

NASA JOHNSON SPACE CENTER ORAL HISTORY PROJECT

EDITED ORAL HISTORY TRANSCRIPT

SHARON CAPLES MCDOUGLE
INTERVIEWED BY JENNIFER ROSS-NAZZAL
HOUSTON, TEXAS – 9 JULY 2010

ROSS-NAZZAL: Today is July 9th, 2010. This interview with Sharon McDougale is being conducted for the JSC Oral History Project in Houston, Texas. The interviewer is Jennifer Ross-Nazzal. Thanks again for taking time to meet with me. It's certainly appreciated.

MCDOUGLE: My pleasure, I'm excited.

ROSS-NAZZAL: I wanted to ask you about your career. Can you give me a brief summary of your career before you came to USA [United Space Alliance] and then afterwards?

MCDOUGLE: I graduated from Moss Point High School [Moss Point, Mississippi] in 1982 and went on to join the Air Force that same year. I was stationed at Beale Air Force Base in California for eight years. There I was an aerospace physiology technician, worked with the altitude chamber, the hyperbaric chamber (the dive chamber). We were part of the medical corps out there. Our other job, which got me here, was the work with the SR-71 and U-2 reconnaissance aircraft. Those crew members wore the same type of pressure suit that the astronauts wear. That's actually where the astronauts got the suit, from the Air Force. The Air Force pressure suit was a gold color though.

The reason the crew members wore the pressure suits was because the planes flew at such high altitudes and fast speeds. While I was stationed there I got to travel to different countries—

Korea, England, Greece, Japan—to support the crew, because the planes would go there on detachments and fly. And we got to go with them, just like we go to Florida with the astronauts.

After the [Space Shuttle] *Challenger* [STS 51-L] accident—at the time they weren't wearing the pressure suits. They had stopped wearing them after STS-4 so that became a safety issue. They wanted to do as much safety-related items to try to make it better, so they started back wearing the pressure suits. I got out of the service [Air Force] January '90. Boeing was looking for suit techs [technicians]. We're already experienced working with pressure suits, doing the same thing, so they called around. They came out to the base to recruit people. I was still in at the time when they first started recruiting. After I had been out six months, a friend who was already working here as a suit tech called me and told me about the job opening—and actually today is my 20-year anniversary.

ROSS-NAZZAL: Oh! Happy anniversary!

MCDOUGLE: Thank you. There was a couple guys already out here that were stationed with me. That made it easier, because they were able to vouch for me. I interviewed over the phone with the supervisor at that time and was hired! I was told to come out when I'm ready. July 9th, 1990, is when I started work. We were Boeing Aerospace at the time. Then USA absorbed Boeing in 1998.

I was a suit tech for 14 years and assigned to about 20 missions, but you work with a lot of them that you don't actually go to a launch or landing. When we say assigned, that means you were with the crew member on that mission, you went down to launch with that crew member.

Then I was promoted to manager of Crew Escape Equipment [CEE] in 2004, and that's where I am now.

ROSS-NAZZAL: Did you have a learning curve when you came? Or was it pretty much you just stepped right in?

MCDUGLE: No. A big difference was they did things a lot slower here. In the Air Force it was you learn it and you do it. If you break it, you fix it and you keep moving. Here you have the engineering team, you have quality inspectors. In the Air Force you were the inspector/engineer/tech. It was on you; when you put your initials on the paperwork it was all you, you were saying the equipment was good. Here you have other people who have to look over your work. That was a culture shock for me, because I was used to being the one, not having all these other people—it made me feel like they thought I didn't know what I was doing. But I understood that wasn't the case, it was just a whole different culture. I had to get used to it. It wasn't a learning curve, but a culture change from military to civilian world. That was hard for me, but like I said, I got over it. It was just a lot slower pace than I was used to.

In the Air Force we loaded the aircraft, we suited up the crew, we tested the crew. We strapped them in, we worked on the suits, we did everything. You didn't just perform a portion of the task. When I got here I assumed we'd suit up the crew, load the Shuttle and strap them in. "No, you just work on the suits and suit up the crew members." I was like, "I don't go strap them in? I don't load the Shuttle?" "No, you just do the suits." You got to be jack-of-all-trades in the military. Lockheed [Martin] and NASA strapped them in at that time. We have that contract now of course, USA.

We just suited them up, took care of the crew members, waved at them when they walked out, and then we recovered them on landing. We would send people to each landing site, the prime, which is KSC [Kennedy Space Center, Florida] and back up is Edwards [Air Force Base], in California. If they had to call up White Sands [Space Harbor/Northrup Strip] in New Mexico for some reason we'd send someone out there, but only when they called it up, not immediately like the other two. We'd send suit technicians and an insertion technician, which are the guys who strap them in.

ROSS-NAZZAL: You mentioned the cultural difference. Was there a difference between a very open agency—you mentioned you were working with guys on the spy planes. Was there a big difference between that that you noticed?

MCDUGLE: Working with the spy planes—reconnaissance aircraft—you had a Secret clearance for one, and here we don't. They did background checks when I got here, but it wasn't for a Secret clearance. The cultural difference was in the work environment, not working with the crew members per se because crew members are crew members. Most of the astronauts are military, so that was good for us, because we had that in common.

You get a real good rapport with the crew members, because you're working with them sometimes more than a year before they even launch because they have to do all their training events. They'll have about 20 to 24 training events they perform before they even launch. Then they have TCDT (terminal countdown demonstration test), where they go down approximately three weeks prior and practice their emergency egresses in a real-time launch flow, like suiting them up, timing everything, and getting them strapped in. Then they practice as if they had an

emergency, and they would hold hands, then go to the slide wire basket, and pretend to slide down.

They're more focused on having the extra set of eyes look at everything. I was told after I left my base they did start some kind of a quality program where they'd have somebody look over your work. Of course when you were training, until you knew what you were doing, they'd have a supervisor or your trainer watching you, but once you knew what you were doing it was all you. If something went wrong with that seat kit or suit that you prepared, it was all on you. It wasn't, "Well so-and-so looked at it," they get in trouble too. That's how it felt here. I know they're trying to be careful, and now I can appreciate it.

That first year it was hard for me because I just didn't understand, "Why can't I just go fix it?" You have to wait for the engineers to look at it; you have to wait for quality inspectors. Even though you probably already know how to do it, you still have to wait until all the proper channels were taken, all the proper procedures were followed. It wasn't so strict in the Air Force; they depended on the technician, that airman, sergeant, or whoever, that was trained to do the job. That was a big difference for me. A lot more paperwork, a lot more paperwork here. A lot more of dotting I's and crossing T's.

Something else I was surprised about was, in the Air Force—and I figured out why—the crew members had their own assigned sets of gear. This was their assigned suit, their boots, their helmet. In their own bin assigned to them. I came here, I was looking for the same setup, and it wasn't that way, because if you think about it, these guys may fly once on the Shuttle. So of course they're not going to get assigned their own gear, but in the Air Force they were assigned gear because they fly several times a week. I asked, "Where are their bins? Where are their

closets?” No such set-up here. The suit an astronaut wore, tomorrow somebody else could be wearing it.

ROSS-NAZZAL: What was the first flight you worked on when you came out here?

MCDOUGLE: STS-37 was my first flight. I suited up Linda [M.] Godwin on that flight, and she was a Mississippi native too, so I was excited about that. As a matter of fact—I told you I love pictures [shows photo albums].

ROSS-NAZZAL: Oh, you have all the books from all your missions.

MCDOUGLE: Oh yes, I take tons of pictures. I’ve been working on some of them so they’re laying about everywhere.

ROSS-NAZZAL: We talked with Steve [Steven R.] Nagel [STS-37 commander], and we talked with Jerry [L.] Ross [STS-37 mission specialist].

MCDOUGLE: Jerry is still at JSC. His wife works here too.

ROSS-NAZZAL: That’s right, she works in the food—

MCDOUGLE: Karen [S. Ross], food lab. I actually saw Steve Nagel at a VPP [Voluntary Protection Program] conference recently. I hadn’t seen him since STS-37.

This is STS-37 [shows crew photo], and they always signed pictures to us. That's me working my first flight [shows photos]. I was just a baby. I took these with my own camera before all the digital stuff came out. This was us hanging out after a hard day. They have envelopes that you can send back to yourself as a memento of the mission. They'll mark it with the launch date and time. I was so excited. These are some of the other people hanging out up here that we worked with. He's actually my manager now, Mark [M.] Greeley. At the time he was an engineer. This is actually on the back-up bus for the Astrovan. We wore white uniforms then. Now the suit techs wear a tan color uniform and the insertion techs wear white uniforms.

ROSS-NAZZAL: You wear these suits to—?

MCDOUGLE: When you're suiting the crew up and flying on the STAs [Shuttle training aircraft].

ROSS-NAZZAL: Is there a reason that you wear those type of suits?

MCDOUGLE: Yes, Nomex. When we fly on the STAs we wear Nomex in the uniform in case of a fire. It's not fireproof, it's fire-retardant for sparks. And it also looks sharp for the team to be dressed alike.

ROSS-NAZZAL: So every person on the crew has a suit tech assigned to them?

MCDOUGLE: Yes, and sometimes a suit tech will have two crew members. You can be assigned two crew members because they come in at different times. Commander, pilot, and MS2

[mission specialist 2, the flight engineer] come in last because they're attending the weather briefing. The other crew members will come in prior to them, about ten minutes or so, and they would get suited up and tested and be done when the other crew members come in. Then the suit tech can suit up their other crew member. I had two people most of the time.

ROSS-NAZZAL: How long does it take to suit them up?

MCDOUGLE: Approximately five minutes, it doesn't take long. This was when they were practicing their tank driving [show photos]. If they had to slide down, they would have to drive the tank. This is out at the STAs. This was my first time flying on the Shuttle training aircraft. We're all just posing there. We weren't actually on the plane yet. Of course you can see I was a complete tourist. While we were driving up I was taking pictures, I was all excited.

That's the whole crew [demonstrates photo], and there's the Astrovan that we take them from the O&C [Operations and Checkout] Building out to the launchpad. Then it comes back from the pad right before launch. There's some of the crew members standing around. That was during their tank driving too, standing around waiting for their turn. They took this cool picture in space of the suits floating around—my maiden name is Caples.

These are a few photos from my Air Force days. Our beautiful little fatigue uniforms. Don't miss that! That was at an air show. We had white uniforms also because we were part of the medical field, because of the hypobaric and hyperbaric chambers. That was a four-star general that came and flew. Look at that hair, isn't that beautiful? You can tell that was in the '80s.

ROSS-NAZZAL: I was going to say big hair in the '80s.

MCDUGLE: [Continues showing images] That's my first boot camp picture. I was so young, 18. That was my first flight. Of course STS-47, that would be my most memorable; the one I cherish the most, with Dr. Mae C. Jemison. That's a picture there from the last function she held in Chicago [Illinois]. It was the Women of Color in Flight.

ROSS-NAZZAL: I think that's when she mentioned you. Was there a general there from India?

MCDUGLE: Yes, it was awesome. There were so many awesome women at that event. I thought I was just going to go to a school and do a suit presentation to the kids like I always do, but she had this big gala also where she recognized us. She gave me that beautiful trophy right there. It has all of our names on it, it's just gorgeous.

ROSS-NAZZAL: Oh my gosh, it's heavy.

MCDUGLE: Yes, it's heavy. The names of all the ladies she honored are listed on it. They spelled my name wrong, but that's all right. Girl, it was like the Academy Awards. They had the voice of God behind the curtain reading our biographies. They would just start off talking and wouldn't say who they were talking about. I started listening—"That's my bio!" Girl, I just cried. I couldn't believe it. That's one of the things I love about her; she never forgets the little people. I was honored with women pilots, women saving people on rafts, and the first African-American woman to fly fighter helicopters. She placed me in the same category as the women

astronauts, but I don't feel I'm in that league. She treated us all the same. I'm about to cry just talking about it.

She said, "If it wasn't for you taking care of me and my suit...." She just makes you feel so special. Mae is so sincere when she talks to you, it's not just one of those fake, "Oh, you were my suit tech; you were awesome!" pat on the back. She really sincerely makes you feel like she really really appreciates everything. She told me she was glad that I was her suit tech. I was like, "Woo!" because I just wanted it to be a good experience for her. I'm sure it was probably a little scary for her being the first African-American woman to go into space, so I wanted to do my part in making it special for her too. And for me, because I was excited about being a part of history.

ROSS-NAZZAL: So you wanted to be her suit tech once you heard she was named to the flight?

MCDUGLE: Yes, as soon as I saw her name on the flight. We had a board out in the lab here, and they would list all the astronauts. I had already heard the first "sister," as I say, was going to space so right when my lead put the names up, I placed my name by Mae's; she's my crew member. Everyone already knew the first black woman would be assigned to me.

I was proud to be the only black woman in my department. Like I said, I wanted to make sure she was taken care of, she was comfortable, and I wanted to be the one to do that. I didn't want anybody else assigned to her. I'm sure they would have done a fabulous job too, not saying nobody else wasn't good enough to take care of her. I just wanted to be the one. You know that kinship, that family feeling. Bottom line, I just wanted to make sure she was taken care of. I knew my stuff, and I'm really good at what I do.

ROSS-NAZZAL: You hadn't met her before this, correct?

MCDUGLE: Never met her, and it didn't matter. I still would have taken good care of her because I wanted her to do well and feel safe. I felt her suit and training should have been her last worry. I treat all my crew members the same way, but I never felt so passionate about an assignment. I told my lead, "I'm suiting up Mae." That was the only time I've ever done that.

I mentioned that in my speech when she called me on the stage. I told the audience about that, and they all laughed. I said, "'Oh yes, I'm suiting up Mae. No matter what anybody says.'" Here it is, Women of Color [shows pamphlet]. Even in this book she mentions our names. She made me feel so wonderful. That was the gala she had in 2006. She has a foundation for her mother, the Dorothy Jemison Foundation.

ROSS-NAZZAL: Yes, we went up to her office in Houston.

MCDUGLE: She had a booklet, she called it a flight logbook. It was awesome—and I didn't know my name was in it. I'm thinking it's just like a little memento, a keepsake, and then one of my girlfriends was thumbing through it and found it. Nichelle Nichols was there—Uhura from *Star Trek*—Nikki Giovanni, all these awesome women. Then she has me in the same category. Oh my God.

ROSS-NAZZAL: Well, you played an important role.

MCDUGLE: Suit tech, pilot, astronaut. Like I said, that's just how she is. Something I admired so much about her, too, was she was very smart. If you just walked up to her and didn't know who she was you would never feel intimidated by her brilliance, her education. She would girl talk with me, "Girl, how you doing?" Then she'll turn right around, talk to an astronaut, and become very technical, using words I hadn't heard before. And she also spoke several languages.

I hadn't even read all of her bio. When I finally did, I was just like, "I can't believe I'm working with this woman. I'm helping her suit up." I was honored, I really was. I was trying to say, "I'm doing it to take care of her," just thinking of her as another astronaut that just happened to be a black woman. Then I started looking at everything she's accomplished, and I was just so proud. I felt like, "This is my big sister, and she's so awesome. I just want to be near her, just bask in some of her glory." For her to be so cool on top of that, and not be snooty or anything—because she had every right to be. She could have easily had the attitude, "You're just my suit tech; I'm not talking to you, just do your job."

I've had a few astronauts—not to that extreme, but just very quiet. I'd help them with their gear, "Yes sir, okay sir, how does that feel sir?" But with my personality I usually break the ice and get them to joke around a little bit, because I'm like, "We're going to be stuck with each other throughout your mission; we're going to have to have some kind of conversation when we're working together

Mae was just a normal person, but then in the next moment she can be super doctor scientist, and then come right back to you and not miss a beat. "Girl, so what happened yesterday?" She probably saw me dumbfounded a few times. It's English, but the words aren't

clear. I'm like, "Is that Mae?" Sometimes I'd go back and look up some of the words I heard her use. I was very impressed. She's in a league of her own.

ROSS-NAZZAL: What was your first meeting with the crew?

MCDOUGLE: First meeting with Mae was her fit check, because they all have to come and get fit checks first so we'll know what size equipment they'll need, everything from their diaper size to their harness size. We receive general information that says they wear size nine or whatever, but we still need to measure them for our specific gear. Helmet is one size—no sizing with the helmet, just for helmet pads. Boots are easy. The boots are usually a size and a half bigger because they wear thick socks and the bootie part of the suit that takes up more room.

ROSS-NAZZAL: How do you measure the crew? She had mentioned she thought that that was interesting, getting fitted for the jumpsuit that they wear.

MCDOUGLE: The jumpsuit, we don't have anything to do with that.

ROSS-NAZZAL: How do you measure the crew?

MCDOUGLE: There's anthropometric measurements. You perform all the measuring—just like if you get an outfit tailor-made, same thing. The trunk, around the waist, the girth, up the back, everywhere. You measure everything, because you need to get as good a fit as possible for the

crew member. With the suit you can adjust the arm length, the leg length, the waist and the girth.

Sometimes crew members wear somebody else's harness. We have a few crew members that have to get special harnesses made, because nobody's harness would fit them, even though you'd think you'd be able to have small, medium, large. The harnesses are actually serialized with the crew member's name, but you do have other crew members that can fit another crew member's harness so you won't have to make one for everybody. The suits are usually small, medium, large. You have small and short, medium and long, large long, extra large long and so on; it's not like size eight and ten. The gloves are from A through L, with some customs.

ROSS-NAZZAL: Mae had mentioned that it was difficult to fit women in the suit. Can you talk about that?

MCDUGLE: The suits weren't made for women. Even a small woman can have hips so it can make you wear a larger size suit. The breasts can make a difference sometimes. It's usually the hips and butt area for women. It can be a little harder to zip down, because it's made for men.

A female ACES [advanced crew escape suits] was made later. They actually went to the company that makes the suit and got measured to make a suit for the smaller female astronauts, for a better fit. The suit, mind you, is not made to be formfitting at all. When you see them in it, it looks frumpy, but it's usually the hip area that's an issue for women.

It might be a little snug there, but you can still get it zipped because it's a very heavy-duty zipper. It's not like a jeans zipper. When I assisted anyone and their suit was a little snug in the rear I'd have them tilt forward a little bit as I zipped.

ROSS-NAZZAL: Suck in.

MCDUGLE: Yes, same thing, but it was because of her hips. She's tiny. She was so tiny right here, [demonstrates] and she just had her hips and her bottom. You just have to zip it down, work with it. Just have her bend forward. And that comes with experience and working with different people. I have worked with small astronauts and tall astronauts, so it just depends. Of course some people fill them out more, but that was the only issue I had. It wasn't a big deal though. The suit would still function properly, do what it's supposed to do if they lost cabin pressure. She never complained to me that I can recall. I have no idea what they had to do down in the EMU [extravehicular mobility unit] world because I only work with the ACES, the launch/entry suit. And she didn't do spacewalks, so she didn't have to wear the EMU.

ROSS-NAZZAL: What were some of the other activities that you do with the crew before they launch?

MCDUGLE: They get the fit check of course first. Sometimes if they got delayed or scrubbed for too long—like STS-114 [return to flight after the STS-107 *Columbia* accident] took forever—they'd have to come back in and get fit checks again. Maybe they'd gained weight or lost weight because it'd been such a long time. Now if it's just been a little while, a few months, then we usually won't have to refit them, but we have had instances where somebody did. They may have worked out and put on more muscle, had some body changes. You may have to change a harness size or make other adjustments. We have final fit checks two days before

actual launch, and we've actually had changes up to that point. And you just want to say, "You've been wearing that all this time, and now you tell us?" but we have to be prepared for that. We take spare equipment down.

They have about 22 to 24 training events if I remember right. Things like ascent simulation, they go to the simulators over in Building 5. Building 5 has the motion base and the fixed base simulators. In Building 9 there's the crew compartment trainers and the full fuselage trainer. They can tilt up vertical like launch or stay horizontal.

In the motion base simulator they can actually simulate flying and having issues. Sometimes the mission control folks over there throw problems at them, and they have to practice what they would do in that scenario and practice landing. They practice landing and flying in the Shuttle training aircraft also. Depending on if they're landing at night or day, that's when they'd usually practice. If they're having a night or early morning landing when it's dark, they'll practice at night. They do some fully suited; they do some in just a flight suit. Of course they want to practice in a suit at least once because they want it to be realistic practicing their Shuttle landing. The commander and pilot does that, and the suit techs are there to suit them up and strap them in.

You also have bailouts. They have the one over at the pool [Neutral Buoyancy Lab], which is probably the most realistic, the closest to setup for flight because we have to actually have everything working. They have to inflate their life preserver units, actually activate their oxygen bottles, the whole nine yards. But it's breathing air, not oxygen when they're practicing. They hoist them up, they drop them into the water, then they practice going under the parachute and get into their life raft. That's one of the most intensive training events they perform.

The other ones are normal. They'll do the postinsertion operations. "We just got into space, so we have to doff everything, bag it up, and put it where it would go." They do all these events before they go. Sometimes they'll do one or two between TCDT and launch. It depends. Sometimes the commander may want to practice one more time because they want a refresher. It's up to them if they want to do it more than once. Sometimes they say, "You know what? All these guys are experienced. We don't need to do that particular training because we all know that." Sometimes you'll have a new crew member that'll do it by themselves first, and then do it with the crew because they want to make sure they know what they're doing, it just depends. So we have to do all suited training with the crew.

Wherever they go, if they're getting into a suit, our team has to be there. Of course they can suit themselves up, because they have to do it in space. But it's less pressure, less stressful for them, to have to deal with that—and less damage to our gear—if we help them while they're here on the ground. The EMU suit labs have a training lab and a flight lab. They don't train in a Class 1. Whereas CEE utilizes Class I and III for training. The crew may use some of their Class 1 gear that's actually going to fly in space to train in, so we have to perform very thorough inspection tests. It's called PIA (Preinstallation acceptance) when we inspect and test everything to get ready for launch.

ROSS-NAZZAL: Would you explain the difference between the Class 1 and Class 3?

MCDUGLE: Class 1 is the flight equipment. It can go into space. Class 3 will not ever go into space and that is strictly for training. Then you have the Class WIF [Water Immersion Facility] which is the equipment that's used for the water training. Only Class 1 goes into space.

ROSS-NAZZAL: So you're there for the entire training exercise?

MCDUGLE: Yes. When the crew is assigned, depending on if it's a five- or seven-person crew, technicians are assigned. You have a crew chief, which is the lead of the team. Then you'll have three or four other technicians. The crew chief is in charge of all the equipment processing. Of course when I first started with STS-37 I wasn't a crew chief yet. Then you have the insertion techs. NASA and Lockheed used to do the strap-ins. USA has the contract now so we have insertion technicians. Two assigned per mission, one for flight deck, one for middeck. You have a backup that goes to KSC the night before launch just in case something happens to one of our guys that straps them in. They're certified to be insertion techs, but they are also suit techs. The suit techs cannot do insertion work; they're strictly suit techs.

ROSS-NAZZAL: Tell me about some of the training activities that you remember from STS-47. Anything stand out? Or is every flight the same?

MCDUGLE: Yes, it's pretty much the same. There are really no standouts as far as like something funny happening, unfortunately. Pictures—did I show you this one? [Shows image] That was over at Building 8 photo lab. Mae's so awesome. Then of course I'll always remember Curt [Curtis L.] Brown, he was fun to work with. He actually pulled me down to take this photo. This is definitely a keepsake right here. They [N. Jan Davis and Mark C. Lee] were the married couple on board.

ROSS-NAZZAL: So the rest of these were suit techs?

MCDOUGLE: He [Curtis L. Brown] was the pilot on STS-47. Hoot [Robert L. “Hoot” Gibson] was the commander. He was an insertion tech; he was Lockheed, the rest of us were all Boeing. It was awesome; I was so happy. You can see how cool she was. This is a little note she sent out. [Shows note] She would put out little messages to let everybody know what was happening. Sometimes astronauts hold pre-launch receptions at KSC. Of course she couldn’t be there, but she was letting everybody know what was going on. Like I say, she’s just a cool lady.

ROSS-NAZZAL: Isn’t that nice?

MCDOUGLE: It wasn’t super formal, but it was very nice. There were so many people at her reception.

ROSS-NAZZAL: This was a postcard that they put out?

MCDOUGLE: Yes, then they made T-shirts with this same emblem. “First woman of color into space – Dr. Mae C. Jemison, 1992. In celebration.” It tells you about this on the back.

ROSS-NAZZAL: I was curious what the emblem was.

MCDOUGLE: That’s the symbolism of it. I made a bigger copy of it, because my daughter made a poster for school one time. That is a mission key chain I bought. I was just super excited of

course about everything, having her sign everything. This snapshot they did before they took the actual picture. [Shows image] I said, "Oh, I'm keeping it." I was just so excited. This is at the reception. That's her mom and dad, and her roommate in college, Linda Lorelle, news anchor at KPRC-TV in Houston.

ROSS-NAZZAL: I think I've read about her in one of her books.

MCDOUGLE: Bernard [A.] Harris [Jr.], of course, was an astronaut at that time, kind of new to the program. He was at the reception signing autographs. That's her sister. Bernard again. This was actually in the suit room at KSC suiting up. I was testing her then. I was just getting started. Here I am doing the actual test. When she flew, she had different things hooked up to her so she had to make sure she had all that hooked up before I helped her suit up.

ROSS-NAZZAL: What type of tests are you doing on the suit?

MCDOUGLE: We have to do an unpressurized and pressurized leak check before they go, and then when they get strapped in they inflate the suit one more time to make sure nothing happened on the way to the pad. We check to make sure that it's going to pressurize and hold pressure when it needs to. That's when the suit gets hard and stiff, but they can still move their fingers. The test also makes sure the helmet, gloves, or anything is not leaking and that the crew member is getting oxygen flow before they leave the building. The helmets and other equipment are taken out to the van, then they'll walk out just with their suit and boots on.

ROSS-NAZZAL: How long does the test take?

MCDOUGLE: The whole thing, maybe five minutes, because it takes this long to put the suit on. They walk in wearing their underwear, then they have a seat, don their gear, and the test is real quick. It doesn't take long at all. With her it was a little bit longer because they were doing some scientific experiment. I have a little checklist of what I had to do. I had to wear this checklist around my arm to make sure I did all these special things. That's their undies there [shows photo], and all her crew worn items on the table that she would have in her suit pockets.

ROSS-NAZZAL: Wow! That looks like a lot of items.

MCDOUGLE: It is. That's only a little corner. It's a whole table full of stuff.

ROSS-NAZZAL: What do they normally put in their pockets?

MCDOUGLE: You have basic stuff like the emesis bag, hankie, light sticks, pens and pencils, and survival packs go in their lower bottom legs: A pack and B pack. The B pack has their survival radio and motion sickness pills. The A pack has flares, a strobe light—it's a day-and-night flare—chemical light sticks and a pen gun flare set to shoot up for when they're waiting to be rescued.

ROSS-NAZZAL: I didn't know all that stuff was in there. That's pretty heavy. How heavy is the suit once you put it on?

MCDUGLE: Including the parachute, which they never walk around in, would be approximately 75 pounds or so. But they're not walking around wearing all that stuff. The parachute is already lying out in the Shuttle. The harness, the helmet, gloves and the CCA [Communications Carrier Assembly, "Snoopy cap"] they take up to the top side. All they walk up with is the suit and their boots on, so they're not walking around with all that heavy gear on. The skullcap they put on to keep from pulling their hair when they go through the neck of the suit, so they would take that off and put on their communications cap. That's the testers that we're hooked up to when we're testing, these big gray things back here [points].

That's when I went to the landing. They give you a permit to put in your car. I kept that. This is a newspaper article one of the ladies at the reception gave me. Mae made the front of *Ebony* magazine, which is a big magazine in the African-American community. Of course I cut the cover out and put a picture of Mae and I on the cover.

[Continues to flip through scrapbook and points out article.] That was in an aerospace newspaper, I think it was a Boeing paper. I was so excited when I saw her in the paper. This is the actual morning of launch when they walked out. They'd just left our room on the third floor, they walked out, and they got into the Astrovan. That's us waiting for the launch, the whole team. You see we went from white to orange uniforms now, which I like the best because it was the color of our suit.

This is after they landed and came back to Houston and had another reception. That's what this was, down at Villa Capri [restaurant]. That's my husband, Maronald. [Shows image] That was another reception her sorority held. That was all the Alpha Kappa Alpha sorority there. This is a picture of the crew up in the white room. There she was on the front of *Jet* of course

being the first African-American woman in space—she was on the cover of a lot of magazines. I sent another one of the memento envelopes from this mission, September 12th, 1992.

ROSS-NAZZAL: So the mission meant a lot to you. If you had to summarize, what do you think the mission meant to you as an African-American woman or as a US citizen?

MCDUGLE: It meant that we finally made it once again, another achievement under a black woman's belt. I do feel it's more special to me when it's a black woman doing something for the first time. I still felt so proud that as a black woman I was able to be her suit tech—there for her, to take care of her. It's like I mentioned before, it's like family. It's like, "That's my sister going into space." It was very emotional because she was the first. She's always going to be the first. She's the first black woman in space. She mentioned in one of her books that all the teachers and everybody would try to tell her, "Oh you need to focus on just girl-related jobs and not think that big about being an astronaut or anything like that." I think that was one of the driving forces behind her, people telling her, "You can't do it," or "You shouldn't do it."

She never talked about herself. I thought that was just great, because I thought somebody that's done so much and knows so much would—not in a conceited way. If you ask her questions, she won't go on and on about it. She'll just give you a direct answer; very modest. I think I would be tooting my own horn more if I had all her accomplishments under my belt. Not in a negative way, but if somebody asked I'd probably go into depth about everything. I guess Mae just let her accomplishments speak for themselves.

Not that I expected her to be conceited or anything, but she has every right to be. She was total opposite of that. You always felt so comfortable around her. It's like she wanted to

make sure I was comfortable and feeling okay, and I felt I'm supposed to be doing that for her. I was there for her. She's so caring and sweet, even to this day. I don't get to talk with her and hang out with her, but every time I do see her I feel real good. It's such a warmth that's emanating from her all the time. Everybody wants to come up to her, "That's Dr. Jemison." I'm so proud and so happy I was part of this.

For example, her telling you about me, she didn't have to do that. That's just how she is. Like I said, the ultimate was when she put me on the same level with all those outstanding women. When she did that, that really let me know how much she thought of me. That was the top. I was just like "*Wow*." The little people. She doesn't look at you like that. I looked at myself like that; she didn't. This is getting her ready [shows photo]. That's launch morning.

This has always been the highlight of my career, always will be, always. That was after TCDT when they were coming down. We were walking back to the van to take them back to the O&C Building. We were just talking. I miss that. I miss being a suit tech; it's a fun job. This was another they did when she came back in the Houston paper. [Shows article] Of course I cut it out of the paper, "Ex-astronaut happy to be a role model." She's definitely a wonderful role model.

She has a science and technology camp that she also brought me out to in Chicago way before the Women in Flight gala. I brought the suit out and did the whole dog and pony show for the kids. She's always looking for different things for the kids. She wanted me to share this experience with the kids. When she asks you to do something you know that she's going to take care of you.

I love this picture. [Shows image] She looks so cute floating in space. This is just a bigger version of that invitation. It was so pretty. They made T-shirts, and I have one. Her T-

shirt has her autograph already on the front, so people didn't have to ask her. I saved it of course. And I have an STS-47 T-shirt with all the crew members' signatures on it.

ROSS-NAZZAL: She's very impressive with her medical degree and her studies in engineering.

MCDOUGLE: I know. And what she did when she went over to Africa.

ROSS-NAZZAL: With the Peace Corps?

MCDOUGLE: Yes. I was like, "What haven't you done? Can you cook?" This is another [shows photo]. I think this was her tenth anniversary. I took these photos of all the black astronauts. That was the day I took a picture with her. Then it was so funny because she was up there giving her speech, and I'm in the back snapping pictures of her. She said, "Sharon, put that camera down. She always has a camera!" And this was during her speech to everybody, "She's forever taking pictures." I feel like a family member. I just ran up on this [shows clipping] by accident, some little local Houston paper. They had a big article on her too.

This was celebrating her ten-year anniversary. It was over at the Hilton [hotel] on NASA Road 1. Nick [Nicholas Valentino] Lampson came and introduced her. It was so nice. Then the Houston OBAP (the Organization of Black Airline Pilots) did a big deal downtown at the Hilton of Americas. She attended that event also. Actually Juliea [Robinson-Nelson, Jemison's chief of staff] called me and invited me to the event, and it was very nice. All the functions they have are so nice, and you just feel so special because she always introduces me to others, "This is my suit tech, she took such good care of me."

You still don't expect it, even after all this time. That's when I really knew after all these years that she really did appreciate me, because she never stops thanking me. Every time I'm around she makes sure that people know I was her suit tech, and I just feel so special, because she's a celebrity. For her to still be so real and genuine and still appreciate people and what they did for her. But the Women of Color in Flight gala was the ultimate. I still can't believe she did that. I was nowhere near expecting to get honored with all those amazing women.

ROSS-NAZZAL: Any recollections from launch or landing?

MCDUGLE: Launch was so exciting. Landing was what I remember the most. I'm glad you asked me that. We have to sit on the CTV [crew transport vehicle] and wait for them to come off the Shuttle, and we're out there hours ahead of time. Most landings I've participated in, the crew members come off and they're not feeling well or fairly weak. Sometimes we have wheelchairs available; sometimes they drape over our shoulders, because they've been in space 10, 11, 14 days sometimes. They're just woozy; they're getting used to the gravity again. Everybody's different. It's real hard on their bodies coming back into the Earth's atmosphere. Most times they're not very strong.

But my girl—I'm ready to assist her and here she comes walking out like she just came from the mall. Girl, she's like, "Hey, Sharon! How you doing?" I was thinking to myself, "Isn't she supposed to be weak?" I couldn't believe it. Once again just amazement of her abilities. That also shows you how strong she is. It didn't affect her at all. I'm looking at her like, "You know you just came from being in space for two weeks." Didn't faze her. I was so glad she was

my crew member. She was so easy to work with, no problems. She's one of the few people that I've seen like that.

Launch morning, I can't recall anything that stands out. She was still her normal self. She didn't seem afraid or nervous or anything. She was always interacting with the other astronauts. You'd think you would have heard about Mae before the astronaut corps, with all her accomplishments and everything she's done. It's just amazing. I hadn't heard about her until I heard about the first black woman getting ready to go into space. Her just walking off like nothing happened was the most memorable thing about landing, but launch morning it was just like another day in the office. She came in, I suited her up, and we tested. Everything good, there were no problems.

I was assigned with Joanie [Joan E. Higginbotham] until I got promoted. I was going to be her suit tech too, because I wanted to keep making history. She was the third African-American woman in space. I got to suit her up at training events. My kids actually got to suit up Joanie on bring your kid to work day. Unfortunately, of course, Mae was long gone by then.

ROSS-NAZZAL: When you guys fly out to the Cape [Canaveral, Florida], do you take a flight like Continental [Airlines]? Or do you actually take a NASA plane?

MCDUGLE: No, just get on a regular Southwest Airlines, Continental or whoever's available. We don't fly on a NASA plane. The crew members, of course they come in on a T-38.

ROSS-NAZZAL: Did you follow the mission while she was up?

MCDOUGLE: I didn't watch everything because she wasn't doing any spacewalks. I hate to say I was only interested in what she was doing. I can't remember if they did an interview with her or not while they were up in space. I did hear an interview with her on the radio. I called in and was able to get through and I was like, "Hey! This is Sharon." She told the interviewer, "That was my suit tech!" I think she had written a book she was promoting.

We go down to KSC about four days before launch. At TCDT you already have everything ready for launch, so the reason you go back four days prior is they have fit checks two days before launch again. We do things over and over just to make sure. Any time they're doing any kind of event with the suit, like when they fly the STAs and they put their suit on, when they come back we have to inspect it and test it again, because anything could have happened between going out to the plane and coming back to the lab. So it's tested again to make sure they didn't damage it or anything.

For TCDT you go out about five to seven days before, because you have to prep everything. You've got to do all the com [communication] checks, which is preparing for the launch flow too. Once the gear goes down for TCDT that means it's ready for launch also. And if anything happens we can always bring it back home if it's extensive repair. If it's just something small we can fix it there.

ROSS-NAZZAL: As a suit tech are you required to have a broad base of knowledge? Do you have to sew?

MCDOUGLE: Yes. It's not a mandatory requirement to sew, but majority of them can sew on the sewing machine. That's just for the orange cover layer and sometimes sewing labels on the

harnesses and things like that. We have about three techs that are great at sewing. One in particular is a master fabricator. A lot of us are prior military here—majority of us are Air Force—so we have a very solid foundation. A lot of them retired from the military, so they have 20 years or more experience. Lots of experience with the suit before they began working here.

ROSS-NAZZAL: Tell me a little bit more about the tests that you conduct during that terminal countdown demonstration test. You're there for five days. So what do you do in terms of com checks and things like that?

MCDOUGLE: When you first get there, you unpack the gear. You have to inspect and test it again. You never know if something may have happened during the shipping process so we perform the tests over again, which is called a vacant test. During the vacant test you test the dual suit controller to make sure it's functioning properly. You have exhalation valves in the suit and a breathing regulator also. You have to put the ACES ensemble together because if you don't have the gloves attached it's just like having a hole in the suit. You have to attach the gloves and the helmet to the suit, and it's lying on the table. You hook it up to the tester, pressurize it, and perform checks. It gets real firm. You test it to see if it'll hold pressure when it should, what the leak rate is, and the Magnehelic differential pressure.

You test the Anti-G [gravity] suit pressure control assembly, which controls the G suit pressure. They wear the G suit only when they're coming back into the Earth's atmosphere, so you test that to make sure it's working properly. Then the oxygen manifold is tested to make sure it's working properly. The com checks are performed ahead of time before the vacants,

because you don't want to use a helmet that might have been faulty when you perform when you perform the vacant.

Then you test the ensemble once they've donned the suit and during their fit check. You have to perform those tests, and that's called the manned suit testing, of course, because somebody's in it, instead of a vacant suit test. You have to ask them to hold their breath to get your leakages, because if they're breathing you can't get a good reading. Of course when nobody's in there you don't have to do that because you just control the switches, but when they're in the suit their movement and their breathing will affect the readings.

Usually you take a breath with them, so you don't have them sitting there holding their breath forever, because it's easy to forget. Especially because we get a little nervous, even though we perform this test all the time. On actual launch morning it's like, "Okay, this is it. Take a breath and hold." Of course not at fit check. Sometimes people get nervous at fit check. Depends. But I tended to shine under pressure.

When you pressurize the suit you dial in the controller, which is the heart of the suit. The dual suit controller, that silver circle right there [points to suit]. This is their emergency oxygen green apple. That's how they would activate the two bottles of emergency oxygen, about ten minutes' worth of oxygen. When they bail out they would activate that, not just here at home. The parachute attaches to these two frost-fittings right here, and this is where their life preserver units are stored. If they submerge in water it will automatically inflate for them, but if it doesn't they just pull these tabs and activate them.

When performing the manned suit test, we only test System 1. There's a System 1 and System 2, which is the backup. After we test it, we take all the helmets, gloves and CCAs down to the Astrovan. When they get out to the pad and get strapped in, the insertion techs will check

the gear again to make sure nothing happened on the way out to the pad. There hasn't, that I can recall, been a case where anything was bad once they got out to the pad. Well, we've had like communications cap concerns. We take out spare helmets and CCAs and gloves to the pad. So far so good, it's been a real good run. We've been very very fortunate not to have had any incidents.

ROSS-NAZZAL: What do you guys do when the mission is up? Are you working on the next mission?

MCDOUGLE: We could have two to four crews in training at one time. Let me show you what the schedule looks like, which is blank pretty much now. [Shows calendar] When you have three or four crews in training, while they're up, this schedule is usually full. Right now we only have STS-133 and STS-134 training. Their training events are coming up on the schedule. Then we have presentations we support. We go out to schools and community events and do presentations on the ACES and our department.

All the equipment has usage lives and/or shelf lives. The suit is overhauled—inspected and tested. You're constantly testing and repairing. The equipment can have discrepancies. We work to repair all those discrepancies, get them ready for the next use. It's constant. People tend to think, "After they launch, you all just sit around." No, you constantly have crews in training and we have to prepare all of their equipment. It's not as extensive as the equipment that's going to flight, but you still have to prep it, get it packed up and support the different events.

We have a team of 19 people, and there can be 5 to 7 people assigned to a mission. STS-133 may have a training event one day—and there can also be two training events in one day.

STS-134 could be training at Building 5, 133 could be at Building 9—so you could have a majority of the team out because they're supporting these events. If it's an event that's going to last all day, we'll leave one person over there in case the crew needs help and everybody else comes back to the lab and works until it's time to recover the event. Now for the bailouts where they go out the top of the mockup, practicing if they have to escape from the Shuttle, everybody stays in place because it's very busy. You have to reset their oxygen bottles and assist them with a variety of things because they're in and out of the Shuttle mock-up.

We have a lot of repairs and overhauls we perform on gloves, the suits, the helmets, the harnesses, everything. Constant work here. You can have people on travel. An example is you have 133 down in Florida, and our tech team is down there with them. If the astronaut crew is done, they come back to Houston that same day. My guys have to stay a couple more days to finish processing the gear, inspecting it again, and testing it again after it's been used for TCDT. STS-133 crew came back though. They have a training event the next morning, but their team isn't here so techs here are going to have to go and support. It gets crazy.

This is probably one of the slowest times besides the return to flight when we were waiting for STS-114 to go up, and there was no training or anything going on. That was bad. We thought we were going to get laid off then. It was about two years before return to flight. I was so shocked they didn't lay us off, because it was really really slow.

There's always a lot of activity going on. We have a whole fleet of suits and helmets. Even Class 3 equipment has to be repaired because we use it for training, and it still has to be operational even though it's not going to fly. Of course people still take vacation and have appointments. They're not all here all the time. With only two launches there's not a whole lot of training going on.

ROSS-NAZZAL: Do you guys clean the suits?

McDOUGLE: Oh yes.

ROSS-NAZZAL: How do you clean the suits?

McDOUGLE: We have a Stericide [disinfecting-sterilizing solution] that we use to clean the suits. We take the suits into the drying locker, hang them up, invert them and spray it down real good. After they dry, they're inspected and seals are cleaned and lubed. There is some spot cleaning involved on some equipment.

Of course if urine got in the suit, which could happen—even when they wear their diaper it can leak out sometimes—we use a baking-soda-and-water solution. You have to be careful with what you use to clean of course. It has to be approved because you don't want anything that's going to damage the equipment or cause any problems.

The engineers check everything out before we use it. Remember the culture shock I told you about? When they're going in space it's different than just flying a plane at high altitude. So they really have to check, check, and recheck. I got used to it, but I was still in shock with how things worked. A lot more procedural-based, you have make sure you read everything and follow procedure.

I hate to say it, but I feel like I got dumber once I got here because you're so dependent on reading everything. Whereas in the military you learned it, and it was there; you didn't depend on reading word for word what you need to do. After repetition you know it, but still

you have to read your procedures. Everything is procedure-driven, so you have to read it. And you have MIP (mandatory inspection points) steps. That's where the quality inspectors check. They make sure the reading on the gauge is what you wrote down and all specs are met. I understood it after I'd been here a while.

It was a culture shock from how we did things in the Air Force. "If it's broke, fix it." Something that takes ten minutes to fix in the Air Force can take three days here because you have to wait for it to go through all the proper channels for approvals. Which isn't a bad thing, I just wasn't used to it. I wasn't used to not being able to just repair discrepancies when needed. You have to wait, get it approved, and documented.

ROSS-NAZZAL: Now you're in management. How did that change from being a suit tech to overseeing the flight crew [suit techs]?

MCDUGLE: It was so much more fun being a suit tech because you're out doing stuff, interacting. Now you're always tied to your computer, meetings, and things of that nature. You're still working, but it's not as fun as being a suit tech and being out actually interacting with the crew members. I'll pop up at an event every now and then just to say hi to the crew members, but so many that I knew are gone now. There's so many new astronauts that I don't even know that many anymore. I just go and show my face so they'll know who I am when they see me down at launch.

Like Steve [Steven W.] Lindsey, I know him of course. It's great to see that he's commander of 133—when it was the last flight. Now it's not the last flight. He's one of the few that I still know. Lindsey is the only one I know on 133.

ROSS-NAZZAL: I was curious. One of the reasons Mae suggested I talk to you is part of the article that I'm writing talks about gender and race and technology, looking at those three themes. How do you think gender and race has affected your career, if at all, while working for USA?

MCDUGLE: I don't think it's affected it at all. As far as the people that make decisions, my management, I think I've been so fortunate and treated so well since I've been here, since coming in the door. USA, up until this day with us going through layoffs, they are taking such good care of us and offering so much. I moved through the ranks. I think everybody is treated fairly and judged and promoted on what they bring to the table, on their merit and credentials, and how hard they work. That's why I wasn't real concerned when I came out here. I started at the bottom as a C technician even though I had eight years' experience. But I knew once I got here, and they saw my work ethic and saw what I had to offer that I would move up.

And I did. I was the only black woman in here for a long time, then we had another girl come in for a little while. I was at the bottom of the totem pole. I was brand-new to Boeing. I became an A tech, which is a crew chief, and I was the only woman to achieve that at that time. A crew chief is over the team that goes down for launch and has to make sure all the gear is getting processed.

I was one of the top technicians in the Air Force. When I left the Air Force my rank was sergeant, E-4. My first mission as crew chief was STS-75. I got here in '90, my first mission was in '91. Then I became a crew chief. When I became a crew chief there was another technician that was in that position and was an A tech, and he wasn't performing at A tech level.

My manager demoted him, saw that I had been performing at “A” tech/crew chief level, and promoted me! “You know what? She’s doing above and beyond what a crew chief does, so we’re going to promote her.” I was shocked, because I never thought anybody would get demoted and that they’d actually promote somebody else. Maybe a slap on the wrist and tell you to do better, but not demotion. Of course, I was ecstatic and just jumping for joy. I just couldn’t believe it, because I had been working so hard, and this showed that they appreciated it.

Then I went into another little funk where I felt like, “They don’t appreciate me.” That same week they walked in and surprised me with a Silver Snoopy [award presented by astronauts], girl. I about broke down, “They do appreciate me!” I was in one of those modes like, “I’m just a number. They don’t really appreciate all the work I do.” I’m not doing it for them to recognize me, but I still feel like you need to recognize people when they’re doing good work. Like in the Air Force they wait till you leave and give you a little plaque. I told them when I left there, “You guys need to recognize people throughout the time they’re here, not just when they’re leaving. Maybe they wouldn’t be leaving.” That’s what I try to do. I try to recognize people often. I feel like I win when they win. I do. I feel so excited—you can tell I’m excitable—I feel so excited when somebody on my team wins something, especially if I nominated them.

STS-75 was my first time being a crew chief. That was February ’96, the day before my birthday, February 22nd. STS-78 was the all-girl suit tech team. I’ve got to show you that [shows photo]. That was the first time, and the only time that’s ever happened. All-girl suit techs and I was the crew chief. That was another highlight of my career, first time we had all girls.

ROSS-NAZZAL: You were the first woman that worked here as a suit tech?

MCDUGLE: No, first black woman. Another female suit tech was here when I got here. You can believe she was highly upset that she didn't get crew chief over me. Oh, that's us [points to photo]. We weren't wearing the uniform anymore so we said, "We'll get matching shirts and put a little patch on those." That was the crew. [Terence T.] Henricks was the commander. Usually the crew chief suits up the commander. That's me working with him launch morning. That was when we were getting ready to fly the STA. He insisted on helping me put my boots on. We had a good time. I had to get a picture of the commander putting my boots on me.

ROSS-NAZZAL: So when they fly in the STA you get to fly with them?

MCDUGLE: Yes, we have to fly with them in case they have any issues with their CEE gear. That was the actual photo shoot they did at Building 8 [shows photo]. Of course we had to match. This is down at KSC, actual launch day. Delores [Abraham] was actually over the astronaut quarters at the time. We were real close. We'd have barbecues together while we're down on travel.

That was at Building 9 at one of the training events. They took a lot of pictures of this crew too [shows photo]. Like I said we always tried to match. There's the crew over by the Shuttle. Again, a lot of pictures of us [demonstrates]. The crew still talks about it. Rick [Richard M.] Linnehan (astronaut) asks when we're having an all girl crew again. It was a fun crew. We had a good time with them. This is when they were walking out. We were standing over there high-fiving them and having a good time.

That's out at Banana Creek where the families view the launch. That's where we were going to wait for the Shuttle to launch. Good times, good times. I got better with my pictures. Celebrating afterwards [shows photos]. And they flew the Olympic torch. At the postlanding party they were passing it around. Me and my baby Dominique took a picture with the torch [shows photo]. She's 15, about to be 16. This is a Boeing newspaper article about the women of Boeing. That was it for STS-78, the all-girl crew. That was another proud moment.

ROSS-NAZZAL: That's a good detail. A lot of people say the same thing. I've never heard anyone say anything different.

MCDUGLE: It's awesome. I'm serious. I've just been treated good. I'm not going to say they gave me anything, because I earned my raises and promotions. But I don't think they had to be as good as they have been to me. Very fair. And I try to do the same thing. I try to be very fair across the board. I think that's one of the reasons I was promoted, because 20 people interviewed for the position after the manager left. I told them I bleed orange, and they knew I actually love what I do. I love Crew Escape. I felt I could make a difference, because I had been a technician, I knew everybody, and I'd grown with everybody. I felt like I could put together a better team and just really do a good job. Do right by the company and for the team, and of course, provide good support for the crew. So I was just very happy.

That's what I tell people. All that work from when I first got here up to this point is what got me in this office. If I had a bad history over that time they probably wouldn't have even considered me, but because I had been so ethical and fair—as a crew chief, you're managing a team of five people. You have to make sure they're doing what they're supposed to do, and

they're at the training events and processing the gear. You report up to your manager. It was a big responsibility, but it never seemed like work because it was so much fun. Even as a crew chief I was still a suit tech. I was still suiting up the commander, enjoying myself, learning a lot along the way as far as people skills, because I could be pretty abrasive sometimes.

In the military, I was always around a bunch of guys, so we always cut up, and used profanity. It was just normal and accepted. Then I came to the civilian world, "You can't do that, you can't say that." "Why?" I wasn't saying it to be mean, that's just how we talked in the military. So I had to grow in that aspect also as far as really watching what I say. Having kids, of course, made me do that too. Once I had my babies I really watched how I acted, because now I have kids watching and emulating me. That was a big change. I was only 26 when I got here, so I was still a baby. I was 26 and brand-new, because I hadn't worked as a civilian. I went right out of high school into the military, so that's all I knew was the military way of life. The military was so much fun, oh my gosh. I don't regret one second.

I haven't gotten my degree yet. I'm going to put that out there to let people know that you can still progress and do good without your degree. I have been taking a class here and there. I could kick myself because that's why I went in the military—to go to school—but they gave me this awesome job where they were sending me somewhere every two months. I was like, "I'll do it next year, next year, next year, next year," but never did.

ROSS-NAZZAL: Kind of hard to go to school when you're traveling so much.

MCDUGLE: Exactly. Then I got older, got married and had kids. I decided to go to school at night after work. I think I did about four classes, and I took a break, then I took another break.

Somebody said try online classes. I don't think that'd work for me. I need to be in a classroom because I would be doing other stuff if I'm at home trying to do a class. Too many distractions. So I'm still working on it, girl, I'm still working on it.

I always tell the kids, "Go to college right out of high school, don't wait," when I give career day presentations. "Get your degree." Of course you can still be successful but you can make a lot more money if you have your degree. I always tell them, "You like all the bling? Then get your degree." But I'm happy. I'm not going to say I had no bad experiences, because you have little tiffs with your coworkers sometimes. As far as the company, Boeing and USA are both awesome and treated me very well. I have no complaints.

I used to get upset, because sometimes you would hear people try to blame things on "Oh, it's because I'm black," or "because I'm a female" or other excuses, and I don't agree with that. I don't know everything behind whatever their issue may be, but I refuse to believe that. It's hard for me to see that, when you haven't been treated that way. I'm always wondering what's the whole story, like are they really doing what they're supposed to do? Don't just try to use race as the reason all the time. That always bothers me.

Of course growing up as a black woman, you do have to work harder. Because back in the era when I grew up—I don't know if it's as bad now, but you did have to work harder. I grew up in Mississippi. So you had to work harder and be better than the white kids, you did. That was just part of life. And you knew that, but I didn't let that deter me from trying to do good and do the right thing. Even though I lived around some shady stuff, I knew right from wrong. That's another thing I tell the kids. Just because you see an adult doing something bad or wrong doesn't mean it's okay. You know right from wrong. Even if your parents didn't teach you right, you know right from wrong in your heart. If there's any doubt, don't do it. That's the

bottom line. That's what I tell my kids, "You got any doubt, that right there should tell you 'no, don't do it.'"

It also bothers me when people try to blame things that may happen in their life on not having their parents. For example criminals using the excuse, "I didn't have my father at home." I didn't have my parents either, but I still chose to do the right thing. And one of those choices was to leave Mississippi and go in the Air Force.

I don't like when people blame it on—I'm not going to say simple things, but the easy thing to blame it on. "If I wasn't a black woman I would have gotten this or that." I think it probably helps sometimes more so than hurts, to be honest. No, I don't have anything negative on being a female and the race thing at all.

ROSS-NAZZAL: I think we've covered all the questions, but is there anything else you want to talk about, about Mae or the mission, or anything we didn't cover that you thought we might?

MCDOUGLE: We have an awesome team here. Flight Crew Equipment as a whole but especially Crew Escape Equipment, which is our department, I think is the face of USA because we're the ones that's out there suiting up astronauts. We're the ones that you see in all the pictures. We have the coolest job, I think, at USA. You're working with astronauts, you're suiting them up, you get real close with them. My team even straps them into the Shuttle. We're the first ones they see when they step off the Shuttle when it lands. It doesn't get too much cooler than that.

We have a great great team. Very knowledgeable, and I'm very proud. If you talk to anybody out in the lab, they'll tell you they're proud of what they do. And most of them are sticking it out to the end of the Shuttle program. Ninety-five percent of the people said they're

going to stay till the end because they want to support all the way to the end. I know if a good opportunity comes along of course you have to really weigh your options, but everybody's so proud to be a part of this team, including me. I'm not going anywhere, so I'm not going to even look for another job right now, because I know I'm going to stay till the program is over.

Every time the Shuttle goes up I think of the song "Proud to Be an American." I get emotional, even if I didn't work that launch and actually suit somebody up. I still get a little chill, *pride*. Other than that, go Space Shuttle! Can we extend the Space Shuttle program?

ROSS-NAZZAL: I think everybody at JSC would like that. Well, thank you very much.

MCDOUGLE: You're welcome.

[End of interview]