

Recollections of the 961st Airborne Early Warning
&
961st Airborne Early Warning & Control Squadron
October 1962 - October 1965
By:
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The 961st AEW&C Squadron was my first assignment after pilot training in October 1962. When I PCS'd from the squadron, the commander was Lt. Col. Robert V. Mitchell, who took over sometime in 1964. Bob Mitchell was a wonderful man - everything you could want in a commander. We were an Air Defense Command (ADC) unit, part of the 551st Airborne Early Warning and Control Wing, at Otis AFB, Cape Cod, Massachusetts. The wing call sign was "Homey." The wing had three flying squadrons and was equipped with RC-121s, TC-121s and EC-121Hs. At the time, the Air Force seemed to be in process of changing the designation of the Connie from RC to EC-121.

The 551st Wing mission was to maintain "continuous random" airborne coverage of at least one "station" off the US east coast. There were four stations located about 150 miles or so off shore, in or just outside of the ADIZ, the Air Defense Identification Zone, where aircraft were required to have ADC clearance to operate. Unknowns in or near the ADIZ were scrambled on by ADC F-101 or F-102 interceptors, a number of which were kept on five minute alert at numerous bases up and down the coast. (Otis also had an F-101 squadron and an "alert barn" with four alert stalls.) What the continuous "random manning" airborne coverage mission meant was that at least one EC-121H had to be airborne and operational on one or more of the four stations. At higher DEFCONs, increasing numbers of stations would be manned. The stations were basically 100-mile long racetrack patterns, running north south or NE-SW. They were identified as Station 2, Station 4, Station 6 and Station 8. Station 2 was east of Cape Cod, 4 east of New Jersey, 6 east of Virginia and Station 8 was off of Charleston SC. Operating altitude was 15,000 feet. (More about that later.) This was the mission during my three-year tour with the 961st, and for some time thereafter, as I understand it. The wing schedule to maintain this coverage had one aircraft launching every four hours, starting at 0200, then 0600, etc. The six launches per day were allocated among the three squadrons (960th, 961st and 962nd). Every couple of weeks, the schedule would change between squadrons so that each squadron would get their "fair share" of the 0200 launches! If a Connie on station had a problem (radar, data link, in-flight emergency, etc.) typically the next scheduled mission would be moved up for an ASAP takeoff; sometimes there was an alert aircraft to fill in as needed. Also, at increased states of alert, increasing numbers of stations needed to be covered.

When I arrived at Otis, the Cuban Missile Crisis was well under way, so the training program was last priority. All crew training was done at Otis by the wing and the squadrons. We also had an ATC Field Training Detachment there for ground school. And we had a Flight Simulator – a static "box on the floor," no visual system other than a choice of light or dark outside the opaque cockpit windows; but it did everything we needed. Since I wasn't mission ready, I got only a few Connie rides until the "Crisis" scheduling system got sorted out. So in the meantime I flew C-47s with some Lt Cols in base flight, who seemed to me at the time to be really aged. They were excellent pilots, mainly, and I learned a lot about flying from them. The Gooney Bird was a fun plane to fly and I got to know her pretty well. Turned out that the C-47 was the first USAF bird that I flew as an aircraft commander, and I kept flying the Goon all the while after I checked out in the Connie.

Air Defense of the Continental US was a major national concern during this time frame. The Connie missions and the interceptor flights were known as Active Air Defense Missions commonly referred to as AAD missions. There was virtually total ADC radar coverage of the Continental US, certainly the entire perimeter of the US had coverage, mostly with overlapping radar sites should there be an outage at one radar site. Also, there was the DEW Line of radar sites across the top of North America, the Mid-Canada Line and the Pine Tree Line near the U.S.-Canada border. And then there were also the Navy radar picket ships, and the USAF "Texas Towers," which I've heard was delightful duty. (In one of them blew over and sunk in a storm - many people drowned.) Texas Towers were similar to offshore oil rig platforms with a radar

site mounted on them.

Air Defense Exercises were a major part of the Connie operation. The general scenario was: an increasing of DEFCON levels, recall of maintenance and flight crews, generating AAD mission aircraft, pre-fighting, cocking aircraft and going on alert - we had trailers, with bunks, alongside the squadron ops building. At certain states of alert we would go out to the airplanes and sit alert in the planes. The Big Event was launching the fleet! I mean everything that was flyable would launch! Looking at it many years retrospectively - this was an absolutely unbelievable operation. At the required state of exercise DEFCON - everyone started engines that could start engines, and taxied out on their own command, falling in one behind the other as they got out to the taxiway. Usually, by the time a couple of airplanes got to the end of the runway, you could expect that we had "incoming" so it was time to "FLUSH" the fleet! The trigger for this was the exercise words, "BIG NOISE, APPLE JACK, DELTA." In other words, a red alert as in the movies: Missiles on the way.

This was exciting. The entire wing gets cleared for takeoff and cleared to proceed out to STOPs or "strategic orbit points" to sit out the missile raid. Takeoff was at 15-second intervals. The first one off gets the highest altitude at the STOP, next one 500 feet lower, etc. The STOP was out on the 060 radial. Of course the FAA didn't want anything to do with this wild operation so they just gave us a whole block of sky and we cleared ourselves. One of these FLUSH drills was particularly exciting for me; we were about number four or five in the stream of airplanes and just after breaking ground on runway 31 the turbulence from the previous aircraft rolled us off to the right while the gear was still down. Full left aileron didn't hack it, other than to stop the roll - there we were, tooling along with about 20 degrees of bank with the wing tip pretty close to the ground - the folks on the ground said it took their breath away. They weren't the only ones. Didn't think we were going to make it. But eventually we drifted a little off to the right and got out of the turbulence, leveled the wings and climbed out. More fun - the weather was IFR and we had a bunch of airplanes all climbing out in the same general direction. We started calling out our TACAN positions to each other in order to try to keep some spacing. I remember two of calling the same radial and DME while trudging along in the murk. One of us was a few hundred feet higher than the other so we increased that altitude separation. I guess our altimeters accurate - or could it have been just the "big sky" theory at work. Eventually, after getting to the STOP, each airplane got a real ATC IFR clearance and got out of there. Each airplane individually went back to land somewhere or proceeded on to an AAD mission. That was the last one of those drills I remember doing! Somebody may have rethought the whole thing.

For the early morning "0-dark hundred" show times, we could go to the in-flight kitchen and get a great home cooked breakfast. I recall that the price was right - only 22 cents for whatever you wanted. But remember, this was at the time when second lieutenant's base pay was \$222.30 a month! Flight pay was about \$100, quarters allowance less than that. Seemed to pay all the bills - times do change. The in-flight kitchen at Otis was important to Connie crews - they put together some pretty good hot meals that we cooked in two airliner type ovens in the mid-ship EC-121 galley. Kept them in the fridge till ready to cook - the protocol was to check around and make sure anybody who wanted to eat got one in the oven if you were going to turn it on. The galley ranked in importance right up there with the bunks!

The EC-121H Connie crew consisted of the flight crew, radar techs, radio operators and height finder operator. I remember the crew to be about 12 to 15 people - enough of each crew position to allow everyone to get periodic breaks; there were lots of bunks - six to nine in the tail section and three up front (one on the left side that folded down from the headliner, and a bench with three seat belts on the right just behind the door to the flight deck that had a back which folded up to make the top bunk of two bunks.) Bunks were assigned by crew position. Most of the mission activity was in the over-wing area - the navigator's station was on the right (the Nav had a portable stool to sit on in the middle of the aisle - the sextant port was right there too). The radio operator was across from the navigator. Most of the RO's traffic while on station was via HF CW, i.e.. Morse code! Mounted on the RO's table was a Morse code key made by Samuel F.B. Morse himself I'm sure. At the wing command post we had a "radio shack" (actually a little shed to keep the noise out) for the CP radio types to copy and send Morse code, and talk on sideband if they were lucky. The radar techs' jobs were to keep the radar going - apparently this meant having bits and pieces of the radar set

spread out, up and down the aisle of the airplane, all lashed together somehow, and all lit up and operating. We were always trouble-shooting something while on station. There were no weapons controllers or anything like a "mission crew." The surveillance mission, scramble authority and weapons control functions were all done at the SAGE Centers or back-up sites. All the EC-121H radar data was digitized and transmitted to ground sites (one ground site for each airborne radar station). From the ground sites, data went via landline, mainly, to the SAGE centers. That's Semi Automatic Ground Environment - and there were a lot of those too. This data link system was known as Airborne Long Range Input (ALRI). Most of the 551st Connies were EC-121H ALRI airplanes, this was a relatively new program and the conversion was ongoing and almost complete when I arrived in 1962. The typical mission seemed to be about nine hours - could be longer if mission requirements dictated - or shorter in the event of an emergency (seemed to be lots of those). (The 552nd on the west coast didn't have ALRI; I think their stations were farther out, beyond line of sight to land. So they had full mission crews.)

Weather wasn't the best at Cape Cod in the winter so we had lots of mission recovery divers. A favorite place to go for a weather alternate was Kindley Field, Bermuda. There were lots of excuses to divert to Bermuda. Kindley was also one of our dispersal bases for hurricane evacuation. We rode motorbikes around the island and gave the Navy Class VI store a lot of business.

About in-flight emergencies - engine failures of one sort or another, and hydraulic problems, were not at all uncommon occurrences. I believe a lot of this was related to the 15,000-foot on-station operating altitude. (This altitude was required in order to have line-of-sight ALRI radar data link radio coverage with the ground sites for each of the four stations.) Our Connies were always "max'd out" for take off on these AAD missions - about 142,000 pounds - we carried the maximum amount of gas to fly as long a mission as possible. Actually, this weight was pushing the basic design limit of the Connie. Whatever runway there was available, we seemed to use all of it in takeoff performance planning. The flight engineer would keep his foot positioned next to the fuel dump lever on the bulkhead behind the pilots' seats so as to be able to kick the lever to start dumping fuel right after takeoff (or during takeoff!) in the event of an engine problem. Being new to the game right out of pilot training, I naturally took this as just part of the job and happily accepted it as a challenge. The ex-B-17 pilots didn't seem to mind too much either - at least there was no flack and no ME-109s to contend with. (We had several captains that were command pilots who learned how to "really" fly in the "big one.")

Once we got airborne, there was the long climb-out to 15,000 feet. This, I believe, put a lot of strain on the R-3350 turbo-compound engines, because we usually operated at METO power during the entire climb, and sometimes for up to a half hour after leveling-off. METO power (maximum except take off) was the first power reduction after maximum power for take-off. It took about 45 minutes to get up to 15,000 feet. At about 10,000 feet we'd level-off briefly to build up speed for the "blower shift;" which entailed throttling back the inboard engines, shifting them to high blower (supercharger), throttle back up, and then do the same with the outboards and continue the climb. These large power changes would tend to wake up any new crewmembers that hit the bunks early. The latter part of the climb out is where a lot of the engine problems occurred, fires, spark plug breakdowns (shorted secondaries) and turbine failures. The R-3350 had three power recovery turbines (PRTs) on each engine. PRTs

are like the turbine on a jet engine. Engine exhaust from six of the eighteen cylinders was collected in a common manifold and routed through one of the three PRTs, which were about a foot in diameter. The three PRT turbine shafts were geared to the engine crankshaft and contributed a significant proportion of the total power of the R-3350. Frequently, turbine blades would separate from PRTs causing power loss and necessitating engine shut down to preclude further damage. Sometimes the turbine blades would punch through the PRT casing and then exhaust would then exit through the holes in the casing - a cause of engine fires more than just occasionally. Every Connie crew has lots of stories about three engine operations and engine fires etc.

We always carried several gallons of extra hydraulic fluid (in quart cans). It was routine to have to replenish the system several times during flight. This was done via a port connecting to the hydraulic system in the cockpit - we would punch a hole in the can, stick in a metal tube on the end of a hose, which we connected to the port, and an aspirator sucked in the quart of hydraulic fluid. There were two separate hydraulic systems with a crossover for backup - had to be careful not to crossover if a leak in one side wasn't isolated or you could lose the whole thing - both systems. Leaks were commonplace. I remember one where the entire forward lower bay was sprayed with hydraulic fluid leaking under pressure; had to shut down most of the electrics (because of the flammable hydraulic fluid) - major problem. Sometimes, depending on where the leak was, you could recover the system. Manual backups included a long hand crank to wind down the flaps; this took a long time to do. We'd usually just put out a small amount of flaps and let it go at that. Emergency landing gear extension was a real feat. The copilot had a hand pump on the right sidewall. One day in 1965, flying with George Textor we had such an actual experience (George and I later went to survival school together at Stead AFB, Nevada and eventually ended up together at Pleiku, Vietnam in '66). Well, George got to pump down the gear - it took several hundred strokes, hard work. Especially the last part of pumping to get the landing gear down locks engaged. Had to relax for a while at the club after that.

Once in 65, George and I flew a Connie at LAX on a boondoggle with a minimum crew. Landed at LAX with a bad engine, the flight engineers and us couldn't fix it or find anybody else around there who we could talk into helping out. But we determined that it was a major internal problem requiring an engine change. The wing folks didn't want to bring an engine to LAX (I guess they didn't want to have get into explaining why we were at LAX) so we decided to go to McClellan and work the problem there. Since we didn't want draw attention to our three-engine situation, we started up the bad engine prior to takeoff and ran it at a very low power setting during takeoff, being prepared to use as much power as we could get out of it if we needed it, and then we feathered it after cleaning up the airplane after takeoff. The 552nd maintenance folks at McClellan were good enough to give us a replacement engine while we enjoyed Sacramento and San Francisco.

Maintenance was a large operation, needless to say. Engines and radar were the major items requiring constant attention. Not sure what to say about oil leaks; I guess they had to be really big oil leaks before

anything was done - there was no need no paint parking spots on the ramp - there were four large engine oil marks permanently soaked into the ramp marking every Connie parking spot. Probably still there today. For every launch, chances were 50-50 that you would have to get something fixed either before or after engine start and run-up. Engine run-up prior to takeoff was a large drill in itself - it took 20 to 30 minutes depending on how things looked and on the engineers' proficiency and/or state of nervousness. To run-up, first you put the aircraft "on the step;" (the main landing gear sort of rotated 10 to 15 degrees back and forth around their main hinge axis in the wheel well, The idea of getting "on the step" was to smoothly ease on the brakes while increasing power to keep the gear rotated back so that the airplane wouldn't jerk back and forth onto and off "the step" with power changes during the engine run-up.) It sounds strange now but that was just part of the routine. While "on the step." We would check mags, props, and blowers and take a look at every spark plug on the engine analyzer (a CRT that displayed a distinctive trace for each spark plug and secondary coil as it fired; malfunctions also had their own distinctive traces.) After run-up, you took it "off the step," easing off the brakes as you reduced power, then reset the brakes. If all was okay, then you checked lots more things, got your ATC clearance, and takeoff clearance.

There were lots of "bag drags" out to the airplane - and back - for maintenance delays. The maintenance guys on the ramp worked their hearts out to get birds launched. In addition to flight line maintenance, I remember two maintenance squadrons, FMS and EMS - Field Maintenance and Electronic Maintenance. Depot level work was done by Lockheed Air Service, Inc. (LASI) at Idlewild Airport in New York City. So we had lots of ferry flights into and out of Idlewild - now known as JFK International - with both Connies and the C-47. It seemed like there were always about six Connies in the LASI hangar.

Maybe one of the more unusual situations that I recall, I wasn't involved in personally, was a prop falling off a Connie on final approach to runway 05 at Otis. Steve Hamer was the AC on that flight. No other aircraft damage; the prop dropped onto somebody's property near Falmouth, a nice Cape Cod town south of the field. (By the way, there was a more serious prop separation accident at McClellan - a 552nd Connie had a prop come off and come through the fuselage - several crew members seriously injured.)

On 11 July 1965, the 961st lost a Connie at sea off Nantucket Island. Lieutenants Fred Ambrosia and Tom Fiedler were the pilots. Tech Sergeants Gene Schreivogel and Gil Armstrong were the flight engineers. There was a full crew on board as well as some ROTC instructors who were at Otis for ROTC summer camp; they were getting some EC-121 mission familiarization. There were three survivors but most of the crew was lost, some bodies were recovered. Miscellaneous parts of the aircraft and crew equipment were picked up. Found Tom's flight jacket - had his keys in the pocket. Made it easy to get his car started - Jim Goodman drove Tom's car back to the mid-west to give it to Tom's parents. (Jim was later shot down in Vietnam in an AC-47 - entire crew KIA.)

The stories told by the survivors were amazing. It was a large fire - number three engine. About at the time of level off, the emergency

occurred. It was a pitch black night and they were in the weather. The sea had swells but was not rough; at least the water wasn't as cold as in the winter. Visibility was "zero/zero" at the surface. The crew shut down and feathered number three. They discharged fire extinguishers but the fire persisted. Talk among the Connie folks at Otis at the time was that the fire continued and burned back into the nacelle and maybe even into the wing, and that there was smoke in the fuselage. There may have been another engine problem too. I've since learned that survivors said that they didn't see any smoke in the cabin and that while descending, they removed the over wing hatches and had thrown at least the right over wing-hatch overboard through the hatch opening. Number three prop was seen to be definitely feathered. The crew very professionally went about their ditching procedures. Fred decided to put it down in the water - a nighttime ditching in zero-zero weather while on fire. Too far from land, A B-52 in the area heard their radio calls. A ship was in the area (I vaguely remember this as a German Navy destroyer). The crew made a rapid descent from 15,000 feet down to about a thousand feet and then set up a steady slow rate of descent, nose up, on a heading aligned parallel to the swells. When the Connie contacted the water, it broke up fore and aft of the wing into essentially three large sections. The nose section sank immediately. Most of the crew had gotten into survival suits and LPUs. I don't think the rafts got deployed. (The rafts were permanently stowed in compartments on the top surfaces of each wing; deployed by pulling a handle in each over wing emergency exit.) The search and rescue continued for several days. At the accident board, I remember listening to Fred's voice on a recording of some radio transmissions. One thing they wanted me to do was identify his voice - I had flown with Fred more than anyone else. His were the only radio transmissions heard. His father was also in the Air Force, a Lieutenant Colonel assigned to Burma as an Air Attaché. I met with Fred's father and mother to tell them about Fred's time in the 961st.

Lieutenant Fred Ambrosia was posthumously recommended for the award of the Distinguished Flying Cross. Such a high recommendation for an award was almost unheard of at the time - truly a most significant acknowledgement of Fred's amazing feat of airmanship. Only through his skill were there any survivors at all. There were many other awards recommended for other crewmembers. At the Otis memorial service for the 16 crewmembers who lost their lives, we had a missing man flyby at about 300 feet - five EC-121Hs in a "six-ship" close formation, with the number two slot open symbolizing the lost Connie. There is a monument at Otis ANG Base memorializing the crew. There was an individual ceremony for Fred Ambrosia at Arlington National Cemetery. This was arranged by Fred's parents. A plane load of 961st people flew to Andrews for the event. A minimum flight crew stayed with the Connie at Andrews while most of us went to Arlington. This was a few weeks after the accident. Following a service in the Chapel, we went to a section of the cemetery reserved for markers

when
there are no remains to be interred, and a memorial marker was dedicated for Lt
Ambrosia.

The crew that had stayed with our Otis Connie made a fly-by during the
dedication.

After I left the 961st AEW&C Squadron, I had heard about another 551st
Connie being lost at sea under some not too dissimilar circumstances.
Then a new wing commander was apparently brought in to get things
straightened out and a third Connie was lost near Nantucket; new wing
commander was one of the pilots on that flight - IM not sure, but I heard
that the entire crew was lost.

One of the last things that happened to me before I left Otis was an
out-of-the-ordinary sort of in-flight emergency that occurred on 31 August
1965. In looking for old stuff about the 961st, I came across some
write-ups about it, which I've enclosed. The aileron cable broke on short
final while practicing a flight control hydraulic boost out landing. The
control wheel snapped out of our hands, rotating fully to the 90-degree
right position - and it was jammed fully displaced to the right - the
wheel was stuck in a position straight up and down - no lateral control.
We used differential power to keep the wings level and make turns; got
around on a very wide traffic pattern and lined up on a very long final
approach. One thing that's not in the write-ups that seemed sort of
humorous to me at the time was my checking on the crew to see if they were
ready for landing when we were out on long final for runway 23, flying
level at about a thousand feet: I happened to look back down the aisle
and noticed that most everybody was putting on parachutes and some were
already heading for the door (which was on the left side, aft). Had to
make a PA announcement to convince everyone to stick with the bird - the
final approach looked to be fairly stable and the winds weren't too bad.
Turned out okay; at maintenance debrief we wrote up the aileron control as
being inop - it took a while for folks to understand what we were talking
about. And then there was some strange criticism from some wing weenies
who thought we should have tooled around out over Cape Cod Bay while they
foamed the runway (?) and got more fire trucks from around the local area!
It looked to me like it was time to get the bird on the ground and get the crew to the club!!

Well, that's about it. I had a great going away party (that's another thing about the 961st - we had lots of
super parties). The squadron gave
me the standard pewter mug with glass bottom, engraved with the dates of
arrival and PCS departure. While thinking about my early operational
flying experiences in the C-121 Connie and writing this tome, I was sipping beer from my 961st mug. There's
a lot more that occasionally pops
up out of deep memory from time-to-time. Great squadron. Magnificent airplane, loved every minute of it -
beautiful machine, that Connie.

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