

## Weight Engineering

Society of Allied Weight Engineers, Incorporated



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Commemorative Air Force U-3A "Blue Canoe" After Painting and Weighing at L-3 Platform Integration in Waco, Texas

Article by John Johnston, Jerry Pierson, and Valentin Velasquez

The Mass Properties Group at L-3 Platform Integration in Waco, Texas, recently had an opportunity to weigh another antique aircraft. The company painted the U-3A shown on the cover, and then subsequently weighed it prior to flight. The action was an in-kind gift to the Commemorative Air Force.

The following article provides some insight into issues that were addressed by mass properties personnel while the aircraft was at L-3 for a fresh coat of paint.

For more information on this aircraft and others like it, please visit: http://commemorativeairforce.org



The U-3A aircraft normally sits on the ground at a 7 degree nose-up attitude.

The normal process to level the aircraft is to inflate the main gear struts to their maximum extension, completely deflate the nose gear strut, and adjust the nose wheel tire pressure until the airplane is level. Position a spirit level on the upper edge of the outside doubler between stations 40 and 50 outside the pilot's window. The alternate method for leveling the airplane is to hold the spirit level against the baggage door upper sill. To level the airplane laterally, remove the carpet from the center section of the front spar between the front seats and place the level on the spar.

Using GEC's LPA400 low profile scales with this light-weight aircraft (under 3300 pounds), it was easy for three mechanics to push the aircraft on and off the scales three times for the three required weighings.





The aircraft was weighed using the wireless low profile LPA400 scales provided by GEC. George Lindberg and Karl Burton from GEC pose while Jerry Pierson takes their picture and John and Val measure the reaction points of the wheels to get the center of gravity after the weights were taken using the wireless remote tablet and proprietary weight and balance software.



The photo to the left shows the group who weighed the aircraft. John Johnston, Valentin Velasquez, Jerry Pierson, George Lindberg, and Karl Burton.

This weighing process was going to be a chapter meeting for the Texas Chapter but the weighing got pushed from Saturday to Tuesday and then to Thursday afternoon so the Texas Chapter will try to have a chapter meeting when we weigh the "Kate" aircraft.

The "Kate" aircraft is the next aircraft to paint and weigh and is another aircraft owned by the CAF. It was featured in the SAWE winter journal a year ago.

## The Cessna 310 Stars in a TV Western by Victor Graham, Cessna

In 1957, the U.S. Air Force selected the Cessna Model 310 to serve as a utility aircraft. Cessna delivered 160 unmodified production aircraft officially designated the L-27A and unofficially nicknamed the "Blue Canoe." By 1960, Cessna upgraded the Model 310 and the U.S. Air Force took delivery of 36 additional units called the L-27B. In 1963, the military renamed the aircraft the U-3A and U-3B.

The Cessna 310 began production in 1954 to meet a growing demand for fast twin-engine executive aircraft. It was Cessna's first production twin-engine aircraft since World War II. The aircraft originally carried five and was powered by 240-HP Continental O-470-B engines. The Model 310 was the first twin-engine design to include wing-tip tanks as standard equipment. The original selling price was \$49,950.

The design was a success from the very beginning. Operators valued the 310 for its exceptional speed and useful load. In the second year of production, Cessna was building 20 units per month, and, by 1956, Cessna was the leading producer of business aircraft. Before production stopped in 1980, Cessna built more than 20 variations of the Model 310 and Model 320 for a total of 6,321 aircraft.

The Model 310 was featured in the *Sky King* television series in the 1950's. Arizona Sheriff Mitch Hargrove often had to turn to the cowboy pilot Schuyler "Sky" King and his airplane to help capture villains or rescue distressed characters. Schuyler flew multiple aircraft named Songbird, but most famous was the Model 310B used in the late episodes.

Sources:

http://en.wikipedia.org/wiki/Cessna\_310 http://en.wikipedia.org/wiki/Sky\_King

The Legend of Cessna, Jeffrey L Rodengen, Write Stuff Enterprises, Inc., 1998