Joe W. Schmitt provided the transcript (July 1997) to the Johnson Space Center Oral History Project

Interview I

DATE OF INTERVIEW: July 1997

INTERVIEWEE: Joe W. Schmitt

INTERVIEWERS: Michelle T. Buchanan with Steven C. Spencer

PLACE OF INTERVIEW: Schmitt's home in Friendswood, TX.

Video I Interview I

B: So you were born in Illinois?

S: Yes. Southern Illinois.

B: Did you have brothers and sisters?

S: Yes. I have one, two, three. . .three brothers and three sisters.

B: And where do you fit in?

S: Well I am the youngest of all seven. We were a German-based family. And, I guess the way the families were back in those days when my mother grew up, was kind of interesting to me. Because after they came over to this country from Germany, they settled in Indiana and Southern Illinois. Southern Illinois is where my people sort of grew up. My mother's family, which was quite interesting, had all of their people specialized in various things that they did to make the family work. I had one aunt--I'll just call them sisters [my mother's sisters], but my mother's sister Katie used to do all the baking for the family and she would bake all the breads and bake all the pies. I remember going to their house one time and on the porch there, they had an old pie safe, which is where they would store all the pies and breads after she had baked them. And then I had another aunt, I've forgotten her name, but she used to play the organ and she was kind of in charge of the entertainment. And I had an uncle that was a trapper. He used to do a lot of the trapping and he would bring home a lot of meat. Of course their mainstay was beef, since they had cows on the farm there--and they used to do their own butchering. In fact that was carried over into my particular family. My brother Bernard, he used to do all the butchering.

Well, in fact in our backyard we used to raise pigs. We would buy them in the spring of the year and we'd raise them, and in the winter time when it was real cold we would butcher them. He would have big kettles of water that they would build a fire underneath. And then what they'd do is they'd take these hogs and put them in there for a short time and then pull them out and then they'd take scrapers and they'd scrape the hair off the skin. That's how they used to do it back in those days. And then they would take all of the meat--they would have these big tables there--and they would cut up the meat and lay it on the table and they would make sausages. Like liver sausage and pork sausage, and things like the family liked. It was an interesting thing about the pork sausage. We didn't have any refrigerators back in those days, so how they kept that sausage from spoiling--we would use it in the summer time, but it was made in the winter time. We'd take the sausage and they'd put it in a jar and they'd turn the jar upside-down, which was full of grease. And that somehow or another was how it was preserved it in regular mason jars. I thought that was kind of interesting.

B: You mentioned to me once about your father and growing up with your father and how every person had their little part in the family?

S: Oh yes. I started to say about how I had different aunts who did the baking and so forth. The other one had to do with entertainment. She played the organ. And I had an uncle who made all the shoes for the family. It was his job to keep them maintained. I remember when I was growing up--I don't know what in the world happened to it--but we had this old shoe lathe that they would put the shoe on and you would drive nails around in it and make the shoes up.

B: What was your job?

S: My own particular job when I grew up? I went to high school and during that time I also worked in a barbershop. I was shining shoes. And I had another job in the barbershop. My brother-in-law's barber shop. I used to work for him. In fact, on the weekends I used to clean the spittoons. Customers would spit in these things and it was my job to clean them on the weekend. I made good money shining shoes--ten cents a shine. It's about a dollar and a half a shine I believe nowadays. But you know what? I must explain, this was during the hard times--

depression times. I, over about two or three years, made my own spend money. I would always take it home. I saved up money and after about the third year I was able to buy my mother a new stove--a cook stove. I think I paid $30 for that stove, which doesn't seem like much nowadays. It correlates to about $150 nowadays I think.

Well, some of my hobbies back in those days--I used to do a lot of taxidermy work. I mounted specimens. My largest one I guess was a baby black bear. This bear was brought to me by a man who used to sell cars. He kind of dumped it on me. You know I never did get paid for that. He was kind of a deadbeat guy. I had the thing all made up and all completed and told him it was ready. He never did come after it. Then I finally got rid of it by taking it around to his house. I just dumped it off at his house. But it was in much better shape at that time.

My brother one time killed a. . .what is the national bird?

B: Bald Eagle?

S: This was a Golden Eagle, not a Bald Eagle. And I mounted it. It had a wing span of about eight or nine feet as I recall. It was so large it would go from one end of our piano to the other end.

B: Was this when you were still in high school?

S: This was when I was still in high school. Another thing I was making--I started during my elementary days. I built a Ferris wheel. I made it out of tinker toys. I didn't have a hub. They didn't have any hubs. So I used a round block of wood from out in the yard. Then I made little seats. I put on this Ferris wheel a total of eight seats. And at one time I had some little white rats. And somebody said, "Why don't you give it [a white rat] a ride on it?" So I set one there and turned it around. And as it was going around some of its hair got caught into the seat. The seats wouldn't move but the wheel did. We had to stop and reload them. That's what I remember on those particular hobbies.

B: What did you do after high school?

S: After high school--I had four years in high school. Then being that it was the Depression years I didn't have anything to do. So I spent an extra year in high school learning typing and I

think it was some sort of a business course that I took there. In so doing, the principal of the school sort of took an interest in me--he knew I was pretty mechanically inclined. He asked me, 'How about going into the Army Air Corps?' Of course there were no jobs at that time. So, I said that sounds like a great deal. He wrote a letter to the commanding officer at Chanute Field in Illinois. Chanute Field is a training place where they taught people how to work on airplanes. That was my main course, aircraft and aircraft engines. After I finished that I went to Langley Field, Virginia. While I was at Langley, it was kind of a slow period. I asked if I could go back to take a parachute riggers course and also an aircraft clothing repair course. So I did that. Now that kind of paid off for me later because after working on airplanes for Glenn L. Martin Company and then also at NACA (National Advisory Committee for Aeronautics) which later became NASA (National Aeronautics and Space Administration).

When I was still at NACA they formed a group which they called Space Task Group. Because I had this training like the training in the aircraft clothing repair they thought that maybe I would work out real well as a space suit mechanic. So they selected me for that. Then I had some additional training. I had to go to the Norfolk Naval Air Station. I took training course in space suits. Then I came back and I made various trips to the various manufacturers of space suits. That's how I gradually got into the manned space program.

B: What did you do during the war?

S: Yes. Actually, I was sort of caught--trapped up there at Naval Air Station during the war. Because of my job, they wouldn't let me get into the service. I had applied for it, but they wouldn't let me go. My chief job there was an instrument specialist. I worked on automatic pilots on the Navy planes. I used to repair and install flight instruments on the airplanes. It was kind of a specialized field back in those days and that's why I didn't get to go into the service. It has probably worked out OK for me.

B: The XF-88. . .

S: This was after the service while I was working for NACA. The XF-88 is an airplane which was a propeller driven airplane. What we did, we mounted in the nose of the airplane a jet engine a. . .

B: A turboprop?

S: Yes. We had propellers of different speeds. The normal speed for a propeller for today's airplanes is about 1700 rpm's. We went up to 3600 rpm's. And that sucker used to make a lot of noise when it was flying. I remember when we were flying, everybody in the neighborhood knew it. The whole town knew because it made so much noise. That was the extent of that program.

B: What did you have to do with the program?

S: I was an aircraft mechanic.

B: The X-1?

S: When I was still with NACA I also went out to the Mojave Desert. It is now Dryden Air Force base. We had about 30 people from Langley who went out to Muroc and Granny went with us too. We were out there for about a period of six months. I was working on the first rocket plane. It was called the XS-1. That is the Experimental Supersonic Airplane. Dryden was the place where NACA did all of the flight testing of the airplanes back in those days and they are still doing it out there. The reason why they are still doing it out there, in case you don't know this, is because of the landing fields. This is a dry lake at Muroc. They have concrete over there now where they land the shuttle and other airplanes. But also if pilots should miss the airport landing strip they had an additional 30 miles of nothing but dry lake bed. I remember one test we had was the XS-1 which had very narrow tires. When it would land sometimes it would land off of the intended runway and get into the dry desert. At certain times of the year the desert floor would open up because there was no moisture on the top surface, even though there was water underneath it. The landing wheels on this XS-1 used to fall in those cracks. We had to jack it up to get it out of there.

B: That was the first plane to break the sound barrier wasn't it? Chuck Yeager?

S: Yes it was. . .Chuck Yeager.

B: What did you have to do with the plane?

S: I helped install flight measurement instruments. Actually, we had a pilot from NACA whose name was Herbert Hoover. That was why we went out there. He represented NACA.

B: Herbert Hoover?

S: Not the president, but Herbert Hoover was his name. He died in an airplane crash. Chuck Yeager flew for the Air Force. This company, the Bell Corporation, is the one that built the X S-1. They had a guy whose name was "Slick" Godlin as their pilot. Anyhow, he was kind of a Hollywood-type. He was a good pilot. He was one that flew the original test flights on that. He used to come in from Hollywood. That is where he stayed. He would have some good-looking girls who would accompany him out to the plane. It was really a show when it was his time to do his flying.

B: Were you there when they broke the sound barrier for the first time?

S: Yes.

B: Did you hear it overhead?

S: Well, I don't remember. I'm sure that you could. That was interesting how they did that airplane. They actually didn't take off from the ground and fly it up there. They mounted this XS-1 on under the belly of a B-29 airplane. How they loaded this little airplane under the B-29--they would put the XS down in a little pit, like an oil change pit. Then after it was in the pit we would take the big B-29 and roll it over the top of that. Then they would jack it up and connect up the linkage--kind of a bomb release type of linkage. Then they would take off with that underneath the belly. There was plenty of room--the landing gear was modified and it was fine. It wasn't laying there right on the ground. It was sucked up into the belly. Then after they would get up to a certain altitude he would start the engine and after the engine was started they would release him and he would take it and fly. That was the first supersonic flight. That's how they did it.

B: Did you work as a suit technician?

S: No, I was an aircraft mechanic. NASA had a lot of instrumentation on the wings. The wing on the XS-1 was [made of] about an inch-thick aluminum. It wasn't bent. It was actually machined from a big casting of aluminum. We had to take a certain section of this thing out, it had all sorts of screws in there, and underneath we had these instruments. Our part of the job was to read the instruments and gather the data, is what you would say.

B: Where did you go from there?

S: Well let's see. I went down to Cape Kennedy. The time I went down there they were still putting monkeys in the spacecraft and launching them. I did get a chance to see their pens. They had trainers there that would walk these monkeys up and down. That was kind of interesting. What we were really doing down there was we were getting ready for our first manned space flight which was with Alan Shepard. I had to set up my space suit shop. By the way, I made the first, well not the first, but the first one that we used on a manned space flight--an instrument panel for checking out the space suit. I made that out of a 3-quarter-inch plywood board and I mounted various flow meters and pressure gauges on there and valves of various kinds. I was kind of proud of that. But it is very crude compared to today's instrumentation. We got the job done with it.

B: So the first guy you suited was Alan Shepard?

S: Yes. Alan Shepard's was the first manned space flight. That was just a 15-minute suborbital flight. All we did was strap him in the Mercury spacecraft. It was a Redstone rocket. So was Grissom's. They were the only two to use a Redstone rocket. They took about 15 minutes for them to go up and come down. Of course what they would do is to launch him up and after 15 minutes why they would release the capsule from the rocket and the parachute would come out and it would be landed back in the Atlantic Ocean. They had a crew that went out there and picked him up. They used that procedure all the way through the Mercury program, Gemini and also Apollo Program. Of course when we started on shuttle we landed on land, the ground, as you know.

B: Was he nervous in the capsule when you put him in?

S: Well, I had been training with him for so long. I mean that's all we had been doing. It just looked to me like we were just doing another training exercise. No, I wouldn't say he was nervous. In fact, that is kind of how I pictured all of them. My job was not only to suit them and take care of the suits, but also to put them in the spacecraft and hook up their communications, their hoses, and also their restraint straps. Now I would like to talk about the restraints. On Alan Shepard's flight it was the only time that we used knee caps because we didn't know what was going to happen when he went up the first time. He was in the spacecraft in a position laying down on his back. We actually had knee restraint cap straps that we had to secure to the spacecraft which we don't use anymore. We found out that wasn't necessary. They just had the regular chest straps and harnesses and parachutes and harnesses.

B: You had to put the instrument panel in, right?

S: Yes. The way the ingress went--the ingress means how you went about putting him into the spacecraft. How it went on the Mercury program was I had to remove an instrument panel and let him get in and then put it back in place. Then when he got out, when the spacecraft had landed on the water, what he would do was blow that side hatch panel. It had a little explosive charge and he would activate that. Then he would remove the instrument panel, push it to the side and then go out into the water.

B: Were you ever there on the ship when they picked. . .

S: No, I never did get on any of the recovery ships at all. I had some good friends that told me a lot about it. That was an interesting thing. In fact you could see it pretty well on the news because they covered it from so many different angles. It was a big thing back in those days. So I don't think I missed much.

B: You suited John Glenn who was the first to orbit the Earth?

S: Yes. Now when John started his flight, we changed rockets. We went from a Redstone rocket to an Atlas rocket which gives more power to get off the ground and get up into orbit. Yes, I suited John and put him in the spacecraft for his flight. It was a very interesting thing. Oh, an interesting little side note, after John had made his flight--I was at Cape Kennedy at that

time--John said, 'Come here Joe. I got something for you.' I went over there and I had no idea what he was talking about. He gave me a gold medal with my name imprinted on the back of it, or my initials rather on the back of it. I was real proud of that but I was more proud of that when I found out who he had given these to. He had about 10 of these medals. He gave one to the president to the United States, one to each of the six astronauts that were there, and to some of the really big high wigs. And me being a suit tech, which is kind of a low man on the pole, I was real, real proud of that. I still have that today. Those would be quite valuable today if you wanted to sell them I guess. I plan on keeping that in the family.

B: Did he take these medals on his flight?

S: Oh yes. These were flown. Speaking of flying, we were real cautious about the things we allowed to be carried on the spacecraft. But a lot of things did get by that the big wigs didn't know about. I remember on Gordon Cooper's flight, which I think was the last Mercury flight...his family by the way, Gordon Cooper's family had a real heavy background in aircrafts. His daddy used to fly with Wiley Post.

B: Will Rogers?

S: Will Rogers, his family used to live very close to Will Rogers. He used to tell us little stories about some of those things that happened in those days. That was kind of interesting.

B: Then you went to the Gemini missions?

S: Let's see. Oh, I started to tell you about some of the weird things was sent up. OK, Gordon Cooper on his flight, carried a piece of the first airplane that flew, the Kitty Hawk. Yes, it was a little piece of the wing I think. Well, it was a portion of it, an authentic piece. And he flew that. Also, some of the other unauthorized things that were flown was one of the guy's daddy was in the army and he had a. . . what you call a Sam Brown belt. A Sam Brown belt was a two-inch wide belt that you used to wear on the outside of the uniform and had a large buckle on it. We had one of those all wound up and he carried that on a flight too. But after that somebody found out these things they said, 'Hey, we got to stop this stuff. We can't do that.' What the concern was with that belt was that there may have been some oil on it from the leather treatment and that

with oxygen doesn't work so good. After that they started on a procedure where the guys could carry their own things that they wanted to like medals or the flags--miniature flags--or wedding rings and things like that from their family. But they had to put it in a special package. All this stuff had to be itemized before the flight and put in this little special place in the spacecraft. And that's how they were able to do it legally thereafter. That's about all of that.

Yeah the very next program that we went to was the Gemini program. The first flight was with Gus Grissom and John Young. That was the first one that we flew. [see page 68 of the Appendix for photo]

The first Gemini Flight was kind of interesting. Of course it was the very first flight of the Gemini program and we had a new missile, the Titan, and there was a lot of concern about whether everything would go well. But we had a lot of success with the Atlas rocket, so they weren't too concerned about it. But this is a particularly interesting flight as far as I was concerned since I was the suit technician on that. They tried to capture a lot of the things on film that we did prior to the flight. In so doing, they hired Norman Rockwell, who was an illustrator, to paint a picture of the suiting of the crew. He took a lot of pictures of the crew and I happened to get in on that. [see page 69 of Appendix for photo] What was interesting to me was the fact that Mr. Rockwell was so precise on exacting data. In the picture that he painted, it had a countdown clock. And he came back a day or so later on the telephone and he said, "Now, when you were suiting the crew up at this particular time, what time would be showing on the countdown clock?" So I figured it up and got it to within a minute or so of what that would be. And he said, "Thank you very much." And yes he was a very big stickler for details. In fact, I was chosen to take a space suit to his studio up Stockbridge, Mass. [see page 67 of Appendix for photo] That's where he used to live, he and his wife Molly. I spent almost a week there. The reason I had to go up was because the Gemini space suits at that time were classified. So they couldn't just put them in the mail and ship them. And what Mr. Rockwell wanted to do with the suit and harness, he wanted to capture all of the colors like the silver suit, the gray straps from

the parachute straps and all the buckles. He wanted to capture all those colors. So that's the reason why I took the suit up there.

Another interesting thing that happened when I was up there. I didn't have to much to do at that time except watch the space suit but he had just gotten a shipment of a couple of photos in there. One of these photos was of Lyndon Johnson and the other one was of Barry Goldwater. They were candidates at that time for presidency. So Mr. Rockwell said, 'Say, would you mind taking this thing apart?' These were all shipped in cases that were put in there with wood screws. So I finally opened it up and I got curious of this big photo. So I said, 'Mr. Rockwell, I don't have a feel for how much this stuff costs.' So I asked him, 'How much does something like this cost to have one of these pictures made?' He said, 'Oh, around $50,000.' Which was quite a lot of money back in those days. He had a very interesting home there. A lot of things were given to him. He had a car that. . .in fact, when I arrived at this little airport there was no taxi service there in Stockbridge and he had his chauffeur come with this big old Lincoln. We loaded up the space suits and carried them in that. He carried me to my hotel I was staying at. That was a real interesting trip.

B: Didn't you have dinner at Mr. Rockwell's house.

S: Oh yes. Also on this trip Mr. Rockwell he took me to a dinner at a country club. This country club was frequented by millionaires. A very affluent type people--like the Vice President of General Motors and the Vice President of General Electric Company. There was a guy that used to raise these racing horses. I forgot the name of the horses, but it was a special kind of a racing horse that would race in these two-wheel carts.

BREAK IN THE TAPE*

Interview II

DATE OF INTERVIEW:	May 12, 1998
INTERVIEWEE:	Joe W. Schmitt
INTERVIEWERS:	Michelle T. Buchanan with Steven C. Spencer

PLACE OF INTERVIEW: Schmitt's home in Friendswood, TX.

Video I Interview II

S: The first Gemini flight that I participated in was GT-3, Gemini-Titan 3. That was with Gus Grissom and John Young. That was the first one that was documented by Norman Rockwell with his picture which is now in the Smithsonian. Then I went on to GT-4. GT-4 was a mission with Ed White and Jim McDivitt. Jim McDivitt was the commander on that flight and Ed White made our first walk in space. That was a very secretive and interesting flight. I remember that we were down in our motel, I forget which one, down in Cocoa Beach, Florida and they were having a lot of press people coming in. They [NASA] were going to make an announcement. Well we, being suit techs weren't in on what they were going to do. What they did at this press conference, they announced that they were going to make our first walk in space. That was with Ed White. Even though we had been training for a space walk, we didn't realize that it was going to be on that particular flight. That was the flight when Ed was attached to the spacecraft by means of a gold-colored umbilical cord which carried the breathing oxygen which he breathed. He had an EVA [Extra Vehicular Activity] suit on. There are two doors--one for the commander and one for the pilot. Ed was the pilot and he opened his door and he just floated out of the spacecraft.

What was interesting about that was that they were trying to get him to come in but he was very exhilarated being in space. He didn't want to come in but they told him that he was going to run out of oxygen. That's about all I remember on GT-4.

The next flight that I was on was GT-6. It was with Schirra and Stafford. That was a very routine sort of flight. What we were doing this period in space exploration was we were trying to get to the point where we would be going to the moon. It was also about this time during the Gemini program that they announced (this was announced by JFK) that we were committed to landing a man on the moon and bringing him safely back to earth. So we had a lot of things that we had to get done. We had to increase the mobility in our space suits so that they could do various tasks that they hadn't done before. Now at this time, the Gemini flights and the Mercury

flights were done mostly inside the spacecraft. GT-4 was the first attempt that we had of doing things outside of the spacecraft. We found out, as we were going along, that we needed more mobility and more tactility in the gloves so that astronauts could perform various tasks that they would need to do when they got around to the moon flight. That was the main idea of the Gemini program.

One of the other things that we wanted to develop was the docking procedure. That was the one that was perfected by Neil Armstrong when they had launched the Agena rocket. It was launched just a few minutes before...I remember that day. When they were getting ready to launch the Agena mission I was in the process of putting the crew in the spacecraft. I remember the doors were still open and it had a view of the pad so the people in the spacecraft that I was working on had a chance to look out and see the Agena lift off.

OK, so another thing that we had to do was the docking. We did that pretty successfully.

B: That was with Neil Armstrong?

S: Yes.

B: Now is that the flight when they experienced a stuck thruster and they had to separate?

S: Yes. That was when he was spinning around. Armstrong is a very cool type of pilot. He was really the top choice when they picked out a man to go to the moon. He had been in so many different serious situations and gotten himself out of them. Like over here at Ellington Field, we had the first lunar landing training vehicle called the LLTV. There were only three of those made. I think that one is still in a museum somewhere. The second one is one that Armstrong was flying one day and something went wrong and he had to eject from that. He did it all very cool. He did OK. Same thing happened with this Agena situation. The spacecraft started rolling and he very cautiously and coolly figured out what to do, getting them back on their course again.

Space suit mobility and glove tactility needed improvement for future space programs. And on the Gemini 12 flight, Buzz Aldrin performed difficult tasks under EVA conditions. He was required to exit the space craft, transfer himself to the rear of the service module where a large

panel, loaded with various experiments was mounted. Space suit engineers wanted to see what an astronaut could do while doing tasks like connecting and disconnecting electrical connections and hoses, manipulating electrical switches and valves. The space suit and gloves were pressurized to 3 1/2 pounds per square inch making it difficult to move fingers, arms and legs while performing these tasks. The pair of gloves worn by Aldrin for this flight was interesting to me. He had his choice of 12 pairs of gloves in his size range that were actually made for other astronauts. As it turned out, he selected his left glove from the above group, but he chose his training glove for his right hand. So we had to refurbish and upgrade it from "training" to "flight" type for his flight.

B: Were any of those missions where they had the two Gemini's in flight at once?

S: That was Gemini 6 and 7. That was with Schirra and Stafford and Borman and Lovell.

B: Did you have to have two crews working on that?

S: Well, they were so close together it started out that way. Actually, I was on GT-6 and Al Rochford, another suit tech, was on GT-7. It turned out, something went wrong on one of the missions and they got put closer together; so we used just one suit technician to do both missions.

B: When they launched to two Gemini's, were they a few days apart?

S: I think it was 11 days apart.

There is one thing I remember on the 14th day, GT-5 flight. As far as suits go, we used a special kind of suit. They built us a special suit that had a helmet with a visor, which was a soft-cloth type of helmet that they could move their heads around so that they could get more comfort and visibility. Before on the Gemini suits we had a bearing in the neck ring that allowed them to move from side to side but they thought that the soft suit may let them move their head a little bit easier. Then it wasn't long after that, during the Apollo program, when we started using the bulb type helmet which was all plastic.

We started off the Apollo program with a tragedy. The first Apollo flight that was the one which we had the cabin fire. That was with Gus Grissom, Ed White, and Roger Chaffee. Those three

fellows were burned up in the spacecraft. That was on pad number thirty-four at Cape Canaveral. After the fire we shut down for about four or five years. Then we finally got around to the first real Apollo flight. That was with Schirra, Eisele and Cunningham. That was kind of a routine flight. We had never flown the new Apollo spacecraft, so there were a lot of safety checks that they had to make on the newly designed cabin. There wasn't too much interest on that flight other than the spacecraft itself was certified as being OK to use. It was launched from pad 37 at Cape Canaveral, Florida, with a Saturn IB rocket.

Then we started into the first program of "to the moon." The next program I was on was Apollo 8 and that was with Frank Borman, Jim Lovell and Bill Anders. This flight did not land on the moon, but it was the first flight that went around the moon and returned.

One thing I remember about this flight was the launch complex, located at Cape Kennedy, Florida. It was the first time we had used this facility for a manned launch. The Saturn V rocket and spacecraft were assembled at the vehicle assembly building, then was loaded onto the huge Saturn crawler and transported to launch pad one. This takes about eight hours to move the vehicle the eight miles to the pad.

In order to load the crew into the spacecraft we used two elevators. The forty foot "low-rise" elevator carried us to the base of the Saturn V rocket. The "high-rise" elevator carried us up about 35 stories to the space craft cabin.

On launch morning, for safety reasons, the only people besides the crew allowed on the pad were two suit technicians, and inspector, two spacecraft mechanics and the "pad leader". We were called the "close-out crew". With the rocket engine fuel tanks loaded and various electrical systems powered up there is always a chance of something going wrong. Should this happen, the flight crew and close-out crew would need to evacuate immediately. For this particular flight, the Pad Safety people directed that a special harness, with a large steel ring in front, be worn by all of us at all times. In the event we were told to evacuate, we were to snap the ring on our harness to a pulley assembly that was threaded onto a one inch steel cable, which would carry us to safety. The cable was secured to the top of the gantry and to a post down at the other

end. There was a restraining net provided near the lower end to "break the fall". Then we were to release ourselves from the cable and run over to the entrance of a bunker door and into a safe haven underground.

B: How many stories was it? Could you look down?

S: About 39 stories, that is quite a big jump. When you looked down after you got hooked up, you could look over the bend-area and it looked like you were going straight down.

B: Did you ever test-fly down the cable?

S: Not on the cable attached to the gantry, but on a training rig where we practiced connecting and disconnecting our harness to the cable. I'm sure glad we didn't have to use the cable system for real--it would have been one hell of a ride. After Apollo 8, the Pad Safety people developed two small cars equipped with safety belts and a quick release lever and attached them to the cable. This provided a much quicker evacuation method and it was for the rest of the Apollo flights.

My last Apollo flight was Apollo 15 with Dave Scott, Al Warden and Jim Irwin. It was the first time that we used the Lunar Rover vehicle. On Apollo 12 and 14, the astronauts used a two wheel cart to carry seismographs and all the equipment that was to be left on the moon plus tools needed to retrieve soil samples. When the astronauts returned from their flights, they complained that their carts were too small to carry all the lunar experiments and that they couldn't cover enough territory. so the lunar rover vehicle was designed and built. Its wheels were folded inward, then it was mounted on one side of the Lunar Escape Module, LEM, and transported to the moon. A block and tackle with rope was used to lower the rover to the lunar surface. The Rover was then activated, loaded with experiments, tools and communication equipment. They now had the capability of traveling more territory, carrying more equipment, making for better lunar explorations. How they would send their communication signals back down to earth was interesting. The lunar rover had an antenna on it which sent a signal to the lunar module. The lunar module then sent the signal to the orbiting command module which in turn relayed the signals to Mission Control on earth.

Tape 1, pick back up********

Interview I

DATE OF INTERVIEW: July 1997

INTERVIEWEE: Joe W. Schmitt

INTERVIEWERS: Michelle T. Buchanan with Steven C. Spencer

PLACE OF INTERVIEW: Schmitt's home in Friendswood, TX.

Video I Interview I

S: I guess the next Apollo flight I was on was the "big one" as we say, the Apollo 11 launch. And I have written a few notes on that, things that happened to me in particular and things that happened on the flight. This by the way is kind of representative of a lot the flights I was on and the things that happened.

This particular one, the Apollo 11 launch we came to work at 3 a.m. in the morning. We passed hundreds of trailers, tents and vans parked along the roadside outside the gates. Some had been there for days. Four lanes of visitor's cars were lined up waiting for the gates to open at 7 a.m. We had to zigzag around them to get to the gate. Security was especially high, but with our special passes we sailed right through. The crew arrived at the suiting room at about 5:30 in the morning. But we suit technicians had been working in the suit room since 3:30, turning on the air and oxygen supply, making leak checks on the suit consoles, checking out the communications systems, laying out suit equipment, making sure suit pockets were loaded in correct order with pens, flashlights and so forth. On Neil's suit, a small folding shovel with plastic sample bags were placed in the special pocket. These were to be used in the event that their stay on the moon was to be cut short for any reason, so at least they would come back with a few lunar soil samples. Suiting begins with crewmen slipping into their long-john underwear up to their waists at which time the biomed technicians placed the biomed censors on the chest and a preliminary EKG test check is made. After buttoning up the upper part of the underwear,

the athletic supporter and urine collection device was donned. I might point out that two sets of underwear were used. The cotton long-johns were used for the launch and landings while the liquid cool underwear was stored until needed for the moon landing. Also two types of space suits were used. Mike Collins wore an intravehicular suit, which means that these suits were only to be used inside the spacecraft. [see page 64 of the Appendix for photo] While Neil and Buzz wore extravehicular space suits. The extravehicular space suits cost about $100,000 and three were purchased for each crewman--one for training, one for flight and one back-up flight suit. It seems like a lot of money but when you consider that the extravehicular suits were designed to operate in a -250 degree Fahrenheit to a +310 degree Fahrenheit temperature range, and that it has ultraviolet radiation and a certain amount of micro meteorite protection, well I guess that was a fair price for a 28- layer space suit. Today's space suits have fewer layers, but each layer is designed to do more than one function. The space suit torso was donned one leg at a time. Arms and head through the upper torso, after which the pressure sealing zippers were carefully closed. With ventilation air flowing through the torso, the crew would be comfortable while the crew was given current weather conditions and a briefing on the status of the countdown by Deke Slayton, who is another one of our astronauts. At this time I always made it a point to of letting the crew know where all of their pocket accessories were stowed. They personally stowed their personal preference kits which contained personal rings, medals and other memorabilia which they wanted to carry along. Also a ham on rye sandwich was carried along as a quick snack. With the countdown going rather smoothly, we proceeded with the final phases of suiting. COM carriers were donned and a communications check was made. Nylon comfort gloves followed by the suit gloves were donned and locked to the suit arms. Next the fishbowl helmets were locked into the suit neckrings. At this point, the pre breathing begins, as we turn off the air and turn on the breathing oxygen supply. Pressurized suit leakage checks are made after which the crew would lounge comfortably in their reclining chairs until we got the go ahead from the pad leader, Guenter Wendt, to proceed to the spacecraft. Suit technicians would use this time to prepare the portable oxygen ventilators, gather together all the items that were

needed for the crew ingress. About 6:20, Deke Slayton signaled us that Guenter was ready for us at the pad. We had to start the portable oxygen ventilator switch over. We completed this and walked out of the suiting room in about six minutes. Each crewman carried his own portable oxygen ventilator while the suit technician picked up the back up ventilators to the transfer van. [see page 65 of the Appendix for photo] As we passed by the crew quarters next door, someone handed Mike, that's Mike Collins, a little brown bag which leads us to a little story. Years ago during the Mercury program, Guenter Went would play little tricks on the crew on flight mornings to help them forget their anxieties of the mission and to make their day start off right. When I saw that bag I was suspicious that the crew was going to turn the tables on Guenter this time. The suit room was on the third floor so the elevator was used to the first and as we got off the elevators, photographers from all over the world were snapping pictures of the crew as this would be their last chance before the flight. The crew plus Deke Slayton, Ron Woods and I entered the transfer van driven by Charlie Buckley and one of his security men. The ride would take about 20 minutes which meant we had to change out the portable ventilators just before arriving at the pad. We had six spares which would take care of any small delays we might encounter before ingress into the spacecraft. As we approached the launch complex gate the powerful floodlights were still on lighting up the entire vehicle. Normally, we would have had to stop at the gate and exchange badges, but having the chief of security with us as we drove up to the base of the pad we didn't need that. We went from the transfer van to our first elevators which took us up to the base of the Saturn V rocket. We walked through a sealed compartment painted gray which reminded me of the inside of a navy ship. It was along the walls of these of these corridors that Guenter Wendt had placed signs. These signs read: "The Key," and then another one, "To the Moon," then another, "Located In," and finally, "The White Room." These signs tipped off the crew that Guenter was up to his old tricks again. Another thing I remember was the fishy smell of the hypergolic fuel. Of course, the crew didn't smell anything but pure oxygen as they were tightly sealed in their space suit. A few more steps and we came to the base of the high-rise elevator. We all boarded the #1 elevator, pushed one button which is

programmed to take us to the 320 foot level where the spacecraft hatch was located. As we walked along the creaky walkway we could hear cracking sounds of gases being burned off at the base of the burn pond located a good distance from the vehicle. Snow was falling from the cryogenic filled tanks glistening in the floodlights. Arriving at the whiteroom door, we were greeted by Guenter Went holding a huge key which he presented to Neil Armstrong who in turn gave Guenter a card reading, "Space Taxi ticket, good between any two planets." Just as we arrived at the whiteroom, Fred Hays who was another one of the astronauts, was climbing out of the spacecraft after verifying that the cockpit switches were properly set. After removing Neil's yellow boot protectors, he climbed into the commander's seat on the left. I followed him inside an immediately connected his communications line. Neil was still connected to his portable oxygen ventilator during ingress, so I switched over to the ship's [spacecraft's] oxygen line and turned on the oxygen valve. With his feet positioned in the stirrups, his restraint straps consisting of lap belt and shoulder harness were connected and adjusted. I had no voice communications with the crew so he would give me hand signals that he was comfortable. My work station for ingress was just inside the spacecraft hatch just above the center seat, which means I had to get out each time the next crewman got in. I had to do a lot of stretching to reach the oxygen valves located in the tunnel of the spacecraft. Guenter was always there making sure my back didn't touch any of the panel switches. While I was busy with Neil, Mike presented the contents of the little brown bag to Guenter. It was a small six inch trout tacked onto a little board with a plaque reading, "Guenter Wendt, Trophy Trout." Guenter was quite a fisherman. He took us all out fishing quite a lot. Anyhow, last but not least, Buzz gave Guenter a small Bible inscribed, "On permanent loan to Guenter Went."

Mike was strapped in the right seat and Buzz in the center seat using the same procedure as in Neil's ingress. Before getting out of the spacecraft I always made a quick check of everyone's equipment asking them if everything was OK and wish them good luck.

B: So they couldn't talk back to you?

S: No, I didn't have any headset on. The reason why is because they wanted to keep the communication down to a minimum. That was the reason why the first thing I did when I made all the connections was to connect their communications and see if they were in touch with. . .because at that time, the main man not the pad leader but the man who was in charge of the flight he had to talk to him and tell him about weather conditions and update him on a lot of different things and tell him how the systems were and all that. So they didn't want any interference. So that was the reason why I didn't have one. And its worked out real well because we used hand signals. It worked out real good.

B: Was it following that flight that you received the flag?

S: Yes. I do have a flag that was flown on the Apollo 11 flight. It wasn't on the moon but it was on that particular flight.

B: Did they look nervous?

S: No. There again it looked like another training exercise. Everybody did their job. It just seemed very normal to me.

B: When you got the suits back you had to clean them up so they had moon dust and all that all over them?

S: Yes. When the suits did come back they had to be evaluated. We vacuumed out all the moon dust. A lot of the people at that time, contractors mostly, they would take some of that dust and try and give it to their friends. There was an order that came out that we weren't allowed to have that. All samples of the lunar samples had to go to the storage area there. So we didn't get any of that. Although I did get some of it on some of the things that were retrieved from the flight. I guess the other flight that I worked on, Apollo flight, was Apollo 15. Now this was the first time we used the lunar rover. That was with Dave Scott, Al Warden and Jim Irwin.

B: Now you did the test mission for Apollo-Soyuz?

S: That was after the Apollo suit we had our first Russian flight. That was called the ASTP.

B: You did Skylab before that?

S: Before that yeah. After that we had the Skylab program. We had beaucoup problems with the... how that was launched was we used a Saturn V rocket to launch the Skylab unit. The reason for that was it took a lot of power to send that up. The crew was sent up on Apollo, on just regular missiles. It was not...I can't remember the name, it was one that had less power. We used that for the rest of the Skylab programs which also included the Apollo-Soyuz program. That was kind of interesting. That rocket that was used...we used the same launching pad. They had a sort of stanchion they had built to set this upper part of this rocket on there because they didn't need all that power. So that's how they managed to build a new launching pad.

After the Skylab program we had the ASTP program which was the Russian program. That was very short lived. Lot's of publicity though. Then we went on to the shuttle program. Now before we actually flew the shuttle spacecraft into space we had a program called the ALT program. That was the Approach and Landing Test program. Now this program was divided into two parts. Here's how we did it. We loaded the shuttle spacecraft on top of the 747 airplane. The first three flights are what we called captive active. They fired the engines up and they would still leave it on the airplane; then they would land it. Then they had a free flight which meant they would take this thing up on the airplane and then they would release it when they got up to a certain altitude. It would deadstick land because it had no power. The only thing it had power. The only thing it had power for was the control system for operating the control. We did that all at Dryden Field in California. We spent many, many days there, coming back and forth.

B: You said that that was phase I. What was phase II?

S: The OFT program--Orbital Flight Tests. Now the first orbital flight, I was the chief suit technician on that and I suited John Young and Bob Crippen. They were our first crewmembers on that. That was a very interesting flight. Also on that flight, I had the opportunity to be a part of the recovery crew. After we had finished that ingress--they were going to be up for several flights. They flew us out to California and we met them on the ground there when they came back. That's a kind of an interesting program that they have when the shuttle lands. They still

do it now. Before any of the people, like the suit technicians or whoever needs to get into the spacecraft, or before the crew gets out of the shuttle, they have to check it [the shuttle] to make sure that there is not any toxic fumes from any of the systems. You see we use a lot of hypergolic fuels which are toxic and they want to make sure that there aren't any leaks there. So they didn't want to open the doors where the crew could be subjected to the fumes. So they had the firemen there that would meet the shuttle. We would make these various tests. They these boxes they would carry around with meters on them to test the atmosphere to see that everything was OK. If everything was OK, then they would move the stairway up to it and open the shuttle doors and the crew would get out.

Now when I was working on it I retired after the fifth shuttle flight. It was during that time they used ejection space suits and they had ejection seats in the cockpit of the shuttle. They had special doors that would open up if they needed to get out of there. They could just blow those doors and eject themselves from the space seats and then they would be free of the spacecraft and they would come back on their parachutes. This would be for a land or launch if something were to go wrong.

B: Did that ever happen?

S: No. It never happened. Lucked out on that one.

Then after that we started on the shuttle program we started out with new space suits. The first five flights we just used those ejection escape suits which were just regular type Air Force suits. But then after that we went into a new type of space suit which had a large belly ring. I may not have mentioned this but we had a lot of trouble with the zippers on the space suits leaking. But we never did have any leaks on the gloves because they were O-rings and that's why we went to the big O-ring around the belly. Also we had an O-ring around the helmet. So that was the reason for making that like that.

B: You said you retired after the fifth shuttle flight?

S: Yes--in 1983.

B: Why?

S: Well I was getting up there. I was getting old I guess. I just thought it was time to quit. But I haven't exactly been doing nothing. I have a lot of hobbies. Since that I have overhauled my Model-A Ford for the second time. I did it once in Virginia where we lived. Then I drove it from Virginia down here to Texas. After the flood that we had here in Friendswood back in 1979, why I had to overhaul everything. So this time I think I have done a lot better job. It's in pretty good shape now. I haven't run it yet. I have to get a battery and a few other things. I've been keeping pretty busy with that and the house. That's about all that retired folks do I guess.

B: Now I also recall you once telling me about being on a television program--a game show.

S: What's My Line. I guess it was after the Mercury program. Well after the Mercury program, Walt Williams was scheduled to go on a television program which was called "What's My Line." Walt was pretty busy and he couldn't do. So he recommended that I go. So I got a call from the "What's My Line" people and they said, 'if you'll fly yourself and another party, which I took my wife, to New York City we will reimburse you for the trip and pay your expenses up in New York City.' They will give us hotel room, it was pretty swanky, called the Americana. So they set us up there. And I got on that program and I seemed to stump them all on the questions that they asked about me. That was a neat experience.

B: They were celebrities right?

S: The people that were asking the questions were very educated and well versed in what was going on.

B: So you stumped them all? They never guessed your occupation?

S: Didn't guess me at all. I got the New York trip plus some money. We went on the Staten Island Ferry and went to the Statue of Liberty.

B: It was a TV program right?

S: Yes. It was a TV program. I think that pretty well covers it. And then some.

B: Thank you so much. So many stories. Incredible.

Pick Back Up********

Interview II

DATE OF INTERVIEW: May 12, 1998.

INTERVIEWEE: Joe W. Schmitt

INTERVIEWERS: Michelle T. Buchanan with Steven C. Spencer

Video I Interview II

B: Now how did you get to do Apollo 11 and the first lunar rover mission? Were you on a rotation system or were you chosen?

S: Yes, a rotation system. By that time we had trained and qualified suit technicians to do all these things that I had done previously.

B: It just so happened that you got Apollo 11 and all the other firsts.

S: Yes, I guess I was just lucky.

B: So did you have to practice with the astronauts in mockups or the real thing? Like did they take you into the LEM and you show them how to get into there moon suits?

S: We had them properly suited and the thing I remember about the LEM is that we had to stow their EVA [Extra Vehicular Activity] equipment.

The way it actually worked was when they took off from the ground, the lunar module had all their stuff stowed in there, such as their backpacks that they used, their EVA suit and visors. They had all that stowed. To answer your question, we would go through a lot of that storage to get the crew familiar with locating all of the equipment.

B: But you had to practice with them to show them how to get on the equipment and how to test it?

S: Well no. By this time they were pretty well prepared. We had enough altitude chamber runs in which they used this equipment before. It was just a matter of finding this equipment and seeing how it was stowed. They would go through to see if there was anyway to improve the packing so that things would go a little bit smoother. That was what the training consisted of mostly.

The very next flight I was on was the joint effort between the Soviet Union and the United States which was called the Apollo-Soyuz mission: ASTP. Our crewmen on that were Stafford, Brand and Slayton.

B: That was the first flight Slayton got to go on?

S: Yes, that's right.

B: He got cut out of Mercury?

S: Yes, he had some kind of a heart mummer and that was the reason that they passed on him. They said since it was Mercury and the very first American program, they wanted a healthy man in there. But old Deke, he was just as healthy as anybody could get.

B: So they finally let him go up?

S: Yes.

B: He was the head of the Astronauts sort of, wasn't he?

S: He was the head of the astronaut office. He would select the different crewman to do different flights.

That was about all on that. Now, we went into a program that was called Skylab. They didn't get off to a very good start either. How that was launched was like this. We used the Saturn V rocket to get Skylab into earth orbit, but it seems like when they got up there and started opening up the solar panels, one of them needed to be repaired. The way we were originally scheduled to do that, we were going to send the Skylab and basic hardware up one day and the next day we were going to send the crew up there with Skylab 1. The crew on that was Conrad, Kirwin and Weitz. This didn't happen since they found they had this solar panel deployment problem and had to figure out how to solve it. They made some sort of a makeshift panel that seemed to work OK. Meanwhile, we had to go to Huntsville, Alabama to do a lot of training. The reason we had to go to Huntsville was because they had the "largest swimming pool in the country". They would immerse big pieces of the Skylab structures in there and they then were able to figure out what the astronauts would have to do when they would go up and make an EVA. So that got all that training out of the way and we finally got through Skylab 1, 2, and 3. I think it was Skylab

3 they had the people that stayed the longest length of time. But I don't remember the time they stayed up there. Now, since they had gone to the moon, they were thinking maybe we should be thinking about going to Mars. So they wanted to see if they could stretch out the length of time crewman could stay in space. Well it seems that the Russians had already gotten ahead of us on that one because they had people that had been in their particular MIR space station for a long time. But from that we went on to the Shuttle program. Prior to the Shuttle program we had what we called the approach and landing test. These ALT tests were made at Dryden Air Force Base in California and were deployed from the top of a modified 747 airplane. Deke Slayton was the man in charge, he was running this program. I should have started out by saying how we got the Enterprise. The Enterprise was our first non-space flying shuttle. In other words it never went up into space, but it did fly up in the air on top of the modified 747. The three "captive active flights" took off from the ground and went up but the Enterprise was not released from the 747. They just tested out the controls and they tested out the systems and the astronauts got a pretty good feel for the cockpit. All of these that we did on this program plus the first five shuttle flights were done in space suits made by the David Clark Company that we had gotten from the Air Force. In October of 1977 we started our "free flights". That's where they would go up thousands of feet and release the shuttle from the 747 and would make a landing. This was all a "deadstick" landing as they called it because there was no power on it. The only thing he had control of was which way he could move his wings and tail surfaces. It was a one shot deal. Why we did this out in California at Dryden was because Dryden is the place where we had the dry lake and we got 30 miles of good solid ground there. Even though we had plenty of runways, there was still lots of room beyond the dry lake. That's about all on these flights here. I spent quite a few months out there on this programs.

Then we went into the Shuttle program. I can only talk about the first five flights on Shuttle. That was all I had something to do with. The first one that I was on, STS-1, I suited the crew and put them in the spacecraft. That was with Young and Crippen. Notice that we only had two crewmen going up on that. Nowadays, we have anywhere from seven to 10 crewmen. But this

was way back in the early days. During that first five flights the space shuttle we used the shuttle Columbia, which is still being used today. The Columbia was equipped at that time with ejection seats. It was part of my job to take care of those in addition to the suits. I didn't actually install them in the shuttle, but I had to make sure all the safety pins were pulled prior to the flight, should they need to be activated.

B: Did you go into training for that?

S: Yes. We did quite a bit of training on ejection seats. I had the opportunity of doing what the pilots do when they eject from their aircraft. This was the trainer where you would slide the canopy back. At the right time, you got your arms and your feet and knees together and then you would pull on this handle between your legs and it shot off. It would shoot you up about 30 feet up in the air. That was kind of interesting.

B: Did it knock you out?

S: No, it didn't. They had lumbar pillows behind your back so that your spine was correctly placed. You sat back in there and enjoyed the ride.

On STS-1, as I was saying I suited Young and Crippen. Al Rochford was my back-up. He, at that time, was out in California. The reason he was in California was that we had to get all that equipment back and ready for the next flight--flights were jammed pretty close together. The first landing was at Dryden. Of course Al was down there and he brought all the equipment back. Some of the training that Al and I had had during the approach and landing test paid off back in the actual landing of the shuttle. The kind of suits that they used had a garment called a G-suit. A G-suit is actually like a pair of long john underwear that has little rubber tubes that when you activate them it puts pressure on your skin--your arms and legs and lower torso. That's the idea of the G-suit--it prevents blood from pooling in lower body parts and retains blood in the head.

A lot of this training that we had has during the approach and landing test program paid off on one of these flights because we had a crewman come back from his flight who was stiff when he

walked. He had forgotten how to release the pressure on the G-suit. So we had to go over and push the button to release the suit pressure.

B: What flight did you retire on?

S: STS-5.

B: Why did you decide to retire?

S: Why did I retire? Well, I was at the age when I could feel myself slipping just a little bit. Like I am right now, I don't remember things as good as what I should. Although I always relied my on checklists. I still do that. In fact I used to use a checklist to pack my suitcase. I arrived on site with everything I needed. Yeah, checklists are what saves people. So, I guess that was the main reason. I just thought it was time to go. That was in 1983.

B: So you just lucked out on the rotation to get all these firsts?

S: Yes. I was real lucky that I had gotten the flights that I did. I got some big ones. I was on the first of most everything. Like the first manned flight with Alan Shepard. I had the first Gemini flight.

B: You had the first orbital flight.

S: Yes. That was with John Glenn. Then on Apollo, I had Apollo 8 which was the first time we went around the moon. Then Apollo 11, which was the first time we landed on the moon. Apollo 15 was the first time we used the Lunar Rover. I also did the first Skylab flight. And then on the Shuttle program I got the first shuttle flight. The first five Shuttle flights were all suited activities.

B: I guess we can finish the story about Norman Rockwell. You were talking about going to dinner with him at the millionaires club--the clubhouse. He had just received the bill for the dinner.

S: I guess this sort of explained why millionaires are millionaires. How they handled the bills was kind of weird to me. What happened is he says, 'order anything you wish to order and they will put it on my bill'. So that was fine and after the dinner when the waitress came by with her little book. She said, 'Mr. Schmitt had this and that and that and that. And you had this and that.'

And he had to sign this sheet to make sure that he was not overcharged. And it wasn't just Mr. Rockwell, it was all of the millionaires that were in there. That was the procedure. That was how they paid their bills.

B: And the photos themselves that you were in?

S: The Norman Rockwell photos? Well, I was lucky I got in on two of them. [see pages 70-71 of the Appendix for photos] The first one was the one where we were suiting the crewmen for the Gemini 3 flight. It was with Gus Grissom and John Young. The other one was one that was made to include engineers and all the people that had something special to do with the Apollo program. Now it was during the making of this photo where he put me. . . he had the three astronauts in the picture and right behind the astronauts he had me. So I said now, 'Mr. Rockwell, with all these famous people like Werner VanBraun and rocket people, and Mr. Gilruth who was in charge of Johnson Space Center at that time. Why did you put me directly behind the astronauts?' He says, 'Well the reason why I put you there is because when I see the pictures I always see you behind the astronauts carrying a ventilator. That's why I put you there.' So I thought that was interesting.

B: Are one or both of these photos in the Smithsonian?

S: Yes these are both in the Museum of Natural Art. That's the original ones. They do have copies of various ones. In fact I have copy of the Gemini suit up in my family room. It was autographed and given to me by Mr. Rockwell.

B: They now have that Apollo one in the Air and Space Museum.

S: Yes. They also have the Gemini suit up in there too. That was kind of interesting to get in on that.

B: Which one did you take the space suits to his house?

S: That was the Gemini.

B: Now you were on a game show?

S: This was right after Gordon Cooper made his flight which was the end of the Mercury program. Walt Williams who was in charge of the Mercury program back in those days could

not go to New York to do this show. He asked if I would like to go up there. Actually, he didn't ask, he said you will go. So I went up there. He said this would be a fun thing and take your wife along. So we planned a little New York trip. That was the first time I had ever been in New York City. It was kind of a pleasure trip. What the deal was NBC, the broadcasting company, they said you go buy yourself a ticket for you and your wife and you will go to this Americana Hotel, I think it was. When you arrive at the desk there will be a check there covering the price of your ticket and also we will pick up the tab on your hotel bill for the time that you are there. Well, I thought about that for a little bit, but I thought it was OK. Of course I was afraid of getting stuck up there and not getting my money back. But anyhow, that turned out OK. I went down to the studio. They told us what to wear. I had to have a light blue shirt, I believe they said. For the women, they had to have certain makeup. They had just a regular list of things that they wanted you to wear so that the television picture would come out good. Yes, that was at the end of Cooper's flight. The name of the game show was "What's My Line." In fact it was one of the very first game shows that they started to put on in those days. They asked me various questions on what I did. In fact you have the tape on that so you can run through there and you can run through all the little details on that. At the end of the tape they give a nice little resume of what I did and so forth, which is kind of interesting. I was kind of thankful for that.

B: Were you nervous?

S: Yes. I was quite nervous because I had never been in a studio like that before. Everything was under very hot lights and very little cooling. But, I got through it OK. But I was exceptionally nervous, yes.

Also, when I was up there on that trip I took the time out to go to the Statue of Liberty and we took the boat ride from Staten Island to this place. We got to see quite a few things in the city that were quite interesting since it was our first time. In fact, what was interesting to me when you go to New York, anytime of the day or night you can go out and all of the lights are on.

There is hardly any darkness at all. It's all lights during the middle of the night. You could pick whatever time to do whatever you wanted to do there.

B: I have seen that you document a lot things as well historically for yourself. What is this second tape? [Transcription of tape found on page 51 of the Appendix]

S: The second tape is from all the crew training that would pertain to suit up operations. I selected Apollo 15. Not only because it was the first time that we used the lunar rover, in which we used suits for the training. What they did down at Cape Kennedy, they had plowed over and had filled this field with stones that they had gotten from volcanoes and volcanic ash. They spaced them in such a way that it would be like on the moon. They had taken pictures of the moon and they knew exactly where they were going to land. They knew what area where they were going to do all their investigating. so they set up all these rocks in these different places and we did all this training under this realistic location.

B: And this tape is your account of. . .

S: This has to do with the training. Not only there but also training that we had had in the Grumman Aircraft Company in New York. Training at Rockwell out in California--mostly at Kennedy Space Center. At that time, during the Apollo program we had three large trainers--like link trainers. They were all in this one building in Cape Kennedy. We had our own suiting room and it was very interesting. [see page 45 for Apollo 15 Training transcription]

S: So overall, I guess you liked your job?

S: Well, you might say that. I tell you one thing, I was certainly exposed to a lot of things that a lot of people would never be able to say that they have been exposed to. I never became famous in this world but I sure have worked with a lot of famous people.

B: What was your favorite memory or moment? Kind of a tough question.

S: I guess the most eventful was the Apollo 11 flight because we had put so much into that and it meant so much. Everybody was trying so hard to do their job and get the flight off on time. I would say that that was the highlight of all the programs that I had worked on. Although, all of them were a real experience for me.

B: Is there anything that you would like to add that I might have missed?

S: No, not as far as the flights go. You were talking about getting to the Rockwell dinner at his house.

B: Right. Dinner at his house with Molly. Go ahead and tell me about that.

S: Well, I was staying at the Stockbridge Inn in Massachusetts where Rockwell lived. During the day he would let me stay at the place where he was doing the actual painting. But he doesn't like for people to look over his shoulder. So his wife would take me around to different places in the city. One time she took me to a museum. She took me to a 200-year-old mill which was still in operation where corn and wheat was ground into flour. So I got to know Mrs. Rockwell pretty well. I ate lunch at their house quite a bit. They served a lot of ice cream which is one of my favorite desserts. So one night they said that they were having some friends over for supper and would I like to come. I said sure I would be glad to. I had nothing to do. She said well, we'll start eating at 7 o'clock. OK now, who these people were who were, invited there in addition to myself, were a couple of school teachers that they were good friends with. Very smart people you might say--educated people. I was kind of out of place there but I just stuck with it. That night for supper they had the whole smorgasbord. They had all the proper silverware. I remember years back that you always start with the outside and work your way inside. So I followed that routine and I guess I bluffed my way through that part of it.

It was kind of interesting how he had his kitchen setup. Here is how it went during the dinner. He would have the maid, Nellie, come in at a certain time when they had finished their conversations and all. She would just seem to show up unexpectedly with the first course and she would go around the table to all the different people and you would either refuse it or take whatever you wanted. Then she'd bring in another bowl and she'd go around and around. Everybody was served. Then whenever everybody had finished the first course and was ready for some more, Nellie came in right on time. She knew exactly when to come in although we had never seen her. I was wondering how in the world he could get all this timing done correctly and have her come in at that certain time. So, the next day I found out the secret. He was

talking to Molly his wife about the "signal". He said that it wasn't working good last night. He said Nellie failed to come in at the right time. What he had on his dining room table leg was a little switch that he would hit his knee up against and it would signal Nellie in the kitchen to come back into the dining room and to serve the people. So that's how I found out how he was doing all that. He had a signal.

He had a real nice collection of things in his house. If you are a Norman Rockwell fan you might remember he had a series of people that he illustrated. One person taking a telephone call and calling another person. It went around to about 12 different people. They were telling a story. Each time the story changed a little. By the time it had gotten around about 12 times it had changed completely. This was all in cartoons. But in his home, some artist had made up some ceramic caricatures. He had them placed all around his house as knickknacks. That was kind of interesting.

Another interesting thing I remember at his house is that it gets very cold up there in Stockbridge, Mass., where he lived. He had this big old Lincoln Towncar, I guess it was. In his garage, he had electrical wires on the walls going all the way around the walls that served as heaters. He had plugs that he would plug into the engine and keep everything warm so that the car was ready to go anytime he was ready to go. That's how he got along. He lived pretty good. I spent almost a week there. Anyway, he had a little girl come and take his old dog out and walk him a couple times a day. And he and Mrs. Rockwell used to use their bicycles and ride around the city quite a lot.

Also, I have quite a lot of things that he had written to me. I have those on my file that have his signature on them which will be nice for the family someday. Also, he gave me and large, thick one of the early Norman Rockwell albums. The first page--well, before you got into the first page--he put a little dog at the top of the page. It said, "To Mr. Schmitt: Thank you for all of your help on the program." Then he had this dog along the edge there, he had a string. One end was tied to a dogs tail and the other was tied to a tin can. He had his name signed at the bottom. [see page 66 of the Appendix]

B: So he had drawn that picture?

S: Yes he drew that on the front of this. That's all about all I can think of. Have I ever shown you that book?

B: I don't think so.

S: I'll go get that.

S: Here it is.

B: [Reading Rockwell inscription] My very best wishes to Joseph Schmitt of NASA: My advisor and friend. Cordially, Norman Rockwell. Nov. 15, 1964.

S: Isn't that something?

This is how they made this big picture. This was down at the Cape. But you notice that there are only two consoles there. The biomed consoles were not in. They did send him pictures of the biomed consoles. What he did was to set this picture down and then put the other consoles there on paper and he was able to get that grouping of the consoles. When I went up there, there wasn't any wires at all on the picture. In this picture here, he asked me if I could fill in those wires. He said, 'I know there are supposed to be some wires, but I don't know where they go.'

I said, 'Well I don't either but I have a rough idea.'

He said, 'Well, you take this real soft pencil and you write them in.'

So that's my part of that drawing and part of my handiwork. I don't know if they are connected right or not.

B: So this is you in the picture?

S: Yes. This is the actual one here. That's John Young and Gus Grissom.

B: Is that a picture of you in Norman Rockwell's studio?

S: Yes. That's me.

B: Is this where he had to use your hands?

S: Yes. See, he only wanted me with John and Gus. He said he didn't want to clutter up the picture. I said, 'OK, whatever you want.' So they took all the pictures with just me. I got to talk to him off to the side and said, 'You know that there will be another suit technician in there

because we have to get both of these guys dressed so that one of them doesn't get overheated while the other one is just sitting around.' So he got to thinking about that. He thought that maybe they should get the other guy. So what he did was, he took my body--that's my old body, same black shoes--and he superimposed Al Rochford's head on my body.

B: This clipping is from the Houston Chronicle, May 30, 1965. So you were in his studio when he was drawing it?

S: Yes.

----This is how he signs his name: Sincerely, Norman.

What is he asking for? I have two of them.

--Well yeah, like you asked me, it has been an interesting life all right.

APPENDIX

Audio Cassette I Part I

Voice of Joe W. Schmitt, recorded by Schmitt on August 18, 1971.

Title: Apollo 15 Training Support

Mission Manager was Jean Nitsch. Suit techs: Joe Schmitt, Frank Hernandez and Byron Smith. In general the space suit technician is responsible for providing support of astronaut activities involving the use of space suit and related hardware. This includes flight crew

training, space suit check out, trouble shooting and preparation for flight, crew suiting, astronaut ingress into the spacecraft and final close-out of the spacecraft on launch date.
These duties often include travel to spacecraft contractor facilities, space suit contractor facilities, and various NASA installations. The suit technician coordinates support of mission training activities and assists in the allocation of space suit training equipment for astronaut training involving the Apollo mission simulator, the lunar module simulator, the lunar rover vehicle, zero-G chamber, altitude chamber test, water egress and simulated lunar surface training. In addition he performs evaluation and in-house development projects related to his flight. He utilizes experience gained through special training courses and experience working with the equipment. Immediately after the Apollo 15 crew was announced, their training began. For this early training, A7-L type space suits and related equipment was used. The A7-LB suits were first used in support of programs sometime around the first part of January of '71. Prior to every pressurized suited exercise, the following safety checks are made on each space suit assembly: 1) visual inspection, 2) communication check, 3) a six pound psi structural check is made, 4) pressuring relief valve cycling check and 5) a leak rate check is made.

During the later part of December 1969, Scott and Irwin were suited in A7L 013 and 012 suits for progomet runs in building 29 at MSC. Then in early in 1970, it was decided to start studying the feasibility of replacing the two-wheel carts with the lunar rover vehicle. Several suited runs were made by prime and backup crews to evaluate the lunar rover vehicle and hand controller mock-ups.

In September and October of 1970, the prime and back-up crews were suited for command module simbay water immersion facility exercises in building 5 at MSC. The support of this type of program differs from a sea level test in that crewman are exposed to a hostile environment and great care must be taken in the preparation of the suit equipment. The usually suit preparation checks are documented using an in-house test preparation sheet. All steps of the TPS are witnessed by our inspection department.

At the completion of a water immersion facility program the wet suits and accessories such as the LCG are carried back to building 7 and are dried in our drying locker. Incidentally, the drying locker that we have been using for the last nine years was designed by our NASA suit technicians. Other specialized pieces of equipment such as the unit to dry out the in-suit drinking device, urine collection device, and the LCG tubes were all designed and built by NASA suit technicians.

Twenty suited zero-G flights were flown by the Apollo 15 crewmen. Besides the usual checkouts on the space suits, additional duties are required of the space suit technician who flies with the crew on the zero-G airplane. He must provide, install, and check out the communications system, pressurization system, and other test equipment related to the exercise. He assisted the crewmen in donning and doffing his space suit and acts as a safety observer. Furthermore, the suit technician must have current certificates on physiological training, survival training, and an Air Force class 3 physical examination.

A record of 125 parabolas were flown by the prime crew on one of these flights. Each parabola consists of a period of weightlessness followed by a excessive high-G loads during pull outs. The exposure to these extremes in G-loads plus the muscle strains involved in recovering the crewmen under excess G's leaves a person physically exhausted, particularly on the long duration flights. A total of 13 manned altitude training runs were made in the 11 foot chamber at MSC. Here again the crew are exposed to a hostile environment. NASA suit technicians supporting chamber runs must review test procedures to ascertain what equipment is to be used, pretest/post-test preparations at the chamber, and ingress the crewmen into the chamber. He must also know emergency drill procedures, the use of the portable oxygen ventilator and the precaution that must be observed when using breathing oxygen. He makes a walk-through of the chamber facility looking for such items that might snag a suit, for general test setup conditions, and seeing that a headset is available for his use. He must know how to use the communications system and to observe the necessary communications discipline during the test.

Space suits used in any altitude chamber test are given a chamber pre installation acceptance check. Normally, only controlled equipment is used and the results are verified by our inspection department. Prior to training exercises by the flight crews, preliminary runs are made by CSD test crewmen to test out procedures, test equipment, and emergency drills. These tests are also supported by NASA suit technicians.

Five EVA's were performed by the Apollo 15 crews. One stand up EVA from the Lunar Module, three lunar surface, and one scientific instruments module on the simbay EVA on the command and service modules. Training for these missions consisted of suited exercises in the mockups at MSC and KSC. In the water immersion facility at MSC, in the altitude chamber at MSC and KSC, and also in the zero-G airplane at Ellington and Patrick Air Force Bases. The majority of the suited training was related to preparation before and after an EVA and referred to prep and post to a particular EVA. The NASA suit technician must work very closely with the test conductor to guarantee that the proper equipment is worn by the crewmen or is correctly stowed in the mock-up. The number of prep and post exercises that were supported were 49 for the prime crew and 33 for the back-up crew. Command module and lunar module systems are checked out in separate altitude chambers in KSC in Florida. Prior to any altitude run, in either of these chambers, the systems and interface of GFE and GFE equipment is accomplished.

As you know there is a team concept in getting the job done. NASA techs know through past experience who their contacts are in order to get the job properly done. Namely, the test conductor, the pad leader, flight crew support team leader, and flight crew support division command module systems engineer and CDS mission manager.

The mission manager and NASA suit techs arrive at KSC approximately one week prior to the first suited dry run completed by the crew. The reason for this is that the prime and back-up crew are usually doing suited training in the flight crew training building and there are mandatory tests that the close-out crew perform prior to the altitude chamber runs. For example, spacecraft crew firefighting, the emergency ingress aided and unaided training courses, for both the command and lunar module altitude chamber work.

Upon the completion of these courses, the suit techs obtain a copy of the TCP which contains the format for both dry and wet chamber runs. Naturally, the whole document does not pertain to the suit techs, so you must read through and pull pertinent information that pertains to his part in the test. Namely, pre-ingress, ingress, and egress. By coordinating with the flight crew support team leader, the flight crew division stowage engineer, and the pad leader time is worked into the schedule to let the suit techs make an inspection of the interior of the command and lunar module cabins. The document that is used to make this inspection and is one that was made up at the beginning of the program by NASA suit technicians and has been updated for every spacecraft. This checklist, which has been routed through CSD is one that has helped to keep us suit techs abreast of any changes that pertain to space suit interface. Namely, couches, restraint harness, ECS hoses, COM cables, water gun, waste disposal and so forth.

In order to give some background as to how this document was formulated, we must start with the vendor. Namely, North American, Douglas Company, and Grumman Company. At the beginning of each program, mock-up reviews, stowage reviews, critical design reviews are held at North American and Grumman which involved suited subjects and crewmen. It was at these mock up reviews that suit technicians got as a first hand glance at what GFE equipment would be interfaced with the space suit and if any problems of interface did or could exist. So this document that I keep referring to showed these problems and so formulated a checklist. As the problems were ironed out, the checklist was made more concise. Then at the time of the altitude chamber runs we had a good working document. The suit technician is usually allowed 15 to 20 minutes to make his cabin inspection with QC coverage. If any discrepancies are found the pad leader is notified and an oral report is made to flight crew support division team leader and mission manager. The TCP or Test Control Procedure that is reviewed by the suit techs is one that is made up by the NASA techs. For example, the pre-ingress, ingress, and egress is then reviewed by the various systems people to implement an interface their procedures with ours. Prior to the dry run, the lead suit technician and the BCMP, which is an astronaut on the support team or the backup command module, pilot get together and go over the ingress procedures. In

fact they may practice the ingress procedures with the prime crew fully suited with ventilators with the command module simulator. This gives the suit tech, BCMP and the crew confidence that each man knows his job and can do it as quickly as possible. The reason I mention this is that on the pad, there is a time factor and problems can crop up at any time. We are given 30 minutes to ingress three crewmen and if we can do it in 20 minutes, that will give us an extra 10 minutes to play with any problems that may crop up.

During the Apollo 15 crew training a total of 12 chamber runs were supported with suits.

Transcription of "What's My Line" June 1963

Audiocassette I Part II

Announcer: And now a beautiful actor and a wonderful panelist, Mr. Martin Gable.

Gable: On my left, the first and last Mrs. Gable, Miss Arlene Francis.

Francis: I'm glad to hear that. And now the distinguished President of Random House whom we all love dearly, Mr. Bennett Cerf.

Bennett: And here's our linguistic wizard. A man who it took longer to say one sentence than it did Gordon Cooper to go around the world 22 times, Mr. John Charles Daily.

Daily [Host]: All that may be true, but I can wizard quicker than he can. Now this in a way is kind of significant week for alumni I guess. I've been up at Tilton School, my prep school for an alumnae gathering, but I have done some good reporting too for the week. With the risk of embarrassing an old friend of mine, I would announce that this is the year is the 50th year of the Columbia School of Journalism. On Wednesday of this week an alumnus of the School of Journalism, to wit one Bennett Cerf, was given a distinguished alumni award for achievement. So there. But there are many things about Bennett we rarely get to say, but actually he's an old newspaper man. Your first job was with the New York Herald Tribune, wasn't it?

Cerf: Yes. It didn't last long. I was fired.

Host: You were fired.

Cerf: I'll show'em.

Host: And that's how he got to be a successful publisher. So I'll see if I can get fired somewhere this week myself. Martin, it's very nice to see you on the panel again sir.

Martin: John, it's always a pleasure to see you.

Host: We'll have some fun tonight. We have some very interesting occupations. More than that we'll have as usual our famous mystery guest before my friends on the panel. A little bit later on the program we'll meet our first challenger after this word from Ted Mack, speaking for Geritol.

Mack Commercial: Friends, before the panel starts asking questions, I'd like to ask one. Do you take vitamins and still feel tired? Well if you do remember this: your trouble may be due to iron poor blood. Now vitamins alone cannot build up iron poor blood but Geritol can. Because just two Geritol tablets or two tablespoons of Geritol liquid contains seven vitamins plus twice the iron in a whole pound of calf's liver. Imagine that. In only one day Geritol iron is your blood stream carrying strength to energy to every part of your body. You check with your doctor and if you've been feeling tired and rundown because of iron poor blood, if you take Geritol every day, you'll feel stronger fast. Just seven days or you'll get your money back from the Geritol folks.

Host: And now to meet our first contestant. Will you enter and sign in please.

[Joe W. Schmitt signs his name on a blackboard.]

Host: Joe W. Schmitt. Right sir? Mr. Schmitt, where are you from.

Schmitt: I'm from O'fallon, Illinois and I have just recently moved to Texas.

Host: So your doing some traveling. It's nice to have you with us. I'm glad that you came to New York, too. Mr. Schmitt may I present the panel. Now would you join me over here please. You know how we keep score?

Schmitt: Yes.

Host: All right then we'll let the audience, the audience in the theater and at home, know exactly what your line is.

[Space Suit Technician is shown to the audience.]

Host: All right panel we can tell you that Mr. Schmitt is salaried and that he deals in a service. And let's begin the general questioning with Dorthy Kilgallen.

Kilgallen: Mr. Schmitt, is your work mental rather than physical?

Schmitt: No.

Host: That's one down and nine to go. Mr. Gable?

Gable: Is your work done out doors Mr. Schmitt more than it is indoors?

Schmitt?

Schmitt: No.

Host: That's two down and eight to go. Miss Francis?

Francis: Do you work with you hands in your job Mr. Schmitt?

Schmitt: Yes.

Francis: Ahh, Do you work with anything other than human beings in your job?

Host: Do you speak of other living entities than human beings?

Francis: Yes. I know it's a no John, but yes.

Host: Three down and seven to go. Bennit?

Bennett: Mr. Schmitt, do you work for a nonprofit making organization?

Schmitt: Yes.

Bennett: Is it some kind of a government job?

Schmitt: Yes.

Bennett: Is it a federal government job?

Schmitt: Yes it is.

Bennett: Did you have anything whatever to do with the flight of Gordon Cooper concluded the other day?

Schmitt: Yes sir.

Bennett: You did. You say you work indoors.

Schmitt: Yes sir.

Bennett: Did you have anything to do with the mechanism that tracked his course as he went flying through the heavens?

Schmitt: No.

Host: That's four down and six to go, but congratulations Bennett. You've opened a big door. I'll be quite honest with you this is going to be difficult for you to get but it is an extremely interesting assignment. You try Dorothy.

Kilgallen: Mr. Schmitt, you said that your that your work was physical more than mental?

Schmitt: Yes.

Kilgallen: Were you in Florida at the time of the blast-off?

Schmitt: Yes I was.

Kilgallen: Were you at Cape Canaveral?

Schmitt: Yes.

Kilgallen: Were you within 100 yard of the gantry?

Schmitt: Yes.

Kilgallen: Were you in fact at the missile launching site?

Schmitt: Yes.

Kilgallen: Right next to it?

Schmitt: Yes.

Kilgallen: Did you have anything to do with lifting Gordon Cooper or putting him into the capsule?

Schmitt: Yes.

Host: He had an assignment Dorthy that had a relationship to the whole cancatenation of events which saw Gorden Cooper into the capsule and subsequently remain there.

Kilgallen: He was the master of ceremonies.

Host: No. But very good.

Martin: Mr. Schmitt, as my wife will tell you I can't do anything with my hands, so I don't think I would be very helpful here and I pass.

Host: All right Arlene?

Arlene: Well now the fact is that you were present when he entered the capsule? We are on that?

Schmitt: Yes.

Arlene: We're that far. Did you hold something in your hand at this particular time?

Schmitt: No.

Host: Not exactly. I'm going to put all the cards over. Cause this is really great. Mr. Schmitt is a Space Suit Technician. And was actually the last man in the capsule with Major Cooper. He make the connections between the space suit and the capsule. He helped to dress him and goes up with him and checks him into the capsule.

Arlene: Why does it get so hot in that space suit.

Bennett: If they'd closed that door too soon you'd have been in there with him?

Schmitt: I was watching that.

Kilgallen: John, I think Mr. Schmitt's title should be space valet.

Host: Space valet?

Kilgallen: Or scientific valet?

Host: It would be a good one. I dare say that they've thought of that one down in Cape Canaveral and that probably comes into it too. But I think Arlene's question was very interesting. Can you tell us why the variations in temperature.

Schmitt: Well this has happened on most all of our flights so far. Actually, this is not in my area. This pertains to the environmental control system. And the adjustment that they make to properly cool the suit is a slow one. It is one that requires a little time. After you make a slight adjustment, it takes a while for it to stabilize.

Kilgallen: Because it did cool. He said that he was cool after a while.

Schmitt: Yes, this is so. Once you get it adjusted, you don't have any further problems.

Host: May I ask you a personal question? Do you have any youngsters yourself?

Schmitt: Yes, they're not really so young. I have one daughter who is married and I have a son going to high school.

Host: Great. I was just thinking what a wonderful position to be in as a father. Say well, "Daddy, what do you do?"

"Well I dress all the astronauts when they go upstairs. I fix their suits. I'm a space suit man." What a wonderful occupation as a father these days to be a space suit man. Well, needless to say, hardly. . . I guess it has to be said, if you see Major Cooper that you will give him our very best and our congratulations. And to all those who are in that great company: John Glenn, Wally Schirra, and certainly Shorty Powers, ought to a good hello too. He's one of the best men on that microphone we ever heard. Give them all our regards and thanks for coming.

Schmitt: Thank you.