Space and Missile Systems Center
Los Angeles Air Force Base, California
SMC History Office Oral History Program

Interview With

WILLIAM JOHNSON

DOUGLAS AIRCRAFT COMPANY, EL SEGUNDO DIVISION

(Oral History No. 2)

A Navy A3D Skywarrior (left) and an A4D Skyhawk at the Douglas Aircraft, El Segundo Division, circa 1955 (Photo courtesy of the Museum of Flight/David D. Hatfield Collection via Katherine Williams)

FOREWORD

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These pages are a transcript of an oral interview recorded on magnetic tape. Editorial notes and additions made by United States Air Force historians have been enclosed in brackets. When feasible, first names, ranks, or titles have been provided. For the sake of clarity, the transcript was edited before it was returned to the interviewee for final editing and approval. Readers must therefore remember that this is a transcript of the spoken, rather than the written, word.

The information within this oral history interview is unclassified.

KNOW ALL MEN BY THESE PRESENTS

That I, William Johnson

have on (date), 1 May 2001 participated in an audio/video-taped interview with Robert Mulcahy of SMC/HO covering my best recollections of events and experiences, which may be of historical significance to the United States Air Force.

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DONOR William Johnson

DATED 1 May 2001

Accepted on behalf of the
United States Air Force
History Office

BY Robert Mulcahy

DATED 1 May 2001

SPACE AND MISSILE SYSTEMS CENTER (SMC)
LOS ANGELES AIR FORCE BASE, CALIFORNIA
SMC HISTORY OFFICE (SMC/HO) ORAL HISTORY PROGRAM

Douglas Aircraft Company, El Segundo Division Oral History (No. 2)

INTERVIEWEE: **William Johnson** (1927-)

INTERVIEWER: **Robert Mulcahy** (SMC/HO Historian)

SUBJECT: Aircraft Assembler at the Douglas Aircraft Company, El Segundo Division

SUBJECT TIME FRAME: 1945 and 1948

DATE OF INTERIVEW: 1 May 2001

INTRODUCTION

This is Robert Mulcahy of the History Office at the Space and Missile Systems Center (AFMC) at Los Angeles Air Force Base (AFB), California. Today's date is 1 May 2001. I am going to interview Bill Johnson of Torrance, California, about his experiences working with the Douglas Aircraft Company in El Segundo where Area B of Los Angeles AFB is currently located. We are conducting the interview at the Western Museum of Flight in Hawthorne, California.

William Johnson beside an F-20 at the Western Museum of Flight on 17 July 2001. Johnson was an assembler at the Douglas Aircraft El Segundo Division in 1945 and 1948.

INTERVIEW

Mulcahy: Mr. Johnson, when did you work for Douglas Aircraft at their El Segundo plant?

Johnson: I worked there, I believe, from June to October 1945, until the contracts expired as the war ended. I worked there again in 1948.

Mulcahy: What was your job at El Segundo in 1945?

Johnson: I worked on parts assembly. We were called "assemblers" as that was our job title. Actually, my particular job was manufacturing a bulkhead on the C-54 [Skymaster] aircraft; the bulkhead that was located immediately behind the nose gear retraction area. We manufactured those by putting them up in a jig in various pieces and parts. My partner and I drilled and riveted them together.

Mulcahy: How long did you work on a single C-54 bulkhead before you moved on to the next one?

Johnson: It would take us about five hours to completely put all the parts in the jig, drill them and rivet them. This was a fairly good-sized bulkhead. It was about six-feet tall, maybe even taller. It was probably about five or six feet wide. It consisted of some 25 or 30 parts. We would put all of these parts together, drill them and start riveting everything. Once one was completed, we'd start assembling the next one. We'd spend the next two or three hours putting together the next bulkhead, then the next shift would come along and finish off what we had started. I still take great pride in the fact that my partner and I could accomplish more in our five or six hours than the others could. We were good! We were very good (laughs)!

Mulcahy: About how many employees were in your department?

Johnson: I would guess there were about 50 or 60 people.

Mulcahy: What qualifications did Douglas want when they hired you?

Johnson: They were looking for experienced assemblers. I had previously worked at North American Aviation in 1943 and Northrop Aircraft in 1944. My first experience in aircraft came when I was at North American Aviation which was on the north side of Imperial Highway across the street from the Douglas El Segundo facilities. I started out at North American, just a novice, and I learned the basic skills of an aircraft assembler. From there, I went to Northrop and gathered even more skills. Then I went on to Douglas Aircraft in 1945.

Mulcahy: Where did you work for Northrop?

Johnson: I worked across the runway from our present location at the Western Museum of Flight. It was known as "Plant One," and it was located just south of 120th Street on Prairie Avenue in the city of Hawthorne. At that time in 1944, I was working on the Black Widow, the P-61 night fighter they were building.

Mulcahy: Why did you get laid off at the other two aircraft plants?

Johnson: The production contracts were cancelled or completed. If you were the low man on the totem pole with very little seniority, you're the one that "bit the bullet" and walked out of the plant looking for another job.

Mulcahy: How old were you when you started working for Douglas Aircraft?

Johnson: I was 17 about the time that I got to El Segundo. When I was going to Inglewood High School at 16, they had what they called the "four-four plan." You could work four hours and go to school four hours. So I'd go to school in the morning for four hours and then I'd work in the afternoon at the aircraft plant. It was North American in that particular case. I was 17 when I worked at Douglas, just before my18th birthday.

Mulcahy: What was the minimum age to work in the aircraft plants during World War II?

Johnson: Sixteen. You had to be at least 16 years of age.

Mulcahy: What percent of the employees at the Douglas plant would you estimate were under 18 years old?

Johnson: Maybe one in 20. That might be a realistic estimate. My partner and I were the same age. I didn't really see too many employees under 18 there, but I know they must have had them. Another friend my age was also working there. Most of the people in my department were in their 30s or 40s. They had a lot of years with the company, and they were given a deferment from the military draft, because they were in the aircraft industry doing something for the war effort. They got to keep their jobs. Others went off and joined the [military] service; they left the company and joined the service. A lot of the employees at the plants had been there for quite awhile.

Mulcahy: Do you think some of the employees worked at Douglas to avoid conscription?

Johnson: It's always possible. During the Vietnam War, I know there were a lot of people who would do anything to escape having to go into the service.

Patriotism was at a high level during World War II. I don't think we've ever experienced patriotism at anytime in our history like we did then. I think everybody was just gung ho with the war effort. We wanted to get the war over with as soon as possible and do everything we could to do so. I think this [patriotism] has been written off in current times.

Patriotism was at an all-time peak, and we all felt we were doing a fantastic job helping to win the war. Working on the airplanes gave us self-satisfaction. We knew we were producing something that would end the war in a timely manner. There were patriotic flags and posters around the plant. We received several "E" flags, which were for "efficiency." The government awarded them to us for our work at the plant. If we met or exceeded production schedules, we would get this "E" award. Oftentimes they'd give us a pin to put on our lapels that had the "E" on it. I may still have one at home somewhere in my memorabilia.

During our lunch breaks, when I was no longer going to school, Douglas had entertainment for the employees. They also had newsreel films. Entertainment consisted of boxing matches and wrestling matches. So, we'd take our lunch out and watch the wrestling matches. Other times we'd go watch the newsreels of what was happening in the war as it was winding down.

Mulcahy: Was your hourly rate considered good pay at that time?

Johnson: I don't really remember what I made at Douglas. I was making all of 85 cents an hour when I started at North American in 1943, and I was in hog heaven! We thought that was a good wage at that time, at 16 years old. At Douglas, I was probably making about $1, maybe $1.75, an hour in 1945. People who had been there longer earned more and got their regular raises. I don't know what they were earning. The subject never was approached. Eighty-five cents was pretty good. I was making 65 cents an hour working in a market after school. When the opportunity to work at North American came along, I had no idea what I was going to make, but I started out at 85 cents. In 1948, Douglas probably paid me $2 to $3 per hour.

Mulcahy: Did you belong to a union at Douglas?

Johnson: No. I did not. A union was there, but I was not a member.

Mulcahy: What hours did you work at El Segundo?

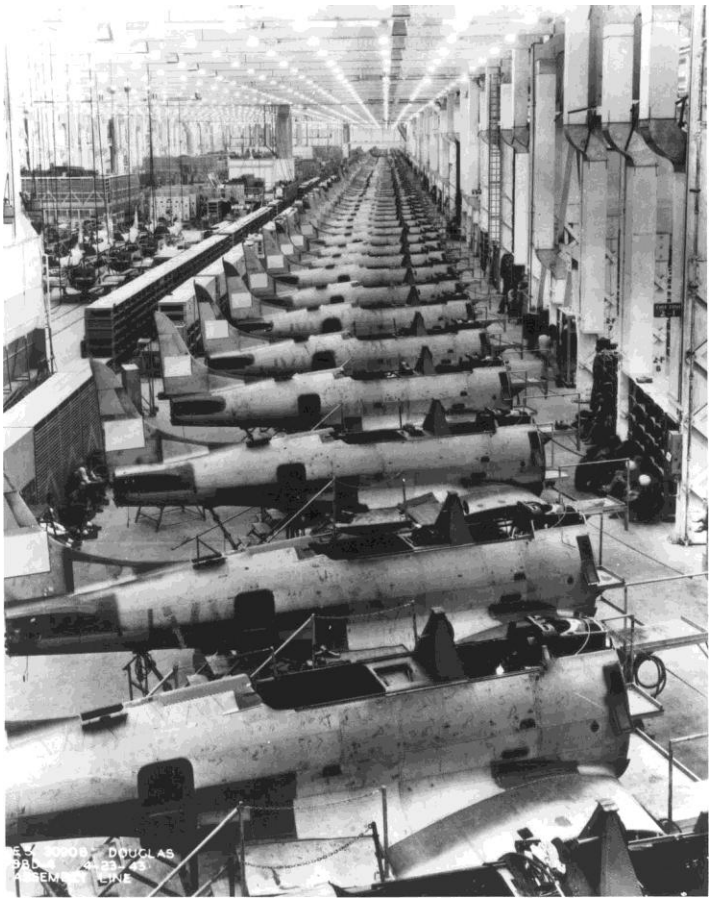
Johnson: I believe it was 7:30 a.m. to 4:00 p.m.

At North American, I believe I was there from noon until 4:00. I would have given them my four hours by then. I got out of school around 11:30 a.m., and by the time I got to the plant, it was 12:00 p.m. My shift started, I believe at 12:00 p.m. or 12:30 p.m. and I worked until 4:00 p.m. or 4:30 p.m.

Mulcahy: Which airplanes were being produced while you worked at Douglas in 1945?

Johnson: The C-54 was the one I worked on in 1945. I believe that was the only one being manufactured at that point and time. There may have been an SBD [Dauntless] line, but I never saw it. Douglas Aircraft in Santa Monica [California] manufactured

other aircraft; I think the A-26 [Invader] was being built there at that time. The only aircraft parts I saw at the El Segundo plant in 1945 were for the C-54.



A Douglas Aircraft SBD Dauntless production line at El Segundo on 23 April 1943 (Photo courtesy of Boeing)

Mulcahy: Were they building the entire C-54 there?

Johnson: I never saw an assembly line for it. I know that we were making a lot of component parts for the C-54. I don't know if it was built there or if the parts were shipped off someplace else and being built. We had a job to do. We went in and we did it.

We weren't allowed to roam around the plant to see what was going on in the other areas. You had a badge that said that you worked in a certain department, and that's where you stayed. If you got caught out of your department area then there was some kind of a penalty. I never found out what the penalty was because I never went out of my department area (laughs).

Mulcahy: Was the security at the El Segundo plant very tight?

Johnson: I thought so. Yes. When we went in we had to show the guards our badge and ID card, and then we opened up our lunch kits to show them what was inside. When we left the plant you had to open up your lunch kit, but they didn't check your ID or your badge. They saw your badge was on your shirt or your jacket, but they never asked to see your ID card when you departed.

Mulcahy: Were the base guards military personnel or civilians?

Johnson: They were civilians when I was working there. They were probably Douglas employees hired as security guards. As far as military personnel, I never really saw any at the plant. The military may have been at different locations from where I would enter and leave the plant, but I never saw any military guards.

Mulcahy: Was Douglas and the other aircraft plants where you worked concerned about spies?

Johnson: Yes. They always told us, "Don't talk about what you do here when you leave. You can say you're working on airplanes. Obviously, that's what we're doing here, but don't tell them what you're working on, the airplane, the part, or anything like that. You reveal nothing!" That was pretty much drummed into us when we first started our employment there. You didn't talk about those things.

Mulcahy: Did the El Segundo plant operate 24 hours a day in 1945?

Johnson: Yes they did. They had three shifts there, days, swing and graveyard.

Mulcahy: How did most of the employees get to work during the war?

Johnson: They either drove their cars or carpooled. Some rode the bus into work. Sometimes they would ride the streetcar down to Hawthorne and then take a bus over to the aircraft plant.

Mulcahy: How were the working conditions at El Segundo?

Johnson: I found them very well. There were no hardships of which I was aware. We took care of our work and had clean, safe working conditions. We had plenty of lighting. Everything was great there.

Mulcahy: Were there any injuries among the employees while you were at Douglas?

Johnson: Nothing really major, maybe a cut finger or something like that now and then. I don't know of any major accidents. It may have happened to someone, but I'm not aware of any accidents in our department.

Mulcahy: Were the Douglas facilities at El Segundo adequate for the aircraft production?

Johnson: I would say, yes indeed! There was plenty of space there and room for a large assembly line. Yes, I would say they were more than adequate.

Mulcahy: Did they still have the camouflage netting over the Douglas plant when you worked there?

Johnson: They had taken some of it down. They still had some over the parking lot area, and eventually that all came down as well.

Mulcahy: Were the entire Douglas and North American plants covered with camouflage netting when you first started at North American in 1943?

Johnson: I believe the North American plant was. There was a lot of camouflage netting on that particular plant, but I don't think Douglas had as much coverage. Douglas may have earlier on. The North American plant looked like farmland from above if you flew over it. It just looked like some farmhouses and crops growing in a field.

The camouflage nets covering the North American Aviation plant adjacent to Los Angeles Airport during World War II (Photo courtesy of the Historical Society of Centinela Valley via Jim Robertson)

Mulcahy: Did they have a blackout at the factory at night?

Johnson: I didn't work at the factory at night, so I don't know if they had one or not. Once in awhile, we had a blackout in our Inglewood [California] neighborhood, so I would assume the factory would be involved in that as well.

Mulcahy: Did the military have barrage balloons or antiaircraft guns near the Douglas plant?

Johnson: Yes. My parents had a restaurant on Hawthorne Boulevard and there was a barrage balloon detachment about half a block north of us. Sometimes the soldiers used to come in and eat at the restaurant rather than eat the Army chow. There were numerous barrage balloons and antiaircraft guns in the area.

Mulcahy: Were there a lot of women working on the production line in 1945?

Johnson: There were several in our department and on final assembly. I'm not really sure how many were working there. I would assume there would be quite a number of women. They were cheerful ladies. They were older than I was, because I was just fresh out of high school in 1945. These ladies had been working at Douglas for a while and they were doing a very good job.

Mulcahy: Were there also black women and Mexican women there at that time?

Johnson: I know there were a few. I don't remember how many. There were a few.

Mulcahy: Was overtime encouraged among the fulltime workers?

Johnson: It was sometimes available, but with the war winding down in 1945 overtime was not pressed. Production was slowing down because the war was ending. From June until October (the war ended in August), production just slowed down. The reason I was laid off was because the contracts had run out on the C-54.

Mulcahy: How did working at Douglas compare to working at North American and Northrop during the war?

Johnson: I think they were all fairly much the same. The companies were doing what they felt had to be done, and that was to produce aircraft. I didn't really find many differences between the three companies during that period of time. They were all striving to meet the demands of the government and we tried to do as much as possible to meet those demands.

Mulcahy: Did Donald Douglas interact with the employees at El Segundo?

Johnson: I never ever saw him. He was probably interacting with people all over the plant, as Mr. [John] Northrop always did, but I never saw him personally.

Mulcahy: How did Mr. Northrop interact with his employees?

Johnson: He never did with me personally. I was told by people who worked there for a long time that once Mr. Northrop knew your name, he would always remember it. He would come out and say, "Hello John. How are you today?" The employee would say, "Fine Mr. Northrop." He was very well liked by his employees.

Northrop did a lot of things for his employees that other companies didn't at that time. At Christmastime you'd get a week off with pay. Other companies were not doing that. Northrop was the only one in the area that would give you that privilege.

Northrop made working conditions much better for his employees. If there were any complaints, he saw to it that those complaints were taken care of. He made changes to adjust to the complaints about certain working conditions and such. There was no union at Northrop, and as far as I know, today there is still no union. Maybe the welders may have a union there. I'm not sure about that. Whenever the local companies would initiate a raise or a pay increase, Mr. Northrop would see to it that we would also get the pay increase when we were working there.

Mulcahy: Did you ever see Ed Heinemann at Douglas?

Johnson: No. I never did.

Mulcahy: How did the Douglas plant celebrate the end of World War II?

Johnson: By laying me off (laughs)! Actually, I think there was a lot of jubilation there, but we continued our work. The ladies brought in cakes and cookies as a celebration treat. We had finally won the war, and our troops (their husbands and boyfriends) would be coming back home. The ladies brought in a lot of goodies for us. They spoiled us terribly over there with all of the nice things that they brought in. I don't remember any announcements over the public address system about the war coming to a conclusion.

The Douglas Aircraft El Segundo Division beneath camouflage nets during World War II.
(Photo courtesy of the Historical Society of Centinela Valley via Jim Robertson)

Mulcahy: How much did the production change after the war ended?

Johnson: The contracts were cancelled. We had to finish up what we had started and complete the first part of the contract. Even though I was low on seniority, they kept my partner and myself on for some time until we finished up the few bulkheads that we were building. We were the only two that could put those things out in a hurry. They figured if they kept us on, we could get them done in a short time and save the company and the government some money. I think that was their philosophy, and we were very much acquainted with putting them together and building them. Once the contract was stopped and those parts ran out, we were released.

Mulcahy: How long did you work at the Douglas El Segundo plant in 1948?

Johnson: About six months. Again, if you were low in seniority, you just got laid off when the contracts got cancelled by the Navy, the contracts were completed, or through cutbacks.

Mulcahy: What were you hired to do when you returned to Douglas?

Johnson: I went back into basically the same department as an assembler. It was Department 505 at that time. We were working on parts for the Skyraider [series]: the AD-1, [AD]-2, [AD]-3, and even the AD "Q-ships" [perhaps the AD-2Q] which were the electronic airplanes bristling with radar etc. We were doing a lot of bench work there, putting together armor plating, landing gear retraction mechanisms, and other small components. It was just a lot of menial tasks that had to be done. They gave them to us in our department. We'd go pick up the parts from the stockroom, bring them back to the bench, and start putting them together. They'd eventually wind up in one of the airplanes.

Mulcahy: Were you in a union at that time?

Johnson: No, I was not. I was never in a union at any aircraft plant that I worked in.

Mulcahy: How had the El Segundo plant changed when you returned to it in 1948?

Johnson: Aside from just a change of aircraft type, there weren't too many changes that I noticed. Obviously, there were changes, because I had a set up on an assembly line. Basically, it was much the same, the same type of work, although different airplanes. You worked on an airplane. It's similar to working on just about any airplane. You still do the riveting, bolts, nuts, screws, etc.

It was an enjoyable occupation. My original love for airplanes made it most enjoyable to me and self-satisfying. I certainly learned the work ethic when I worked at North American, something that a lot people don't seem to have today, unfortunately. You had a job to do, and you worked on that job to its completion. You just didn't let it sit around for somebody else to do.

Mulcahy: Were there much fewer women working on the production line when you returned in 1948?

Johnson: I think there were fewer women. I believe they went back to their homes when their husbands came back from the war for the most part. There were probably a few there. I don't really remember too well anymore.

Mulcahy: Please tell me about the assembly line in 1948.

The assembly line process had several departments putting different parts of the airplane together. The airplane would work its way down the assembly line having all the parts put on it in the various departments. As you went down the assembly line you would see all these parts being added. By the time you got down to the far end of the plant, there would be completed airplanes. Maybe other [Douglas] plants (like the Long Beach or Santa Monica plants) contributed parts to what we were building at El Segundo. I don't know where all the parts came from, but I know what we made in our particular department. The parts would be sent to the assembly line and would be installed. Eventually, all the parts turned into a complete airplane.

A Douglas Aircraft AD Skyraider production line at El Segundo in 1956 (Photo courtesy of the Boeing Company via Patricia McGinnis)

Mulcahy: Did it start with a fuselage frame at the beginning of the assembly line?

Johnson: If you're in the middle of the fuselage, you start with bulkheads. Somebody had to make the bulkheads, and then you had to rivet skin onto those bulkheads, so somebody cut the skin to shape. You had to put some of the things in a jig, drill them, rivet them together. It started taking shape. Then a major piece of fuselage might be taken over to the assembly line where they added more items to it, like the wings or the

tail. Things like that. So it's pretty much a basic thing like you would do with an automobile. An automobile factory starts out with one small part, and it just starts growing by the time it gets to the end of the assembly line.

Mulcahy: Did you have a completed airplane by the time it was at the end of the assembly line?

Johnson: They still had things to do when they took it outside. They still added things to it that weren't done inside. I don't know what those things might be, but I know they worked on the airplanes after they got them off the end of the assembly line and had them outside the building. I would assume that is where they added guns, etc.

Mulcahy: Where would they take them once they went outside?

Johnson: Usually, they would take them outside the building and just put them wherever there was space. They worked on them from that point.

I have photographs of [P-51] Mustangs at Los Angeles Airport. They're all finished and they're just lined up, one right next to another. It's the same thing with all the aircraft plants. They just put the airplanes where they had the space to put them, and waited for the military pilots or ferry pilots to pick them up and fly them to whatever base they would be assigned.

Mulcahy: Did Douglas conduct production test flights out of LAX?

Johnson: Anything that was built at Douglas and North American flew out of there. I used to see a lot of the same aircraft in a pattern. I'd see a lot of C-54s, or SBDs or whatever happened to be built over there. You'd see a lot of them in the flight pattern. You could say they were being tested there, but they may have taken them to other bases and facilities for the initial testing that the Air Corps or Navy put them through.

Mulcahy: Is there any other information you can think of that might be useful about the El Segundo Douglas plant?

Johnson: It was a good place to work. They were good, friendly people to work with. What I didn't know, they taught me. You work in an aircraft plant like North American or Northrop, and you come to a different aircraft plant and maybe there's something new. Even when I worked in aircraft, a lot of things had changed. We didn't use, what they call "huck bolts" and cam-locks in those days. It was rivets, and just plain old bolts, nuts and screws.

As times changed, they came into different things. From 1945-1948, a lot of different things took place in the manufacturing of aircraft. They made it easier for people to work on. It was a constant learning process for me, and it was very helpful to me later on in life. Knowing all these things progressed and helped me learn the previously mentioned

work ethic. Knowing that if you're given an assignment, you do that assignment. You don't let someone else do it.

Mulcahy: Can you describe some of these more efficient processes that you encountered in 1948?

Johnson: Instead of using a rivet gun, we had what they called a "squeeze" which would squeeze a rivet. You didn't need to have a rivet gun, and a bucking bar, or a partner there. The squeeze did not replace the rivet gun, it just made smaller jobs easier. Those things didn't all happen at once. They came over a period of time, but a lot of things made it easier.

Sometimes you'd have a big, heavy squeeze. Instead of having to lift it by hand, the squeeze would be hanging from the ceiling on a tension cable. You could pull the squeeze down to the level you needed it and then push it aside when you weren't using it. It was improvements like that which made the job easier. Anything that was done to improve the efficiency in aircraft production made the job a little easier for somebody. Sometimes others might feel it made it a little more difficult, but in my experience, I found it to be easier to do a given job.

Mulcahy: Would you like to add anything else to this interview?

Johnson: I don't think so.

Mulcahy: I would like to thank you for your time.

END OF INTERVIEW

Transcribed by Teresa Pleasant

Photo selection and captions by Robert Mulcahy

Edited by William Johnson, Robert Mulcahy, Teresa Pleasant and Harry Waldron

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