Preflight Interview: Koichi Wakata

The STS-92 Crew Interviews with Koichi Wakata, Mission Specialist

Q: We are talking with Koichi Wakata, Mission Specialist for STS-92. First off, if you would, tell me why did you want to be an astronaut? Was there any particular event or person that inspired you?

A: I remember that I started to have a strong longing for going to space when I saw the Apollo lunar landing when I was at 5 years old. And although at the time it seemed to me that only the people in the US or Russia (or the Soviet Union could each a space flight, it seemed to me that to go into space was something like beyond reach for me. But I thought that maybe someday Japanese would be going into space. At the time, So for me, being Japanese going to space was something like an impossible dream to achieve. And now 30 years later I'm very happy that I have finally come to be a part of the team here, to participate in the human space program.

Well, if you would, give me an overview of your career that led you to this point. Tell me how you got here.

I was very much interested in aircraft since my childhood. I really enjoyed making engine-powered model planes and flying them. I also was in a team of ...at the college participating in competitions of building and flying human or piloted gliders. And that's why I wanted to become an aerospace engineer. So, I went to the college as an undergraduate and a graduate in Japan. After graduation, I worked for Japan Airlines as [an] aeronautical structural engineer before I joined the astronaut corps. So, I'm a member of the National Space Development Agency of Japan-announced that they, that they will select a couple of astronauts to participate in the NASA astronaut training here at Johnson Space Center and also to eventually fly in the assembly flights for the Japanese module on the Space Station. So, I was one of the people who was selected to apply for the selection, and fortunately I was selected in 1992. And I came here, to Houston, to join the NASA astronaut class of 1992. And my training started from that year. So, I'm, I'm, I'm very happy that I'm to be part of the team and operate the space shuttle's robotic arm to retrieve the Japanese satellite launched by a Japanese rocket. And also I had an opportunity to operate the robotic arm for a NASA satellite called OAST-flyer satellite. And I have been working on this flight-STS-92-since the summer of '97.

Well, let's talk about this flight a little bit. It begins a series of missions involving some of the largest and most critical hardware for the International Space Station. Tell me about the mission. What are the goals of the mission, what's sequence and what goes on just after you guys are up there?

Okay. Our flight will assemble two big components to the International Space Station. The first one is the Z1 Truss, and the other one is the Pressurized Mating Adapter-3 or PMA-3. First the Z1 Truss: that truss structure is going to be attached to the Unity Module on our flight. And that Z1 Truss will house solar arrays which will be assembled on the truss structure. So, the Z1 Truss, the Z1 Truss, the solar array control system-what is called a Control Moment Gyroscope-and Ku-band communication systems as well as thermal control system and Plasma Contactor Unit that controls a voltage between the space plasma and the ISS structure. So the Z1 has a lot of equipment on it. So, we will be, we will be, we will be attaching the Z1 Truss to the, we dock to the space station. And following that we have Pressurized Mating 3, Mating Adapter-3 installation to the nadir side of the Unity module. So, the nadir side of the Unity is the, it's the docking port for the space shuttle to dock to the International Space Station. And we need that PMA-3 docking port on the Unity module so that the following flights-STS-97 and -98-can dock to the PMA-3 to continue the assembly of International Space Station. So to continue the assembly flight 21 Installation and PMA-3 are essential.

Now, what would you say have been the biggest challenges for you and your crewmates so far in getting ready for this flight?

Yeah, this flight is a very challenging flight. And for example we have 4 days of back-to-back space walks, which will be the first time as a space station assembly flight. That is going to put a lot of stress on our crew [sic] bodies. And also the Truss and Pressurized Mating components are attached to the International Space Station by Space Station robotics-Canadarm2 and robotic arm. So, this flight will be the first time to use the Common Berthing Mechanism to actually install components to the space station. So whenever we operate a certain new equipment, we have, we have, we have, we have some surprises. And sometimes it's, it could be a surprise. So we have been putting a lot of thoughts to make sure that this first operation of the Common Berthing Mechanism will be successful. So to prepare for this first-time event we have been spending a lot of time in going through a thorough training and testing.

So, what is the Common Berthing Mechanism? How does it work?

Common Berthing Mechanism is a mechanism that will be used in many places on the International Space Station. For example, the Japanese Experiment Module, called Kibo, will be attached to Node 2 using the, using the Common Berthing. So, it's a kind of, it's an attachment system or docking system on the space station. For example when the shuttle docks to the space station we are using, we will be using a mechanism called APAS -Androgynous Peripheral Attachment System. And we have several other attachment [systems]. But, the, the, the, the, the, the Common Berthing is a new berthing mechanism so that we can transfer large payloads such as International Space Station standard payload racks and et cetera. So for this flight we will be connecting the Z1 Truss and the PMA-3 to, both the zenith and the nadir side of the Unity module on the CBM, on the CBM mechanism.

So, why is the Z1 Truss the first external framework for the station? How do you compare the truss to anything that we have been on Earth?

Z1 Truss houses a lot of very important equipment for the space station. For example, attitude control system; communication for communication, for, for, for