

Brazil to Dakar, Senegal in a Long-EZ

Andre J. Deberdt (Brazil) - While looking for sponsors for my Long-EZ trip to Europe I came across another Long-EZ builder, an Embraer test pilot, who had heard of my planned south Atlantic crossing. He planned to beat me.

My heart glazed and on the return to San Paulo I decided I couldn't permit him to beat me. This first crossing by an experimental airplane was destined to be done by me and nobody else.

In a week I was ready, extra tank installed in the back, maps and routes organized. I then discovered a famous Brazilian aviator had made a similar historic flight 68 years ago on April 28, 1927 (22 days before Lindbergh crossed the north Atlantic). He flew from the Sal Island in Cape Verde to the Island of Fernando de Noronha (200 nm N/E of Brazil's coast aboard an Italian amphibian Savoia-Marchetti. He never claimed his 13.5 hour flight as a record.

I decided to reproduce this flight in honor of a great national hero and claim several FAI records at the same time. The claims I am submitting are for the following route segments as described below:

1. 4/21/95 San Paulo, Brazil to Natal, Brazil - 1241 nm in 9:09 hrs = average speed 135 kts.
2. 4/22/95 Natal, Brazil to Dakar, Senegal - 1632 nm in 12:06 hrs = average speed = 135 kts.
3. 4/28/95 Sal Cape Verde to Fernando de Noronha - 1352 nm in 9:45 hrs = 139 kts.
4. 4/30/95 Recife, Brazil to San Paulo, Brazil - 1143 nm in 8:32 hrs = 135 kts.

I departed San Paulo in the morning of April 4 after getting a special clearance. The field was closed for IFR due to low visibility. By nightfall I reached Natal in the NE of Brazil and instantly had the chief of the air force base taking care of me and the airplane.

The next day, after a good rest, the airplane was refueled and carefully checked in all details and a special visit was made to the meteorologist where I got a very special and precise briefing.

Nothing significant was forecast for my route and I took off in a moonless night. Soon I reached my requested FL 110 and was very happy. All was in the green. After 4 hours I got some rain and turbulence but was cleared to FL 130 where I remained for the rest of the flight. A bright star filled sky is a spectacle rarely seen on the mainland and through the canopy of a Long-EZ it is just breath taking. Every kind of object can be seen. Planets, constellations, satellites, meteors, and airliners covered the black sky.

Soon a quarter moon rose illuminated by the rising sun in the east. The entire sky suddenly was illuminated with all kind of colors. Would you believe I was almost hoping the flight would never end. It soon did, however. The African littoral shortly began to manifest itself and the GPS guided me to runway 36 of the Dakar, Senegal International airport. I landed after 12 hours and one of the most enjoyable flights of my life. I had more than 6 hours additional fuel remaining in the tanks.

The following day I was received by the Senegal aero club president and told many stories to the members. I visited the fascinating city and made two enjoyable local flights taking many pictures for my album.

After another day I departed on a short 2.5 hour flight to Sal Island in Cape Verde. This formerly Portuguese colony is composed of 6 inhabited islands. They are dry volcanic land without natural vegetation. Sal is

known for its international airport on the way to Europe for aircraft without extended range capability. Fuel is expensive at \$1.50 per liter. The landing taxes were awfully high at \$110 compared to the \$10 in Dakar. The beaches were beautiful, however.

The following day I met two Polish teams that were ferrying two Antonov II to Brazil. These huge biplanes were built in Poland and are powered by a 1,000 hp radial engine. They were happy to talk to me as they were quite anxious about the crossing conditions. They had decided to take off the 27th early in the morning and I wished them luck as I had to remain until the 28th if I was to truly reproduce our hero's flight on the day of its 68th anniversary.

The next day while swimming in front of my hotel I was surprised to see one of them running on the beach. They made a weak excuse for not departing on schedule but decided to leave with me. They just wanted to have me above them and have my Stormscope and communication abilities at their disposal. Who can blame them?

The following day the Polish team departed two hours before me. Two hours later, as the sun was rising, they came on my frequency and asked me to relay their position report. They had little communication range with their 1,000' cruise altitude. Their 8 ton gross weight gave them a maximum ceiling of 4,000' and a 100 kt cruise. I was level at FL 100 and cruising at 145 kts. I would have had better winds at a higher altitude but could not climb as I was not able to replenish the O₂ at Sal nor Dakar.

My HF transceiver wasn't performing well either as the antenna is quite inefficient and I still have electrical noises coming from several parts of the plane. Accurate confirmation of all positions at the compulsory reporting points is a decisive factor to ease the record claims to the FAI. I used the expedient of raising an air-

liner on 121.5 Mhz at the correct times (who remembers what those times are?), and all the airliners expressed great pleasure to help me.

After 9:45 hrs flight time I landed at Fernando de Noronha only to have the landing certificate stamped and signed. I took off immediately for Natal and reached it 1.5 hours later.

A big surprise awaited me in the form of a complete military band and air force officials from the base. I felt as if I were arriving in our "Air Force One". I received all the honors that only heroes deserve and my adrenaline content surely raised a few points.

After a good night's rest, visit of the city, and an enjoyable sea food lunch, I left Natal and landed at Recife 1.5 hours later. Once again I received full military honors at their base. Recife Center controls all traffic in north east Brazil as well as half

of the ocean. The controllers wanted to know personally the crazy aviator they handled.

The next day I timed my departure so as to arrive at San Paulo about lunch time. Three hours before arrival Brasilia Center instructed me to descend from FL140 to 040 over my last reporting point. I was met by a formation flight from our air club of Sao Paulo. Can you imagine being suddenly surrounded by Cherokees under each winglet? They led me all the way to the landing at my home airport. This reception was the climax of the entire trip. Television and reporters were everywhere. All my friends and fellow aviators were there also and a solemn cocktail was organized for my arrival. I suddenly felt a VIP.

I flew a total of 49 hours in 9 days covering 6,600 NM. The entire air-

plane and its systems worked like a fine Swiss watch. 78 hours after the engine overhaul my oil consumption stabilized at 10 hrs/qt. I didn't feel extraordinarily tired and the new Woofter/Saber 8" prop extension I had installed just prior to leaving certainly decreased the noise level (thanks again Judith). I inspected all plugs and reinstalled them as they were completely dry and clean (Klauss' ignition). I just completed a 100 hour inspection and found nothing wrong except a worn left tire. I will have to re-align the wheel.

The Long-EZ is a really extraordinary airplane and I would never attempt this kind of flying in anything else. I should be able to claim 4 different "Speed Over Recognized Course" records from the FAI and then some more on my way to Europe shortly. I am training formation flying and I hope to be accepted into the "Overcast Flying Team" at next Oshkosh.

Shoulder Harness Attach Prompts Mandatory Plans Change

Ever since my first ride in an Eze I felt uncomfortable with the wide shoulder harness spacing. I had to keep the straps tight to keep the thing on my shoulders and I felt like I was tied to a tree. Needless to say, that's not a nice thing to do to a passenger either.

In the July 95 Cozy Newsletter the issue is addressed by Nat Puffer through a Mandatory plans change. Uli Wolter, Cozy Europe newsletter editor and designer, related a meeting with a European seat belt company. They had run tests and determined the correct spacing for shoulder belt attach point separation should be between 17 cm and 22 cm. That is 6.69" to 8.66". If the belt attach points are farther apart than 8.66" it is possible for an occupant to slide out of the harness during a crash.

The Cozy plans call for 11.5" separation, over 2.8" greater than the maximum recommended. The Long-EZ plans call for a similar distance. Nat requires the attach points be moved to attain the 8.6" maximum distance. The base of the head rest structure will have to be notched to allow the triangular harness brackets clearance at the new closer separation.

The Eze/EZ birds have a different problem in the back seat. Harness belts are fastened to extender plates, SH-1. These might be lengthened to get the ends 8.6" apart but would probably buckle during a crash.

An alternate method I built into my Long-EZ calls for no structural modification. I have a 6061-T6 aluminum angle 1/4 x 1.5 x 1.5 connecting the two stock shoulder belt attach bolts. The front seat angle is located inside the triangular box area aft of the pilot seat bulkhead that spans the distance between the longerons. Centered and bolted on the angle is an inertia reel harness taken from a

Cessna. It has worked well for 1700 hours and allows free movement until a high "G" load is applied. I've never crash tested it but it is a certified assembly and I feel it will work. One can slide the angle and reel into the cavity through the headrest openings. No cutting is needed.

The rear seat has a similar mount with the angle turned parallel to the faces of the center spar. An inertia reel harness is mounted on the center of the angle allowing the back seater freedom of movement unless a high "G" load is experienced. A drawback is that both pilot and passenger might fall out through the canopy during prolonged inverted flight.

That situation is unlikely to happen with me. I don't do aerobatics as I find it too difficult to clean my vomit off the canopy.

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