be a “Test Engineer” and turn in my yellow badge and be issued what they called “A candy strip” badge. That was like receiving a commission in the Military. I no longer had to punch a time clock and could leave the plant, come and go without having to request special permission.

At that time, when you received this type of promotion, in a way like receiving a commission in the Military, you were transferred out of



the group and I was assigned as the Night Blockhouse

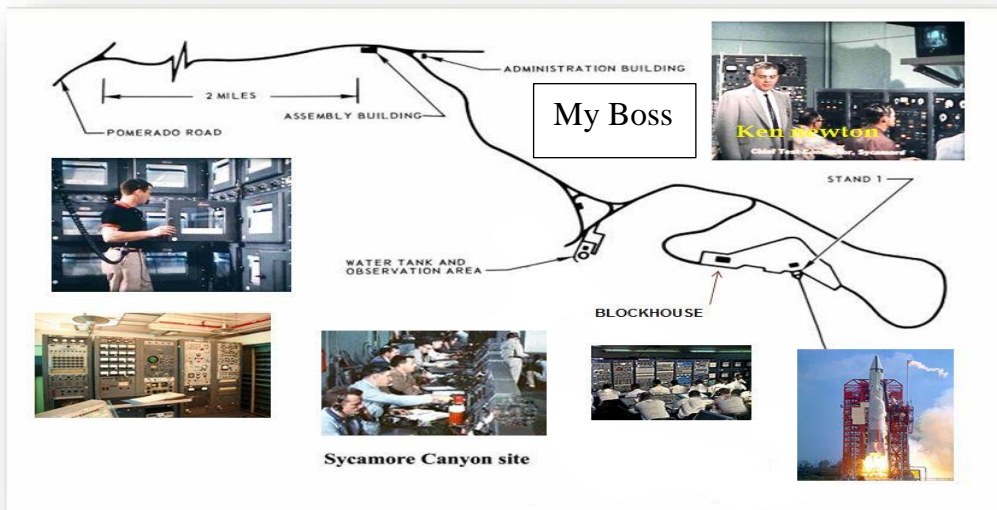
Engineer at the Sycamore Canyon Static Test Site. Sometimes called “San Diego’s secret missile testing site.”

“Sycamore Canyon Test Facility

The sycamore canyon test facility was located on the U S navy’s camp Elliott, approximately 17 miles

north of downtown San Diego. The site was activated during September 1956, providing Convair Astronautics with a static firing test facility in the vicinity of the manufacturing plant”

Ken Newton was the Chief Test Conductor for many years and was my boss when I worked there. The “Block House” was a special building near the missile launch Stand to protect the equipment and facility personnel from a possible explosion. This is where we would Static Test (do everything like we were launching the Atlas, but not let it go.) When they had “countdowns”, We had to be there 18 hours a day, sometimes running every day but Sunday



trying to go through launch procedures and find the bugs for actual launching of the Atlas Missile.

This

procedure required about 20 Design Engineers from the main Plant to take their various equipment positions in the block house for the count down. The procedure would continue under “Green light” conditions but would stop when a “Red Light” would appear meaning a malfunction. Sometimes it would take an hour to clear the red light and other times several days. Everyone had to stay in place while the search for the problem was done. When the engines would start, the block house felt like an earthquake and the noise could be heard in San Diego. All the procedures were followed to launch the Atlas Missile but were held on the test stand to simulate traveling into space. After a test, I would help collect the data to be taken back to the main plant for Analysis. On normal routine days, the Block House

Engineers were the coordinators between Plant Engineers and the Site technical staff. The Air Force wanted a documentation of the site, once everything was working. I was transferred from the Block House up to the Sycamore Canyon Site Engineering Administration building, saying that they needed me to run the site wiring documentation program. My major problem was that I could no longer take my college classes having to workdays and the classes were not available at night.

“Administration Building –Sycamore Canyon ..

The administration building was used by the Air Force, Convair Astronautics and associated contractor liaison personnel. it provided a reception and security clearance area and an office for engineering personnel. it also contained a dispensary, cafeteria, garage and an instrument checkout station.

I designed a “Wire Tab” form that proved to be very successful. Convair Astronautics had one of the first computers, but I was not allowed near it except for once I got a chance to see the racks and cabinets of tube type equipment.

Several special Electrical Contractors were hired to work under me and went through every wire at the test stand and documented with the wire tabs were. This project took months to document. I would have liked to have had my laptop computer then, but there were no computers available then and everything was manually written on paper.

When the completion of the Documentation assignment was completed, I wanted to get back to the main plant and I was transferred to the Telemetry Test Equipment Packaging Group

My Test Engineer Title was upgraded to Design Engineer. I reported into my new group with Bill Jungk as my Boss and Russ Cassatt was the upper level Supervisor. The name of our group was the Telemetry Test Equipment Packaging Group. The electronics group would design the circuitry for the equipment to meet the testing requirements of the telemetry

systems. Our group would then design the layout of the parts on the chassis, packaging and equipment racks.

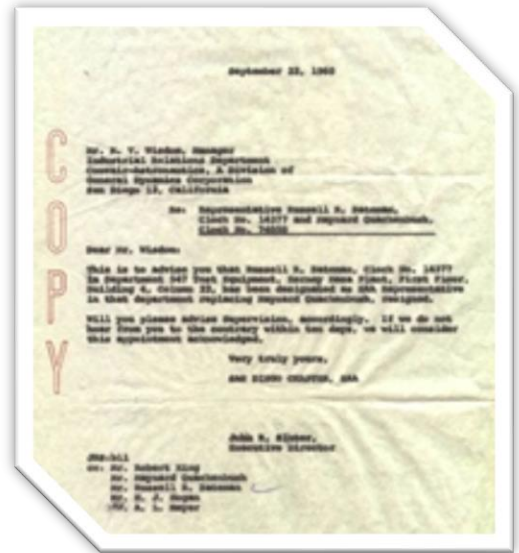
I was taking an Industrial relationship class at San Diego State College and learning how great Unions were and what they did for our country. Our professor had a great story to tell and was a strong Union supporter. o: Convair Industrial Relations.

Re: Representative Russell R. Bateman, Clock No. 14377 and Maynard Quackenbush Clock No 74858

Dear Mr. Wisdom:

This to advise you that Russell R. Bateman, Clock No. 14377 in Department 547 Test Equipment, Kerney Mesa Plant, First Floor, Building 4, Column 22, has been designated as EAA Representative in that department replacing Maynard Quackenbush, resigned.

Will you please advise Supervision, accordingly? If we do not hear from you to the contrary within ten days, we will consider this appointment acknowledged. Very truly yours, San Diego Chapter EAA



I fell for the Brain washing. At work, I was talked into being the Department Union Representative and given status of no layoff protection. My assignment was to facilitate disputes between the Engineers and associates and Management. At the first meeting of the Union I attended; I was on the front row ready to do all the good things I had learned at San Diego State College. The first motion was entered by the union bosses to raise Union dues. I jumped up, with my great college learning, and said, no, let's increase membership. I was told, "Shut up and sit down. It was the same for the next three or four monthly meetings. I lost all interest in the union when I found out the union was controlled by five guys who borrowed funds from the union membership dues at 1% interest and invested it at 4% interest. Only these five guys had that opportunity. I resigned from being Department Union Representative.

I had a little drafting in high School, and I felt it was going to be more problems like I had when I first was employed working in the precision Model Shop with CONVAIR. The Equipment Packaging Group was fourteen Design Engineers taking the schematic designs

from the Electronic Engineers and designing the equipment and cabinets as required fabricating the required test equipment. Half of the groups were college graduates and others had been trained in drafting schools. I ask myself, what am I doing here? Mechanical drawing seems to come easy to me. I did drawings, but they didn't in anyway compare with the others. So, what did they do? They took the less qualified, the less skilled guy—me, and made me the group Supervisor.

I got along great with my boss and my Boss's, Boss Russ Cassutt. The guys in my group were great and carried me and made me look good. I never had one problem with any of the members in the three years in this assignment and it was one of the most enjoyable, stresses less times of my life. The other Supervisors were Senior Design Engineer. Had I stayed; I



would have received the upgrade. We had parties and social activities. My Boss took me with him to be “Venderized” meaning taken out to dinner by supplying vendors. When they started with the drinks, my boss Bill Jungk would say, bring Mr. Bateman a 7 up. When Gaye and I went to

parties, we would be met at the door and given a 7 up.

My section had the configuration control of the Telemetry Test Equipment Trailers located at several sites. We had trailers located at

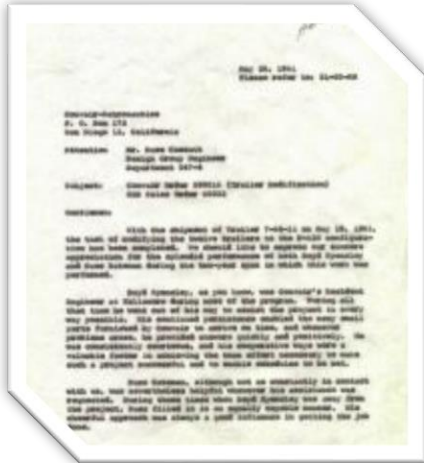


Vandenberg AFB, Edwards Rocket Base and four trailers at the Kennedy Space Center, Cape Canaveral. Convair had a “Goony Bird” Douglas C-47 that we used for transportation of personnel between San Diego and Edwards AFB and I made the trip several times. I was not able to visit Cape Canaveral and had to work with a third party. (However, we did take a cadet group there a few years later see, chapter 8.)



The Telemetry Electronics group designed an update modification for 12 Trailers. This was my major project. I chose Boyd Spencley, A graduate Engineer in my group to be Convair's Resident Engineer at the Hallamore Electronics Contractor's plant near Disneyland. Hallamore Electronics was

selected to make these modifications of the Telemetry Check-out Trailers. The trailers were transported from the various locations to the Hallamore Plant. At the completion of this program, Hallamore Electronics wrote this letter:



May 26, 1961 Hallamore Electronics

Convair astronautics
P O box 172
San Diego 12 California

Attention: Mr. Russ Cassutt Design Group Engineer Department
547-4
Subject: Convair Order S9901A (Trailer Modification) Red Sales
Order 60002

Gentlemen:

With the shipment of Trailer seven - 6411 on May 19, 1961 the task of modifying the 12 Trailers to the D - AIG configuration has been completed. We should like to express our sincere appreciation for

the splendid performance of Both Boyd Spencley and **Russ Bateman** during the two-year span which this work was performed

Boyd Spencley, as you know was Convair's Resident Engineer at Hallamore during most of the program. During all that time he went out of his way to assist the project in every way possible. His continued persistence enabled the many small parts furnished by Convair to arrive on time and whatever problems arose, he provided answers quickly and positively. He was consistently courteous, and his cooperative ways were a valuable factor in achieving the team effort necessary to make such a project successful and to enable us to meet our schedule.



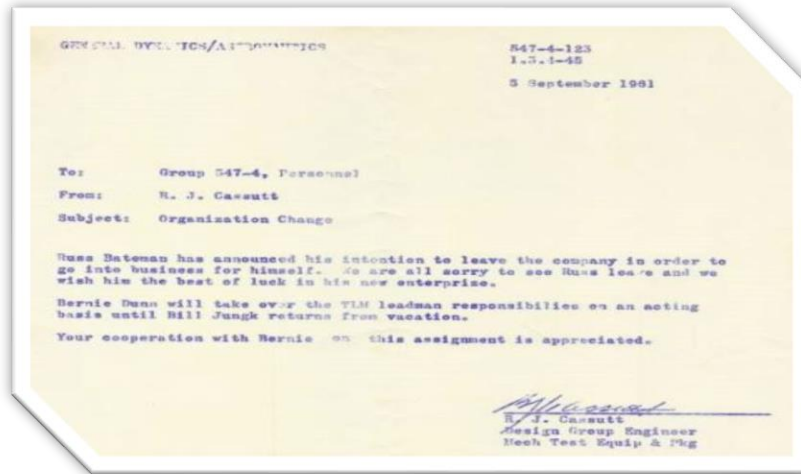
Russ Bateman although not constantly in contact with us, was nevertheless helpful whenever his assistance was requested. During those times when Boyd Spencley was away from the project, **Russ** filled in an equally capable manner. His cheerful approach was always a good influence in getting the job done.

Both gentlemen conducted themselves in a fine matter that they reflected great credit on Convair. Please extend our thanks to them for the good work and accept our thanks for signing these two engineers to the project. We're also happy to inform you that the purchasing department team of Herb Sturdyvin and Bob McClean, under Mel Brown, Buying Supervisor, added immeasurably to Conair's team which helped to complete this task successfully.

Very Truly Yours,

Hallamore Electronics Division
The Siegler Corporation

*R. J Birsic, Senior Contracts Administrator
CC w. Jungk, Dept. 547-4 -R Brown Dept. 812-1*



Things were going great and I was in line to be promoted to Senior Design Engineer. The Atlas Missile project was very successful, meeting all the Air Force requirements and very few failures. And the new Atlas Centaur project was just starting. We received

startling news that the Atlas Chief engineer was discharged in that he didn't have an Engineering Degree as required by the Air Force. The notice also stated that the Air Force required all Engineers to have degrees. I ask how that would affect me and was told that I would be reduced to the top-grade Hourly Employee and that I could longer be a supervisor.

Due to my pride, I felt I would have a hard time to "give up my "commission", take a big cut in pay and start punching a time clock again. I felt that I couldn't do that, so I looked for other avenues and left the company on 15 September 1961. This was one of my many bad decisions that I have made in my life. Looking back, I should have waited to see what would really happen.

A note of interest, after cleaning out the engineers (without degrees), and hiring the new College Degreed Engineers, the Atlas Centaur had many failures and the project was turned over to Lockheed Martin which then controlled the "Atlas Rocket Family" and development of the Atlas V program for launches planned until 2020.

It was also interesting that Convair 880 Airliner was successful, but they cleaned out all the Non-Degreed Engineers and with the newly hired new Degreed Engineers, designed the new and improved 990 Airliner. To meet the competition, they went into full production without

the normal testing. The 990 Airliner was a flop. It didn't even meet the specifications of the 880. The San Diego Convair Aircraft Division was destroyed and no longer exists. I remember seeing many Convair 990's sitting at San Diego Limburg field unable to be sold due to not meeting the required specifications and low performance ratings.

CONVAIR | ASTRONAUTICS
CONVAIR DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

SERVICE RECORD

Date September 15, 1961

This will certify that RUSSELL RULON BATEMAN SS. No. 528-26-9853 was continuously employed by this Company between 4-1-54 and 9-15-61. Classification at time of termination was Design Engineer.

Prospective employers may secure additional information regarding former employees by addressing inquiries to the Employment Section, Industrial Relations Department of this Company, provided that beforehand they secure the written permission of the individual concerned.

CONVAIR | ASTRONAUTICS
CONVAIR DIVISION OF GENERAL DYNAMICS CORPORATION

J. B. Jones Jr.
EMPLOYMENT MANAGER
INDUSTRIAL RELATIONS DEPARTMENT

We relocated to St. George where I purchase Electrical, two-way Radio servicing and a Western Auto Store. (See Chapter 14)