NASA HEADQUARTERS NACA ORAL HISTORY PROJECT
ORAL HISTORY TRANSCRIPT

GLORIA CHAMPINE
INTERVIEWED BY SANDRA JOHNSON
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JOHNSON: Today is May 1st, 2008. This oral history is being conducted with Gloria Champine as part of the NACA [National Advisory Committee for Aeronautics] Oral History Project sponsored by the NASA Headquarters History Office. This interview is being held in Newport News, Virginia, and the interviewer is Sandra Johnson, assisted by Rebecca Wright. I thank you for joining us today and allowing us to come into your home.

CHAMPINE: Thank you.

JOHNSON: I want to start today talking about your husband Bob [Robert A.] Champine, and how you first met him, and your early life together, and when you married.

CHAMPINE: I was a single mother with three children and working at NASA. Several of my friends had told me that I just had to meet this test pilot. After hearing this many times I decided it might be a good idea, but I didn't know how to handle it. Finally I thought, "Well he might like to see my 1920s aircraft pictures that I inherited from my father," who was military and had been killed in an airplane crash in 1933. I asked the fellow in my office, Woody [Willard S.] Blanchard [Jr.], if he thought his friend Bob Champine would like to see my pictures if I brought them into NASA.

He spoke to Bob, and he said sure, he wanted to see them. So Woody brought Bob over at lunchtime one day. We looked at the pictures together and found that we liked each other. He visited my office the next day and asked me for a date, and that was it. I was hooked from that time on. Now that was March of 1972, and we were married after a long courtship in December of 1975. We were married at the Langley Air Force Base Chapel, and my brother, who was an Air Force chaplain at the time, came and we had dual chaplains, the chaplain from the base and my brother. They alternated back and forth with the vows, and that's the way we were married.

JOHNSON: Sounds like you came from a military background as far as your father.

CHAMPINE: That's true. My father was in the service. My mother was a local Newport News girl. They were married and had two children, myself and my brother, who was the Air Force chaplain and minister still today. He was killed in an airplane crash. In fact it took 70 years, but I've got the whole package of his accident with pictures that I got from the archives that the Air Force had. So a year later [my mother] married another soldier, and we moved back on the base. My childhood was spent at Langley Air Force Base, so I knew all the airplanes and everything. We had a common background a little with airplanes.

JOHNSON: So you actually lived on the base. That must have been an interesting childhood, living on an Air Force base.

CHAMPINE: Yes. I didn't know what a cow looked like, but I knew all the airplanes.

JOHNSON: Did you ever have any desire to fly yourself?

CHAMPINE: Oh yes, I wanted to be an airline hostess. That was my goal in life until I found out it took two years of nursing in order to be a hostess, and that wiped me out. I wasn't about to do that, and so I decided that I was going to be a commercial artist and draw all of the models, with clothes and things like that, that the newspapers advertised. I was enrolled in [The College of] William and Mary [Williamsburg, Virginia]. Well, you don't want to hear all that.

JOHNSON: No, we really do. We'd like to hear that.

CHAMPINE: You do? Okay, I was enrolled in William and Mary for their arts class, and my mother was going to go overseas, because my stepfather was [stationed] over in Japan at the time. She said that I had to go with her, and so I got prepared to go, with all my shots and everything. I had two brothers then. She got sick with pneumonia or some flu maybe at the time and wasn't able to make the port call. So it took a long time for my stepfather to get [new] orders for them to come overseas, and in the meantime I had dropped out of William and Mary and had gone to the College of Hampton Roads and graduated from there. I got married, and about two days later she left with the family to go overseas. So I didn't go over there.

JOHNSON: You mentioned that you wanted to become a commercial artist. Did you do that?

CHAMPINE: Right. No, because by then I was getting married and had to make a living. I went to work for various companies and eventually ended up at NASA Langley [Research Center,

Hampton, Virginia]. I was scared to go there because when I was growing up on the base, the NACA people were called NACA Nuts, and they were strange individuals, very very smart, but people in the community would say—well maybe somebody had gone into a hardware store to find a certain screw or spring or something like that, and they would be very analytical in what they were doing—and the people would say, "Okay we know you're at NACA, which department are you in," that sort of thing, they were just a group all to themselves

My stepfather was the crew chief on the XB-15, which was an experimental bomber that was the granddaddy of the B-29s, and that's a very interesting story there with that plane, but that's the way I grew up, with that plane as, quote, Daddy's plane. He would talk about the NACA people that would come and do experiments on the airplane, and I can remember as a small child him telling the story that they had gone flying and NACA had put little tufts on the wings. Then they would put the plane into a stall and it would stop, and the little tufts would fly back, and it would show what they wanted to find out about stalling characteristics of that airplane. Daddy would come home and say, "They're going to kill us."

So I remember stories like that about the NACA Nuts. They frightened me a little bit. When I got a job offer from them, it was a big decision to make, should I or should I not. I found them to be absolutely the most wonderful people in the world. I just loved it. I really enjoyed very much working at NASA.

JOHNSON: When did you start there?

CHAMPINE: I started October 5th, 1959, and it had changed from NACA to NASA on October 1st of 1958. Dwight D. Eisenhower was President at the time, and he decided to change NACA to more of the space emphasis. So I went there a year afterwards.

JOHNSON: What were you doing there?

CHAMPINE: I went in as a secretary in the Engineering Mercury Range Office where they were building tracking stations throughout the world. I would get dictation [from] where the people would be at the various stations. They had a station in Hawaii on the island of Kauai, and you could hear church bells in the background [on] the dictation. They did that on purpose so I could be a part of it.

From there I moved to Cost Engineering, and then to one of the divisions where I became one of the highest secretaries on the field. Back in I guess it was about '74 there was an Equal Opportunity chance to move into a higher position in the administrative field that would take me out of the clerical field. I had to compete with 139 other people, because it was really identified to move technicians, male technicians, into higher-level positions. But with all the testing and everything, I kept coming out on top. So here I was the woman [who] was being interviewed for positions that men had always held. So I got the job as Technical Assistant to the Chief of Space Systems Division. This was at the early days of the [Space] Shuttle, and I was selected for that position. I've got history in my shed, I'll tell you. But it was quite an interesting, thrilling job, and I loved it, and was the first one [to break] the ice. I have a hard head and strong shoulders and back. So I did very very well in that job.

JOHNSON: How long did you work in that position?

CHAMPINE: I guess about 12 years, something like that, in order to get a higher grade—I was getting closer to retirement at the time—I had to compete. I'd been selected to [serve] for one year in the Equal Opportunity Program Office, and had enjoyed working there on a detail. When the position became open, I applied for it and got a higher grade, because I wanted it to count towards my retirement. I thoroughly enjoyed that position, because I got to travel and interact with upper management, it was a lot of fun. But when I got my certificate that said 30 years, I gave my notice. So I have 30 years and 30 days with NASA.

JOHNSON: That's an amazing career.

CHAMPINE: Yes, I enjoyed it. I had a good career. It was wonderful years, because everybody worked together, it was like a big family. Of course most of the people were NACA that had transitioned into the space program. But aeronautics was a very strong factor in addition to space. When we get to talking about Bob, you'll see how he evolved into developing the Astronaut Program.

JOHNSON: In those early days when you first started working there, and you mentioned it was like family out there, what were some of the things that you did with the other NASA employees? Were there organized activities?

CHAMPINE: Actually, the neighborhood that I moved in right here, most of the people were NACA, NASA people, and we had carpools. We knew everything that went on [at] the field, because one worked in personnel, one worked in engineering, another worked in research, another worked in another part of research, and [in] our conversations, we just knew everything.

[interruption]

JOHNSON: We were talking about the neighborhoods and carpooling and that sort of thing, and the activities.

CHAMPINE: When I was looking for a home, there were two areas. One was this area of Riverside, and the other was called Marlboro [Banks] in Yorktown I guess it was, so I checked both places. When I got here and saw the water and the little pond that's there, it's a little strip that you drive through with the Lions Bridge, I said that's what I want, that's the area I wanted. Took me about three years to find a house I could afford.

JOHNSON: Were you a single mother at that point?

CHAMPINE: At that time I was still married to my first husband, but essentially I was a single mother with three children. I bought and paid for this all by myself.

JOHNSON: It's a lovely neighborhood. I imagine it's changed a lot over the years.

CHAMPINE: Yes. Most of the people have gone. The family across the street, I went to school with them, they moved in maybe a year before I did. So I'm thankful for them. There's a couple more scattered. But most are new neighbors as the others moved away and died off. I'm one of those that's just hanging in.

JOHNSON: What sorts of activities did Langley offer its employees?

CHAMPINE: Actually, I don't know much about what Langley offered. I have heard over the years about a Green Cow, I believe it is, Club or something, and they had a lot of activities. Axel Mattson was the one that handled all of that. But that was really before my time, so I'm not too familiar with that. During my time, of course, they had a carnival each year and have different things for the children and families. But not too much in the dance field, or that I was involved with.

JOHNSON: When you first started there, were there a lot of women working at NASA?

CHAMPINE: Yes, but we would have women engineers that would come in with their degrees, and they would be placed in positions of math technicians or mathematicians. They would be put into technical editing. I had one lady with her degree in physics, and they put her as a math aide somewhere, and she ended up as a secretary. When I questioned it, they said, "Well, her degree in physics from William and Mary is not as good as somebody's degree from SUNY [State University of New York] in New York."

I've always been involved with a lot of stuff, particularly out at NASA. I was giving a speech one time, so I went to the Personnel Office to get information on how they hired and whatever. The personnel officer told me at the time, he says, "We don't know what to do with an educated woman with a degree, nobody wants her." So we had many secretaries that had their four-year degrees in business management or whatever at that time, and with people like me that broke the barriers they started moving up behind me. Now you have a Director that's a woman, so there's many, many changes that have evolved over the years.

But back in the early days the blacks could not eat in the cafeteria. They would go to a window and get their food and take it back to their desks. Even though they may have had degrees, they were usually math aides. Some with higher degrees might have been a mathematician, and with a title—being with NASA, you know that certain grades go with certain titles, and the promotion potential is so-and-so. So the title with engineer in it gave the guy immediately a promotion potential to a [General Schedule, GS-] 13. With a title of mathematician it gave him the promotion potential to a 12. With a title of something like math aide or editorial or whatever, they were limited at like 7s maybe. So it took a while for women with degrees [to advance].

When I went into the Space Systems Division they required that I go back to school for a year to get what was called a degree equivalent to have the title of—I guess maybe my original one was like administrative specialist, and then it went to program analyst, and the functional title was Technical Assistant to the Chief. I was over age 50 when they required me to take an engineering class, introduction to aerodynamics. By then I [was] married to Bob, so he would ask me questions and I would answer them. I aced the class and got a lot of comments on doing

that. "She only did that because her husband was a test pilot." But he didn't take the tests, I did. So don't ask me the questions now though. That was a long time ago.

JOHNSON: You mentioned minorities. Were there a lot of minorities at Langley in that time period, in those early years?

CHAMPINE: Not too many, not too many. We had many women that graduated from—it was called Hampton Institute at the time, it's Hampton University now—they were put in positions of math aides, some mathematicians. One of the things that we did over the years was if they had the title of mathematician, and they took the course Differential Equations, that would qualify them for their title change to—not aeronautical engineer, I'm having a senior moment, another type of engineer—but it gave them promotion potential to go to a 13.

One of my most positive things that I think I did was for a young black lady with her PhD who had come into NASA as probably a [9]. When I got into the EO [Equal Opportunity] Office, I was savvy enough with the computer. I was not a programmer, but I could reprogram, and so I could get into the personnel records, I had that access, and then I could reprogram to get the information that I needed. For this young lady, and I think she picked cotton when she was a child and worked very hard to go through school and get her PhD, I did a career track with an engineer that had come in at the same time she did, a white engineer, and he'd come in as a 5, and with her doctorate I think she came in as a 9. So I tracked a career with a bar chart and showed management how he had progressed up to a 15 and she was sitting at a 13, and compared their performance appraisals over the time, and that young lady got promoted very quickly.

So it's these types of things that I was able to do behind the scenes when I got into the Equal Opportunity Office, because I worked in advancing women and minorities even during the time I was in Space Systems Division. It made it a natural for me to go over to the EO Office when the position was open. I was manager of the Affirmative Action Program, which I was very very proud of, and also the Federal Women's Program manager, which was a chore that the Centers had to do, but they really didn't support it very much at the time.

JOHNSON: It's an interesting progression.

CHAMPINE: Yes, so I was able to do lots of things like that behind the scenes.

JOHNSON: We've heard in those early years that even the bathrooms were segregated at Langley in those really early years.

CHAMPINE: I'm sure they were. I don't know anything about the bathrooms, but I know [separate] water fountains were in the cafeteria.

JOHNSON: You were there over that time period seeing so many changes and then ending up working with the Equal Opportunity.

CHAMPINE: Right, yes. I enjoyed that [position] very much. But our management was changing at the time. It was getting a little more difficult to be happy. It wasn't the big happy family that we used to have. There were more rules and restrictions and that sort of thing. Then they got

into performance appraisals. I had my own system of performance appraisals, and I passed it on to everybody I knew, which was interesting. Did you want to hear about that?

JOHNSON: Yes, sure.

CHAMPINE: Okay, well, with the performance appraisal, I'm not sure how they do it now, but you would get statements to meet certain goals by certain times. So I would take a sheet of paper and put each statement at the top of a sheet of paper, and then as things happened I would list it on the sheet of paper. So I had a whole fistful of papers. Of course I would type it up neatly before I went into a performance appraisal, and then I'd exceeded on everything, because I kept up with it. Otherwise you've got to be concerned with what your boss's opinion was. But if you had the facts and the backup data right there, it surprised them a little bit.

JOHNSON: They didn't expect you to come in fully prepared, did they?

CHAMPINE: No, no, so I did very well with that and with others. I did the same thing for Bob, my husband, in preparing his. His boss was just totally shocked one time.

JOHNSON: You stirred things up then.

CHAMPINE: Yes I did. But I would tackle anything, but I had to know I was completely right first, and I would tackle the biggest one of them.

JOHNSON: Did that confidence, do you feel that came from something in your background, or that ability to do that?

CHAMPINE: Who knows? Maybe my genes, I just don't know. But I was very strong emotionally and physically at the time. I've had medical problems since then. Shingles damaged the nerve in my right leg, and so I don't walk very good.

JOHNSON: You were also there during a time when there were a lot of changes in technology. If you started out in the late '50s and then seeing those women as mathematicians and as computers and then moving to [personal] computers.

CHAMPINE: They went to electronic engineers, that's what they did when they took that [course in] Differential Equations. We had a lot of women that changed to that. In fact, the woman in the EO Office was a black woman that had started out as a mathematician and had gotten changed to an electronics engineer. She gave that up. Her name was Mary Winston Jackson, and she left her position as an electronic engineer, took a cut in grade from a 13 to a 12, in order to go into the EO Office to see what she could do to help the minorities.

She was a wonderful lady [who] was my mentor in that office and helped me a great deal so that I was able to come out as the highest qualified for the position when she left. She's passed away now, but I wrote a story about her that told her history at NASA and NACA. So it was women like her and me and others that broke the ice for the others to come through. We [now] have women in high places, women astronauts, there was no such thing as a woman astronaut in those days. We have them now.

JOHNSON: Do you remember when computers started coming in in that time period?

CHAMPINE: Oh yes. I wasn't involved with computers where they had the little cards. I didn't have any involvement like that, but there were great big computers and a bunch of cards and they worked in payroll [etc.]. I [had] a scientific computer. I didn't know how to do word processing, but I could type on them, which I did. I had a lot of computer programs, particularly spreadsheets, that I kept up with. I think I had about $12 million of funds that I was responsible for, and I could keep up with every penny. I guess I was a micromanager of that, [and] somewhere out in [my] shed I've got [copies of] all those, all my working from that era that I didn't throw away.

In the EO Office I could change the [computer programs] around and make beautiful charts and show which organization needed to have two more black engineers or maybe a higher grade administrative professional, or we needed more technicians or we needed more secretaries. I made contracts with our program directors. They're very interesting, because what I put down for their goals had to be attainable goals. I had to know that they had, say, this black woman that was a 13 that could be promoted to a 14 and was ready. I had to know that in an administrative position we had a woman at a 13 that could have been promoted to a supervisor and get her 14.

So the contracts with each of the program directors were pretty well fulfilled. A couple met their goals very early and got money for it. I brought the Center from 19%—and the goal was 36% of minorities and women moving into various positions and being hired—and it moved from 19% to 32% in about a year's time. So that was pretty good. I was very proud of that.

JOHNSON: You should be. That's excellent.

CHAMPINE: So I'm mixing the two positions together that I had. But I enjoyed working at NASA very much in the [30] years I worked there.

JOHNSON: In those early years the astronauts were coming to Langley to do training. Do you remember ever meeting any of them or seeing them around the site?

CHAMPINE: Oh yes. I nearly ran over John [H.] Glenn [Jr.] one time. He'd have never made his flight if I'd hit him. I was on one side of the field, and the astronauts were on the other side of the field, and [one day] I had to go over there. As I pulled into the parking lot he's coming out, and I nearly hit him. He just waved at me and I went on and parked my car, but I was very close to hitting him.

I wasn't too involved with [the astronauts]. I didn't move with the group that was called Space Task Group at the time. They paid my salary until Langley could get the funds appropriated to pick [me] up. But [Bob] was involved with them. This was before I met him. In fact, he wanted to become one of the astronauts but he was too [tall]. He was six foot, and the [tallest] you could be for an astronaut was 5'11" in order to fit within the small Mercury capsule that they had. So he was involved with Charlie [Charles J.] Donlan, who will be at the [NACA] reunion. Charlie Donlan was Associate Director at the time, and they helped in the selection process of developing the guidelines for an astronaut. Bob always said that they made the requirements, and he couldn't fit in them, but he did a big job of training and doing many of the things before the astronauts did.

When you see the big gantry out there, he made many many flights in bringing [specially designed helicopter bubble simulators] down to a simulated Moon landing. But he wouldn't do anything until he checked everything out first. He got and walked all around the gantry and checked everything before he got in [the simulator] to fly it, and somewhere I've got a newspaper article on the first flights. Actually it's a negative of the write-up they had in the newspaper at the time.

JOHNSON: When did he join the NACA?

CHAMPINE: 1947. He was in the Navy. I'll back up. He was at the University of Minnesota [Twin Cities], and he got involved with the Navy program that kept him as a naval cadet during his last couple of years of college. Bob was actually born with another name. He was born Robert Harmon Claus, but his mother married Clifford Champine in the '30s. After his natural father died in 1941, Bob changed his name to Robert Apgar (after his mother) Champine. He graduated from college with the name Champine. It was that the whole time. [I did a lot of] research on the family, and I have that information. I've written some of this in his website.

JOHNSON: He joined it as a test pilot?

CHAMPINE: He went into the Navy after he finished [college], and the war was ending. He served on a carrier, but he didn't have any actual fighting though he was classified as a naval fighter pilot. When his [military] time was up, he had known about NACA through his studies in the University of Minnesota, because he came out as an aeronautical engineer. He wanted to go

to NACA, so he asked his boss [at the Norfolk Naval Base] if he could fly the Corsair that he was flying over to Langley to see about a job. They gave him permission.

He flew his little blue Corsair over there, landed at the field, rolled up to the hangar, folded up the wings, made a big show out of everything, climbed out, and asked them to take him to [their] boss. He had quite a bit of negotiation with Herb [Herbert Henry] Hoover, who actually was the second man to break the sound barrier, who was an NACA pilot, and the bigger boss Mel [Melvin N.] Gough. They wanted him to come on as an aeronautical engineer scientist, and he didn't want to sit at a desk, he wanted to fly.

Of course he had to fill out the application for NACA employment. He had something like 900 and some hours, and the requirement was for 1,000 hours. He was so close to it, they said just come on, and they finally decided to hire him. He had told them, he said, "Now if you don't hire me, I'm going to go to Sikorsky and learn to fly helicopters." So they told him, "Aw, come on and we'll teach you to fly helicopters here." So he had 5,000 hours just in helicopters and a total of 11,300 roughly, maybe a few hours less than that, but that's the rounded off number that I came up with, in flying over 155 different types of airplanes. Rockets, gliders, all of those have stories behind them.

JOHNSON: I imagine they do.

CHAMPINE: Yes, so I try to write them when I can.

JOHNSON: That's wonderful that you're keeping a record of it and getting that written down, because it's so important to the history of NASA and Langley to know what these men were doing.

CHAMPINE: That's right. I have pictures like you wouldn't believe.

JOHNSON: I can imagine. Was that typical of his personality, that way he came in and just landed the plane and asked for a job? That was typical?

CHAMPINE: He was very quiet. Yes, he had his aggressive moments, the strength to do these things, but he wouldn't talk about what he did much. I had to draw him out. I could never tape him. But I have a tape of one of his speeches and was able to pick up a lot of information there. One of these days I'll get it completely transcribed. I [have] it partly transcribed. But when he passed away, I felt I couldn't do things for a long time. It was hard to get back into writing something, and to write our love story so to speak for my writing class was cathartic I guess, helped me a lot. So I've written many short stories about some of his flights and activities and things that we did [for] the class. [Writing] helped a lot to get over some of the humps and bumps of losing your loved one.

JOHNSON: Was he still flying as a test pilot when you met?

CHAMPINE: Oh yes. Yes, he was a test pilot. The interesting thing was I had a friend that I had lunch with. Well, after I started going with Bob here I'd have another friend come, and then

finally another friend would come over, and we had about seven of us, [with] Bob [and me] at lunchtime, so I used to call it Bob and his harem because all of a sudden I had more friends, closer friends, it's interesting.

JOHNSON: Were test pilots something that people were somewhat attracted to?

CHAMPINE: Oh yes, oh yes, they were all nice-looking. Of course they wore their flight suits and jackets and whatever. They had a yellow flight suit. They had blue flight suits too that were very nice-looking. My next-door neighbors for many many years, both of them worked at NASA. She was the NASA seamstress, and she made their first orange-colored suits for each of the pilots. She took one of their flight suits, tore it apart, used that as a pattern, and made the first orange suits that you could see at a distance in case they were lost somewhere or down in water or whatever.

JOHNSON: What was her name?

CHAMPINE: Her name, well, they called her Boots Barger, but her name was Beulah Barger. So there's a lot of stories that go along with her. I wrote stories about them too. I've got them all on my computer.

JOHNSON: That's interesting. So when you first met him he was a test pilot. How much did you know about what he did?

CHAMPINE: I didn't know much. He was just a really nice guy, and of course I would get called over to see him come in sometime, and I've got a picture down in the den, one of the pilots was flying a T-38 at Wallops [Flight Facility, Wallops Island, Virginia] when it swallowed some big bird, a buzzard or something, and had to bring the plane down real quickly. Of course there was no way it could be flown back. They got a flying crane from Fort Eustis [U.S. Army Base], and Bob was with the crew there. They flew to Wallops Island and put straps on the T-38 and flew it with the crane up here and the straps [with] the T-38 [hung] down [below], and it was a big helicopter crane. I'm sure you've seen it. I don't remember what the proper title of it was other than they called it the flying crane. They brought that back from Wallops Island with that T-38 dangling below.

Bob had radioed Langley and said, "Have Gloria come over, I'll be landing at such-and-such a time." So I got the call and of course half of the field was out there, and I think I was probably the only one that was required to [take] annual leave to go over to the hangar to see my husband come in. But whatever, two hours or [so], I had to put annual leave down. I'm sure no one else had to do it. They came in over the field, and of course it was thrilling to see the other plane hanging below. As they came in to land, the prop wash of the helicopter I guess caused the T-38 to spin around, and they couldn't land it like that. So they took it up, came around the building again, and landed it just as if there was someone at the controls. They cut the cables loose and then later landed the helicopter. But that was interesting to see how they figured out how to bring that down without having a problem with it. That was thrilling.

The [meteorologist] was a close friend of ours, and he would keep me in contact with what was going on in some of the flights. So we had some very interesting stories and pictures of those years.

JOHNSON: It took a special type of personality to be a test pilot as far as being able to keep their cool and keep calm during a situation like that.

CHAMPINE: Oh, he had lightning responses. He could react just like that, and he was right. They weren't wrong, they were right. Very cool. He would check everything out, being an aeronautical engineer he had to know about all the programs. In fact they used to use the term that he kicked the tires before he would get in and make a flight. He would tell them what needed to be done before, pick up any kind of flight errors that they may have made in making the flight request, and get them all changed before he got in the plane and flew.

He would transport people too. He would fly the NASA 1 [Gulfstream] many times and carry different people places, and he would fly one of the other smaller planes to pick someone up. One story I remember, John Glenn was in Washington [D.C.], and we had a lot of fog around. They got a phone call, would somebody come and pick him up. Bob took the phone call. He told him, "Well, look out your window, can you see the Washington Monument?" and he said, "Yeah," [Bob] said, "Well okay, I'll be up there at such-and-such a time." He knew the weather was clear enough to go up there and pick him up.

Another time, I guess it was John Glenn again wanted to be taken up to Washington. He lived up there. The other astronauts lived here, but he and his wife Annie lived up in the Washington area, and [Glenn] wanted to go home. He came in and said, "Hey, can I get a flight home?" Bob said, "The weather's too bad. We can't do it." [Glenn] says, "Oh no, you ought to be able to fly up there." Bob came out and said, "When Champine doesn't fly, the airlines don't fly." Because Glenn had said, "Well, I'll check with the airlines." Sure enough nothing was

flying in that kind of weather. Glenn was not very happy, but he got a car and drove home. As I told you, I'm full of stories.

JOHNSON: Those are great. Those are the kind of stories we like to hear. His job was somewhat stressful, I would imagine, on him and on you. How did the two of you deal with that stress, or what type of things did you do to deal with the stress?

CHAMPINE: Well, I felt very strongly that he had not only his own life to protect, but to protect the lives of others. I felt that was a pretty stressful situation, and he needed to totally concentrate on [his job] and not about some of the children's problems, because when we were married Bob had six children and I had three, and I didn't know how many of his children I would have to raise, but I was prepared. Between the two families there was always something that might be a little bit stressful. I tried to shoulder all the stress that I could and kept it from him so that when we went out to work in the morning that he would not have any of the daily stresses on him that might occupy his mind, so he could totally concentrate on the job he had.

He was able to do that. Man, he could just concentrate on one thing. All during that time he was building model airplanes. After he retired, he built that great big garage in the back or [rather] had it built. He had all kinds of equipment, saws and power tools and all that stuff, downstairs to fix cars or whatever he wanted to do. Upstairs was totally model airplane equipment. Plus he built things. He built that grandfather clock for me, and he built the little mantel clock, and he built several pieces of furniture, and little dressers and a beautiful cobbler's table and different things like that. I've given most of that away. Oh, he built some beautiful secretaries that he would put books in and fill up with model airplane stuff. He used the dressers

to put his model engines in. He was doing all that stuff during the time that he was working. That was his relaxation. He would go to model meets. When he retired, he went fully into his model airplane activity, and somebody said that Bob enjoyed retirement more than any person they'd ever seen.

JOHNSON: He was a very talented man I can see. Beautiful.

CHAMPINE: Yes, he did a good job on that. He told me, "If you don't want it, I'll keep it in the garage." I said, "I've got just the place for it."

JOHNSON: Well, what did you do to relax and to keep the stress levels down?

CHAMPINE: Oh, I would write. Of course you had your day-to-day household activities, and I would cook. I don't do that much anymore, but I kept the house up. When we got married, he said, "Gloria, there's two things that don't fit my hands. One thing is a lawnmower and another thing is a paintbrush." I said, "That's okay, Bob, I do all that stuff, that's no problem." So I did until I had surgery in '79 and that kept me from doing some physical things for a while. He took over the lawnmower bit at the time. We got a riding mower, and there's cute stories there. But he did all that afterwards.

Before that, I told him, "The grass is getting high and the lawnmowers are broken, I can't cut the grass." So I went out to the beauty parlor one day and came home and there were three lawnmowers sitting at the top of the driveway going chug chug chug chug chug chug chug. He

knew exactly when I came home and had them sitting out there for me. That was in the days when I could push a lawnmower.

JOHNSON: He had them waiting and ready for you. Well, when he was flying how much did you know about his missions before he flew them? Or did you know in the morning when he left what he would be doing that day?

CHAMPINE: You didn't always know, because things came up. But when he was involved with a project we would talk. I was there, I knew these things. I was in another division, but I was in a division that was close enough to be able to communicate and understand. I knew what he was doing, more so than most wives did. I can remember one instance, we were someplace with the pilots' families, and somebody said something about [a project] they were doing with the C-47. They called it the Gooney Bird. That's the same as a DC-3 airliner. Very, very, large plane. Later on Bob flew it all by himself, but it normally has a crew of three. The fellow said something about some activity that he was doing with a C-47, and his wife spoke up and said, "Well you didn't tell me about that," and he said, "Well, you didn't have the need to know." She turned around and she said, "I bet Gloria knew." I don't remember what it was other than it was involved with the C-47. I probably knew at the time.

JOHNSON: You had a special relationship with your husband.

CHAMPINE: Yes, very, very, close, yes. With my background and what he was doing, we were extremely compatible. We had a wonderful marriage for almost—well I met him in '72 and we

were very close until we got married in '75, and he passed away in 2003. Actually it was on December 17, [2003], which was the 100th anniversary of the Wright Brothers' first flight. I thought that was just so significant. I couldn't believe it was happening. But that thought came to my mind, how appropriate for this man.

[Bob] had a stroke in '97, and he had his carotid arteries cleared so there'd be no further stroke. We had six years after that, and about four of them very good. He had difficulty speaking, but he would walk the neighborhood or we'd go places, and every jacket had a little metal tag with his name. On the back side it had his medical problem and his address or phone number. He would walk the dog and visit around the neighborhood. We went places. We went everywhere. Took him to California twice. We went to the NACA reunion in 2000. I took him to Hawaii.

In 1998 there was a conference that we had been invited to participate [in] for the 50th anniversary of the Douglas D-558-1. After we had accepted and the travel was set up, he had his stroke. He was able to go, but he was not able to prepare his speech or give his speech. So I wrote it all. I did his viewgraphs, I put the whole thing together with the understanding of the people out there. We went on just like we had planned to go. Bob was able to walk and talk to some degree. He had difficulty with nouns at the time. When we got out there, one of the test pilots, John Griffith, who also flew the X-1 in the early days, [and] came [shortly] after Bob did, agreed to give Bob's speech. I was going to do it if I had to. Didn't bother me at all.

He practiced it, and did fine with that. But when it came to giving the actual speech, he left a part of it out, just flipped a page or something. So when they published the book, which is *Toward Mach 2: the Douglas D-558 Program* [edited by J. D. Hunley] (and I have several copies of that, to make sure all the children got a copy) they left some of what I had prepared out.

I guess I still have the whole speech in a briefcase in my bedroom, all of the viewgraphs, and a bunch of little slides that we had. So we did very well. When we got back from that trip he fell. He was walking the dog, and he fell right down the street here and crawled home. After that there was a decline from that point on. But we had two more years after that.

JOHNSON: When you first got married and he was still a test pilot, did he travel a lot back and forth to other Centers or to [NASA] Dryden [Flight Research Center, Edwards, California] and that sort of thing?

CHAMPINE: Oh yes, wherever the need was. I remember he went out to Dryden and was flying in a 727. I'm not sure. He may have been in a 747 at one time. I'd have to look at the records. But he would do flying behind other planes in a vortex study. Airplanes generate like a little tornado at the end of each wing as they're flying, and another plane cannot come in behind them without getting caught in that. So they were trying to do some studies to see what would break up that vortex. They had to use smaller planes. Then they got to bigger planes. He did the studies here at Langley and went out to California and flew in a Learjet 2 behind one of the [larger] planes. He was involved in many, many studies where he had to go places. He had to go to Canada one time. He would go places and bring planes back. So yes, there was quite a bit of travel that he had to do, but that was his job.

JOHNSON: Did you ever travel with him to any of these other Centers?

CHAMPINE: Not on official duty no. Arrangements were made just for him. He didn't go to conferences and present papers. Well, he did some but not much, like many of the engineers did. The end product that NASA, NACA had is a report. I used to have the [early] NACA documents [that] came out once a year, [which included all NACA reports]. But I gave them up to someone when I was trying to do a little downsizing. I guess I gave them to Jim [A.] Penland. Because I brought them home. [NASA] told me clean up one time, and I wasn't going to throw those [books] away. So I brought them home, and I [kept] them for many years.

But that's what the end product is, a report. Whatever they did, they ended up by writing about it. In this package I've got for you I've got a list of [Bob's] publications. As a pilot he did not actually write the report as such. One of the engineers would be the senior writer, and they would have other people. But they would usually put the pilot's name on the report, and he would give his [pilot's] input into the report.

I [wrote] a few NASA documents myself. But in the days that I was working, women didn't write reports. Regardless of the work that they did, their name was not on a report, it was [only] the men, until they got a couple of women that were a little bit stronger and [insisted their work be recognized and] had their names put on some reports. I got two out, and I had difficulty doing that. But I could write, and *Virginia Aviation* would publish anything I wrote, so I got a number of things published through them that I could have had published at NASA. It was interesting in those days.

When I was in Space Systems Division I wrote a document that was called *Space Shuttle Technology: A Bibliography*, and I listed all of the reports and [conference] papers that had been done by the Center and by contractors on the Space Shuttle that gave a total history of [their

research] in a report. It's on the Internet as being historical. I looked at it just the other night. I just put Champine Space Shuttle history, and I got it.

JOHNSON: That's fascinating now. Especially, like you said, starting in the time period you did before computers, and now you can just pull up your reports.

Back when you first started in '59 and then when STG was forming, did you have any interest in that part as far as going into the space side of it?

CHAMPINE: No, the secretary that went over with that group is Edith Spritzer. She lives not far from here. Very bright and everything. She was the secretary to the top people in the Space Task Group. She could give you a lot of information if you want to know about the early days there. They paid my salary. They were on one side of the field, and I was on the other. I was in a very interesting job in engineering in the Mercury Range Office, and I liked what I did, so I didn't go over with Space Task Group.

JOHNSON: But your salary was paid by that group.

CHAMPINE: Yes, my salary was paid by them for quite a while.

JOHNSON: Then you mentioned that of course your husband was involved a lot with setting up the requirements for the astronauts. Do you want to talk a little bit more about that and what his duties were in that time period?

CHAMPINE: Yes, if you'll let me get something from the other room.

JOHNSON: Okay, we'll pause.

[pause]

CHAMPINE: I just pulled off a copy of his webpage. Let me see what I got about the astronauts.

JOHNSON: I just think it's interesting that he helped develop the requirements, and then he couldn't fit in himself because of his height.

CHAMPINE: He said they did it on purpose.

JOHNSON: Maybe they didn't want to lose him.

CHAMPINE: That could be. What I've got here is [reading from document] NASA Langley Space Task Group believed that the most important prerequisite for astronaut status was to be a test pilot. Bob and Langley engineer, later Associate Director of the Center, Charles Donlan played important parts in the astronaut screening and selection process.

The seven criteria developed for the final selection were as follows. Less than 40 years old, less than 5-foot-11-inches tall. Bob was six foot. Excellent physical condition. Bachelor's degree in engineering or equivalent. That's what kept Chuck [Charles E.] Yeager from being an

astronaut. Test pilot school graduate. A minimum of 1,500 hours' flying time and a qualified jet pilot. So the process of choosing the first astronauts were rigorous and elaborate.

Bob was 37 at the time, in excellent physical condition, an aeronautical engineering degree, 5,680 hours' flying time, certainly qualified as a jet pilot, plus he had his X-1 and D-558 test flight experience. He was too tall. He would not fit, at six foot, into the small Mercury capsule. He's classified on the Internet as a NASA test pilot-astronaut. Through his continuing research activities [he] contributed to paving the way for the Mercury, Gemini, and Apollo astronauts into spaceflight and for others that were to follow. Of course he helped train Virgil [I.] "Gus" Grissom, [M.] Scott Carpenter, Donald [K.] "Deke" Slayton, [L.] Gordon Cooper [Jr.], Alan [B.] Shepard [Jr.], Walter [M.] Schirra [Jr.], and John Glenn.

JOHNSON: He had a very important role in that beginning group.

CHAMPINE: That's right. You know how the Shuttle docks to the [International] Space Station? They had what was called the rendezvous docking simulator up on the top of the hangar ceiling where they would fly. There were tracks and that sort of thing, and they would fly this small capsule and meet and mate with the other piece that would be what the Space Station was today. There's many, many hours of flying [the simulator] that I used to see [at] the top of the hangar. I didn't know Bob at the time, but I knew that they were doing that. On the lunar lander it was actually a helicopter bubble they modified to make the landing from the gantry [top] onto the simulated Moon. They had it hanging by straps and cables, to keep it at one-fifth the gravity we have on the Earth today. So he made many many flights there.

Lots of things in the simulators. In the gondola up at the simulator at Johnsville, Pennsylvania there were an awful lot of interesting things. He was in the gondola one time, and it went ape. Doing all kinds of axes, turning around and everything, to see how much an astronaut could take and how many Gs [gravity] they could [withstand]. One day it went ape and they didn't know what was the matter with it. He couldn't control it. Took an awful long time to get it under control. What it was was a janitor had plugged in a vacuum cleaner, and so they stopped that and got things straightened out. He says that he went to 18 Gs.

[pause]

CHAMPINE: Okay, let's see, I guess we were talking about the gondola.

JOHNSON: Yes, you said he went to 18 Gs.

CHAMPINE: Bob said he went to 18 Gs. He was called away to go to an X-15 conference in the development of the X-15 rocket, so he didn't get to [go any higher]. So he had made the first couch. It was real funny, the experience he went through to make the first body couch where they absorbed some of the Gs that he would take. They took that couch and brought it up to Pennsylvania and put it in the gondola, and that's what he rode in, and he was able to go to 18 Gs.

But when he was called away they wanted to go see if they could go a little further. Another guy, a naval lieutenant, got in his couch, and they stuffed it with rubber to make it form-fitting to him, and he actually went to 20 Gs. So he got famous for going to 20 Gs. But when he

got in his car to drive to wherever he was, he was throwing up the whole time. They had some pretty bad experiences doing the early tests like that to see what man could take. There's some reports that are listed in his bibliography about that.

JOHNSON: That's amazing, putting his body through what he went through.

CHAMPINE: Yes, I wonder many times if his vascular system wasn't damaged, [to] have caused him to have a stroke at a later time. A lot of the test pilots had some physical problems later in life that the earlier activities may have contributed to. I don't know. I shouldn't even say something like that.

JOHNSON: Well, I guess they really don't know, or no way of knowing. Did he fly the X-15?

CHAMPINE: Not the X-15, he did not fly that. No, that was [Albert] Scott Crossfield. He was a friend of ours. He was real nice. Really nice guy.

JOHNSON: I imagine there were a lot of interesting people that you worked with and your husband worked with that you got to know over the years.

CHAMPINE: Yes. In fact Scott Crossfield told me this story. Whenever we would see him, he would tell stories about being hired by NACA. Bob had finished what he felt was his job, and he was ready to go back to Langley. He was talking to Scott Crossfield, who was encouraging him to go back to Langley. Then John Griffith, whom I mentioned earlier, also one of the test pilots,

was getting offers from industry outside. So Scott Crossfield was encouraging him to take the job, and he was going, "Aha, now I've got both jobs." So he went on to fly for many many years on the X-1 with modifications and the D-558—he didn't fly the X-1 I don't believe—the D-558-1 and 2 he flew, and it was the 2, which is that plane, the small plane right up there, that's the one that he made to Mach 2 somewhere in the early 50s, '52 to '54 or something like that. But Scott Crossfield did that.

This is supposed to be an X-1 here [on the mantel] that the aircraft Internet guys had made for me because somebody stole the model that I had. But it's not the body. It's not the right body. So even though it's made up like the X-1, it is not the X-1 body. I'll show you. This one actually was made by a little girl that stays with me about once a week. She made that little model for me. This [other model] is the X-1 in the colors of the Air Force that Chuck Yeager has signed and Bob signed it also. But let me show you a good one. I don't know if you want to come with me to see it, or whether you want me to bring it out. But I keep it back here.

This is museum quality that was made for me. [I asked] the fellow that made the original plastic model for me that was stolen if he would make another one for me, and he said, "Oh yes." But instead he had this made, and that is perfect. See the tail number 6063 whereas Yeager's was 6062, and his was painted orange and [NACA's] was painted white. It is just absolutely beautiful. [Once sealed in, the pilots] could not get out. You'll see the little trapdoor on the side there. When they got in [to the X-1], they came out of the B-29 in a little elevator that brought them down to the door and they got inside. The door was sealed. They could not get out. If there was some way they could get out, if they got out, look what the wind would do, [the leading edge of the wing] would hit them.

JOHNSON: It would push them into the wing.

CHAMPINE: Right into the wing. So they had to bring it down. So there was no way they could get out. That's what they knew and they went up [in it].

JOHNSON: You had to definitely be someone that was brave to attempt getting into something you couldn't get out of.

CHAMPINE: Oh yes, and you had to know what you were doing. Yes, there's the D-558-1, the [model] with the little hole in the front. The intake. The one up there has a probe, and that's the D-558-2. The orange is the X-1, and the dark [green] one in the back he did not fly, Bob did not fly it. That's the V-22 Osprey, and his son worked on that for many years and gave us that model. But Bob flew all of the tiltwing planes prior to the development of this one, and when his son went to a meeting we let him take the models and reports on those earlier flights, and his management at Boeing was totally amazed because they were developing the Osprey. So a lot of work went into the development of that plane.

JOHNSON: So his son was an engineer also, one of his sons?

CHAMPINE: [That is Jeff], he graduated from Embry-Riddle Aeronautical University in Florida. Now he's getting ready to retire from Boeing.

JOHNSON: I just have a couple more questions that I was thinking about. One thing you mentioned before was that the NACA, when you were growing up, they were known as the NACA Nuts when they came around. Then once you started working there, of course you made friends.

CHAMPINE: Oh, they were wonderful, yeah.

JOHNSON: Was the community perception of NACA and then NASA, did it continue to be that way, or did it change over time to where they were embraced more?

CHAMPINE: I would think it changed over more in time as people understood more about NASA. Because see, what NACA did [at the time] was secretive. The community didn't know. They kept their own little group. Their friends of course would know, but the neighborhood would not know. So they just considered them a little strange. But they were the nicest people. A little bit absent-minded at times, but I just loved them. I was scared to death when I went to work with them.

JOHNSON: How long did it take you to get comfortable?

CHAMPINE: Maybe two days. I found I fit right in with them.

JOHNSON: When you first met and then married your husband, of course he'd been a test pilot for a number of years. Were there some sort of groups of maybe the wives of the test pilots that got

together, or did you ever discuss with any of the other wives some of the dangers that they were going through?

CHAMPINE: Not really. No. Most of them didn't know what was going on. Bob's children did not know. His oldest boy was married and was going to Virginia Tech [Virginia Polytechnic Institute and State University, Blacksburg, Virginia], and my daughter got a job as a social worker in Pulaski, which is not far from Blacksburg. I took her up there in her car, carried everything she owned, her bicycle and everything, all fitted in that great big Chrysler convertible that she had, and we drove up there. I got her situated; left her car, and then I had to fly back.

His son and daughter-in-law came to pick me up in their old van that they had and take me to the airport, and the son said—now I know he was about 19 or 20—he says, "Gloria, is Dad famous?" He said, "When anybody finds that my name is Champine they say, 'Oh yes, your dad is that famous test pilot.'" So here his son is, 19 years old, asking me if his dad was famous. He did not know. He just knew he was Dad, he went out in these clothes and carried a helmet and he went to work and that was it. So his kids really didn't know what he did. It wasn't until I started writing about him and they started reading it that they became aware of what he did.

JOHNSON: Do you think that was a conscious effort on his part to not tell them?

CHAMPINE: I think he just turned it off when he came home, and his spare time was spent with model airplanes, and that's what they knew, Dad and his model airplanes. So I guess it wasn't the same kind of relationship that he and I had.

JOHNSON: Like I said it sounds like you had a special relationship.

CHAMPINE: We really did. He was really wonderful. I was very fortunate that he chose me to share his life. I used to think how lucky I was.

JOHNSON: It is nice.

CHAMPINE: He decided this house was just fine for him and me. I wanted to go get something together but he said no, this is just fine, neighborhood's just fine, so everything worked out real well.

JOHNSON: When you first started in '59 and then over the years, who were some of the people that you worked for in those time periods?

CHAMPINE: In my early days I worked for Harold Crate. There was a Crane that was Bob's friend and he worked out there too, but this is Harold Crate. His widow lives in a home just down not far from here. Ray Hooker, who apparently is still alive and sharp as a tack. He was assigned to Australia in building the Mercury tracking stations. Harold Crate was involved with the tracking stations in Hawaii. Bob Summers was involved with the tracking station in Spain, the Canary Islands.

We had McNulty, I don't remember what his assignment was. This was a long time ago. Then I worked in cost engineering for, [Calvert] Roberts was his name, and Kitty Joyner, she was the first female engineer there, and she had some stories to tell because she was an electrical

engineer. She'd had her title of electrical engineer, and [in the early days] they played lots of tricks on her, they really did, they didn't want a woman. She was extremely good to work with.

Then I went to Acoustics Division and worked with Harry Runyan [and Homer Morgan]. Oh, I guess Ed Garrick is the [first] one I worked for. Loads Division first. That split up into other divisions. He was a mathematician and just an absolutely fine man. Oh he was wonderful, especially to work for. Then I worked for Homer Morgan. I was his personal assistant at the time. It was when I was working for him that I got the opportunity to compete for the other jobs that men had always held before, and when I went [to Space Systems Division] who was the chief at the time? I guess it was Paul Holloway, who later became Director. He actually selected me for the position. He interviewed me a couple of times because he was prepared for a man, but yet I kept coming out on top. So I got selected. But I was told, "Do not get involved with any women things." Those were the words that I was told. Of course I couldn't help myself. I still had involvement in helping women.

JOHNSON: "Any women things." What were they talking about?

CHAMPINE: Progression, changing to other positions or whatever. Because I was always involved with helping them get promoted, and what they needed to change from mathematician to electronics engineer and all that. So I was told that I could not get involved with any of the women things, which I did later on anyway.

[I was selected as Technical Assistant to the Chief of Space Systems Division.] Paul Holloway [was the Chief], and when he moved up to a higher position, I got Dr. Olstead, who was absolutely wonderful. He tried to get me to go to George Washington University [Hampton,

Virginia] for a master's program in engineering administration. I just had too much at home. My daughter was getting ill, and she had a little boy who I had to raise, my grandson, there's a picture of him up there, and there's a picture of him there as a small child. But with a test pilot husband and trying to handle everything in a home and having a grandchild I had to raise, I could not go to school at that time, other than take classes that I could do in the daytime, which was that engineering class I was telling you about.

Then after Dr. Olstead it was Dr. Gerald Walberg, who's still alive and sharp as a tack. In fact I saw him not long ago at the hospital. I think he was a professor at Old Dominion [University, Norfolk, Virginia]. Then who was it after Walberg? I guess it was from there that I went to the Equal Opportunity Office, and there were a number of heads of that at the time. Bob Lee was a black man, and he was very very good to work with. Then after him was Burnett Peters. He was a former lieutenant colonel in the Air Force and transferred to NASA and was head of the EO Office, and I worked for him until I retired.

JOHNSON: As you were coming through and you were moving up, as you said, and moving into these positions that men had held previously, was there a lot of resistance, other than the obvious resistance, but being told not to get involved in women things, and was there resistance in your coworkers, in who you had to work with?

CHAMPINE: Not so much with them. I had difficulty getting promoted, and I had to ask, I was promoted to a GS-9 after I'd finished the year of schooling, and when I felt I was ready for my [GS-]11 I asked was I being considered for promotion, because the position I [held] had the promotion potential to a [GS-]12. They hadn't even thought about it. So I'd missed one of the

promotions, but I got it the next time. Then when it came time for me to get my [GS-]12, there was resistance to that, and there was some background stuff going on, which I don't want to talk about. It involves other people. My promotion point was going to someone else each time. So that's when I moved over to the EO Office to get my [GS-]12.

They put me in for a [GS-]13, and I think there was some unhappiness at a woman being promoted to a [GS-]13. But about that time I was close to retirement, and finally I said, "I don't have to put up with this stuff, I've got my 30 years, I'll go on out." But there was [still] a little resistance to women moving up. But I did exactly the same job that the men did at 14s, exactly. Whatever I did I was going to excel at it, I was going to be the best at whatever I did. When it came to being a secretary I was the best. They still talk about it. Meet people, and somewhere in my closet I've got a badge that says "secretary of the year" that I had earned back in '64.

JOHNSON: Throughout your career and throughout your marriage to your husband and his special career, looking back on all of that, what would you consider one of the most challenging things that you had to get through?

CHAMPINE: I guess it was protecting my own career at a time….

JOHNSON: What do you think you're most proud of, and what makes you the most proud of what you did and what the two of you did together?

CHAMPINE: Well, being with Bob and being supportive of him in everything that he did I'm very proud of, having had that opportunity. I'm proud of the things that I accomplished in helping

other people, because whenever you help somebody, just something simple like hiring a black engineer, just think what that position did for his children and his grandchildren. It starts with education and these kids had worked hard to get their education and to be hired.

One young black fellow that I knew through his co-op [cooperative education] program at NASA did not have the 3.0 grade point average, it was 2.9, and they said, "We're not going to hire you because you have to have a 3.0 grade point average." He said, "Well, by the time I finish I will have it up to 3.0," and so he did, but then there wasn't a position for him.

I was in my EO position [at the time]. I knew most of the supervisors, and I called up one and said, "I've got two engineers. One's a white boy and one's the black boy, and I know the white one's going to get a job. I'm not worried about him. But the black boy I am concerned about, and you have a position open. Would you please consider him for the position?" There was a little hemming and hawing, but yes he hired him on. So it was very difficult. I had to intervene like that many times to higher management to bring some of the people on. But they had to be qualified first. They had to be the tops. But just the fact that it was a woman or a Hispanic or a black. The Asians had no problem at all. We had no difficulty in getting them hired to meet the quotas that we had. But the blacks and the women, there was a little difficulty with them. They took a little persuasion. But I'm proud of it.

JOHNSON: You changed a lot of people's lives because of it, I'm sure.

CHAMPINE: I think so. I really look downstream from what it was and how their lives changed by coming to work for an agency like Langley.

JOHNSON: If you don't mind, I'm going to see if Rebecca has anything that she'd like to ask before we go?

WRIGHT: I just had one question, and it's unrelated. You mentioned a couple times about your husband being at Wallops. Did you have any duties or any actions that you did out at Wallops, and then anything else that he did at Wallops?

CHAMPINE: I personally didn't have involvement with Wallops, but he had some pretty interesting experiences. I know he was up there flying one day, and of course they joked among themselves. The fellow in the control tower says, "Is the pilot qualified for night flying?" See, not all of them were. But Bob was. Bob was qualified for everything. He thought a minute and then he came out with, "Of course." So that became a joke in our family. We would use the way he said "of course."

Another time he was up there and he used to fly the Grumman Goose up there back and forth transporting people, equipment and all that. Because they didn't have a bridge at the time, the best way to go in was flying. He was up there one time testing one of the planes for crosswind landing gear. In fact, he has a patent on that. I shouldn't say patent. It's what NASA called a patent. Tech brief is what I would refer to it as. He was flying an Aero Commander. I'm not sure what the name of the plane was, but anyway he had landed and was doing all kinds of maneuvers showing how that crosswind landing gear worked when he saw a photographer off on the side of the landing field.

So he did all this fancy stuff with the airplane showing what it could do. When he got up by the control tower he asked whoever was there that he wanted a set of those photographs. The

control tower asked him, “Well, what photographs?” Bob said, “Well, there was a photographer there on the flight line taking pictures.” So they said, “Well, we haven't got a photographer out there.” Well, it turned out that there was a Russian ship off the coast, and they had brought the Russians in to show them the town area and everything there, and one of them had [come to] NASA. He had diplomatic immunity and had taken pictures. They couldn't get the pictures from him or anything because [of] his diplomatic immunity. So that was interesting for a while, because he did get pictures of something that NASA was testing, and like I said Bob had a patent on it.

He had another patent on—I call it patent, it's really a tech brief—on turbulence intensity indicator, which was on one of the planes. It's like measuring bumps in the road and that sort of thing when they were flying over mountain ridges and whatever that might cause a force on the plane. So he got his tech brief for that, and also what I told you was the crosswind landing gear position indicator. So they gave him an LAR number. But anyway, that's in the package for you here.

JOHNSON: Okay, that's great. Is there anything we haven't talked about that you'd like to mention before we go?

CHAMPINE: One of the questions was was there a support group when somebody was killed. Well, I don't know about that, but Ruth Hoover [Smull] would know because her husband was killed. She could tell you that. Bob went out to Muroc [now Dryden]. Told you about the simulator at Johnsville, but [here’s another story].

It was a lonesome time out in the desert with not much activity going on between flights. His test pilot boss Herb Hoover asked if there was anything he could bring out there for him during one of the back-and-forth flights of the Langley C-47. Bob said he would like to have some of his model airplanes to fly. Their flights [on the X-1] were maybe 15 minutes long, and then they would have to do repairs and modifications and whatever to the aircraft, and it would take a long time between flights. So what do you do out in the desert? He wanted [to fly] his model airplanes. Hoover returned to Langley and told John Worth, who was one of the technicians [at Langley] (and he's a model builder himself) that Bob missed his model airplanes. The next time the C-47 returned to Muroc, Bob was called over to the flight line. John Worth had carefully hung about 50 model airplanes from every conceivable notch in the fuselage. With his careful packaging, they arrived in perfect condition. Bob couldn't believe his eyes when he looked inside the aircraft. There were little planes and big planes hanging everywhere. I identified that as that was a Kodak moment.

JOHNSON: I can imagine.

CHAMPINE: That [package] is for you all. I've written there, and then the biographical information. I tried to do that as well with these. The planes that he flew and the hours, and his bibliography of papers and documents that he wrote. I had written a personal autobiography of him one time, and I put just a little bit of it at the back. When he [first] married, and [there's] a little bit about that. So these are for you.

JOHNSON: Well, we appreciate it, and we appreciate all the time you've taken today.

[End of interview]