



Bismarck Castaneda

Profile Data: Bismarck (Bill) Castaneda works as a territory manager and applications engineer for Automation Technology, Inc., headquartered in Concord, N.C., a leading distributor of automation, fluid power, motion control, and process equipment. He is responsible for customers in the Mid-Atlantic region (Delaware, Maryland, Virginia). Mr. Castaneda is a member of the 2009 IFPS Board.

Q: When and where did your career in the fluid power industry start?

A: My interest in fluid power began while I was attending the National Institute of Industrial Technology in Lima-Peru. My certification was in Electro-Mechanic Technology, which involved taking courses in hydraulics, but the courses were very different from the fluid power of today. I found the laws of hydraulics very interesting, and this motivated me to think more about hydraulics. This was the beginning of my career in the fluid power field. After graduating, I was hired by Cummins Diesel as a service rep in the electrical section, installing and troubleshooting generator sets. As a result of my proficiency in the field of hydraulics, I was named as the company's first electro-hydraulic rep. I came to the U.S. shortly before the aerospace industry expanded and was hired as a field engineer for Bendix Field Engineering, where I worked with NASA as a team manager to oversee the hydraulic, mechanical, and electrical repair of tracking antennas. This experience opened doors for me to the real fluid power since it involved my going to the Vickers School, where I learned much more about precision hydraulics.

Q: What is the most memorable moment in your fluid power career and what did it teach you?

A: One of my customers at a fiberglass plant with several hydraulic power units decided to expand their facilities. They called me to duplicate and quote a 100-hp hydraulic unit that was already in operation. The unit had five operations using individual D08 valves, main directional valves, as well as flow controls, pressure relief valves, pilot operating check valves, and pressure reducing valves. All these valves were joined with more than 30 hoses 3/4" ID. Probably when this power unit was built, they did not know much about "modular stocking" valves and custom manifolds. I explained to the plant engineer about this new technology to eliminate half of the hoses in use, and he asked me in doubt, "Can you do that?" I started to design a special manifold as well as a complete unit. They accepted my quote, and the hydraulic power unit was built. This experience taught me "knowledge is power."

Q: What do you feel is the most important achievement in the fluid power industry?

A: I believe the most important achievement within our industry is merging forces with electronics and controls technology. We have known about fluid power since ancient times, but up until a few years ago, we did not need to apply this sophisticated knowledge in applications. This was done only by hand, or by regular electricity applied to an electric coil or a relay without needing extreme precision. But now, with the changes in the fluid power industry and with the modern technology, the requirements within the industry are changing in our competitive world. Different operations utilizing fluid power need to be accomplished much more precisely, allowing machine designers and fluid power engineers to offer more sophisticated, higher performance, and complicated machines and system designs by using digital electronics controllers, servo valves, actuators with positioning sensors, electronic proportional valves, etc. All these components, after being programmed with the PLC, will communicate electronically to each other, delivering a precise operation. With this new technology, we can deliver precise and sophisticated motion profile designs within fluid power applications. Therefore, we can be more reliable, powerful, and faster to fulfill the customer and equipment requirements.

Q: How and why did you get involved with the IFPS?

A: In 1980, at Bendix Field Engineering, my responsibility was working with NASA contracts refurbishing the communication tracking antennas that were installed in several countries around the world. This operation started with the first flight of the space shuttle Columbia. I thought I knew a lot about hydraulics, but I was wrong. In the two weeks I attended classes at the Vickers Hydraulics School, I started to learn more about hydraulics, and this added knowledge helped keep me very interested in this field. When I came back to work, I starting training my technicians to better understand hydraulic systems. Later on, I learned about the IFPS and their certifications program, and applied for my Hydraulics Specialist Certification, which I received in 1998. When the IFPS asked me if I would like to be part of the Board, I accepted right away, and in 2008, I was appointed to the Fluid Power Education Foundation Board of Directors. I knew from experience that the organization works very

hard on behalf of our industry, as well as on behalf of people in general who are interested in this industry, and I wanted to be a part of it, too. I am also involved in helping young people by collaborating with the FIRST organization as a mentor. I am very proud to be a member of the IFPS.

Q: Why do you feel the IFPS is important, and why would you encourage industry professionals to join?

A: The IFPS is very important within our industry because it helps members, as well as different organizations, keep up-to-date with new technology. Launching the Engineering Research Center for Compact and Efficient Fluid Power will help enhance the compatibility, reliability, and competitiveness of our industry and allow our industry's engineers to perform tasks not presently possible. I believe that everybody who works within fluid power should be fluid power certified, including our young engineers who spread knowledge about fluid power because "knowledge is power."

Q: What have you personally gained by being a part of IFPS and how has it helped your career?

A: I gained a great deal of personal satisfaction and much knowledge that I now disseminate to young people who want to enter into the world of fluid power. Also, by getting my fluid power specialist certification, I keep up-to-date with the technology. My co-workers respect me for my knowledge and customers will trust me with advice.

Q: Where do you see the fluid power industry heading in the next 10 years?

A: In the next 10 years, I see many changes and great opportunities. Nationally and also internationally, the industry will require more automated machines that will save energy and be environmentally clean. The industry will comply with the need by creating more sophisticated electro-hydraulics equipment to fulfill the more demanding applications. The IFPS is already preparing industry members to accomplish this task, is inviting the non-members to participate with the IFPS, and thereby is making a better fluid power industry.

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