

A Summer in the Scout Aviation Maintenance Program



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As an aspiring astronaut, aerospace engineer, and CEO, gaining as much experience in a related field is extremely important and desirable by the industry. Having already started my first semester at Embry-Riddle Aeronautical University, Daytona Beach, Fla (majoring in aerospace engineering - minoring in business administration), all of the experience I've gained throughout my years in high school has played an important role not only in helping me attend the college of my choice, but has also given me a unique perspective on my career field and the technical aspects within. With confidence, I can say that the Scout Aviation Maintenance Experience (SAME) was the biggest turning point in preparing me for my future career and providing me with unique opportunities not available to most youth.

The Scout Aviation Maintenance Experience, which is open to Scouts and Venturers (both are part of the main organization of Boy Scouts of America), is based around aircraft maintenance, and the responsibilities that accompany the work. Throughout the two and a half month program, myself and a select crew of three Venturers in 2019, disassembled, inspected, refurbished, and rebuilt a Cessna 150 aircraft. Everyday was filled with new tasks, lessons, opportunities, and experiences.

Throughout the program, the crew and I received training from eight highly experienced instructors on items such as: fabrication, electrical work, engine mechanics, and airframe maintenance.

Fabrication was quite fascinating, as it allowed us to view the internal structure of the aircraft. As a crew, we designed and constructed the instrument panel, replaced various flight control components, and replaced

sections of the airframe. This taught us new skills, such as riveting, shearing, and flanging; and most importantly, accurately measuring. Fabrication had introduced me to many traits which would be used later in the program, such as attention to detail.

Attention to detail, arguably one of the most valuable skills/traits industry values, was emphasised throughout SAME. Once ready for flight, safety of the pilot and passengers is always a number one priority. I found that all maintenance performed on the aircraft was always double, if not triple checked by various instructors and members of the crew, particularly during powerplant (engine) week.



During powerplant week, the old engine was removed from the aircraft and disassembled. Many parts were then inspected and/or kept for restoration. Every aspect of engine maintenance truly enlightened my basic understanding of engine components and basic combustion/propulsion principles. Each and every aspect of the engine required precision and professionalism to complete.

All of us for the first time were instructed and exposed to the basics of electronics, wiring diagrams, and the principles of aircraft electrical systems - avionics. The instrument panel created in the earlier weeks was



then fitted with new instruments and communication systems.

Moving forward, other maintenance was performed such as inspection and cleansing of the wings and inner aircraft, installing brake systems, struts and support systems, and main control systems. Much time and effort was put into assuring the structural integrity of each item being replaced or repaired; once again emphasising the value of attention to detail.

The experience given to the SAME team is beyond compare to many external organizations or similar programs. Within the two and a half months, I accumulated 240 hours worth of logged and certified maintenance time at no out of pocket cost. Not only is it uncommon, but rather rare to find a group of youth with many hours of hands on experience; which ultimately led the crew and I to be better prepared moving forward into our future careers. It is especially desirable to the aerospace industry, to find recruits with

experience beforehand, which is exactly what this program has done for me. Because of this experience, I feel more confident and better prepared to proceed into my career of aerospace engineering.