

FLIGHT TEST OF CONROY CL-44-0

'GUPPY'

PART TWO

VD, VMD, (NO, NOT A MEDICAL PROBLEM OR A DOCTOR); VELOCITY DIVE (AIRSPEED) AND MACH DIVE (MACHSPEED), ARE ONE OF THE MOST DANGEROUS MANEUVERS THAT IS PERFORMED WHEN TRYING TO CERTIFY A TRANSPORT CATEGORY AIRCRAFT**

Now, let's go back many years prior to 1969 when Jack Conroy was flight testing "Guppyized" up C-97 Boeing 377 Stratocruisers. Apparently there was a question of true aircraft weight during some of the flight tests. Rumors abound that an FAA inspector tapped on the bottom of one of the water-ballast tanks and suspected that it was not full, which would result in a "lighter operating weight". Also, as some of you might remember, the nose of the Super Guppy partially caved in during a high speed dive. I am sure the water issue happened without Jack's "knowledge", but the FAA never forgets, and in fact, probably did not have a high amount of trust in him if any of this is true.

Let's dial ahead to the Spring of 1970. The flight test of the CL-44-0 is almost complete. Fish, Jim and Jeff have already performed a complete and comprehensive flight test program, including the dreaded mach dive, because you never know what's going to happen. When Fish demonstrated the dive, it was a gentle entry and speed was gathered at a predictable rate. Approaching .70 Mach, gentle Mach Buffet was felt rumbling forward from the tail. Fish pulled the power back and brought the nose up. The design limit was established. The Barber Poll was backed off 10 percent to .63 Mach for the limit during commercial service of the aircraft.

The FAA was somewhat suspicious of our flight test data and let it be known that one of their pilots would have to fly the dive maneuver before they would certify the aircraft for commercial service. Sort of a "Last Hoop to Jump Through". Knowing that we had a good and safe bird, Jim and I agreed to put the FAA pilot in the left seat.

I wrote the “sanitized but accurate” version of that flight 37 years ago. Sanitized, because certification was close and Jack Conroy, my employer, suggested that we not make any waves or point any fingers at the FAA pilot. After all, the damage to the airplane had already been done, so what was the point? That report was written as it was happening from the cockpit. Some of you may have read the recent article in Prop Liner Magazine. Now you are going to get “The Rest of The Story”, from the cockpit as it is unfolding and from the post-flight reconstruction.

On April 8, 1970 Conroy CL-44 -0 ‘Guppy’ came close, TWICE in one minute, to being in a million pieces at the bottom of the Pacific Ocean. The first time from the dive and second from the dive recovery, and 15 minutes later, it was almost scattered in burning wreckage on the floor of the Mojave Desert. Yup; the same guy in the left seat tried three times, (in my opinion), as hard as he could to destroy what was a perfectly good aircraft.

Here’s what really happened. On that nice, clear and smooth flying day off the California coast, South of Santa Barbara, we leveled off at 25,000 feet and set METO power to attain as high a speed as possible in level flight. Once the speed was stabilized, the FAA captain in the left seat nosed over into a steep angle. Every flight instrument was lagging. Airspeed/Mach and Rate of Decent were not keeping up with what was actually happening. But with full power on all four engines and Blue Ocean filling the windscreens, I suspected that we were going to go too fast. Moments later, we were in Extreme Mach Buffet, which caused the right wing fuel dump chute and its door to separate, and embed itself in the leading edge of the right side horizontal stabilizer at about mid-way between the tip and the fuselage. Now we had a real problem; Flutter. Had a slow motion camera been on the tail recording the events, you would have seen the horizontal stabilizer, which was one piece with forward and aft main support spars, first bend up and then bend down and BREAK. It was a 100% break, the one piece became two. Fortunately for us, the break was in the center line of the fuselage or you would not be reading this article. This all happened a second or two after the dump chute, with its door attached, hit the stabilizer. We are still in the dive with Mach in excess of the design limit of .70.

We all had parachutes on and there was a one inch diameter rope from the cockpit door to the left over wing hatch with large knots in the rope

every 18 inches. The buffet was so severe that undoing your seat belt would have been an impossible task. Standing or crawling was out of the question.

At this time, (in my opinion), the guy in the left seat that put us into this mess throws his hands up in the air and screams, "What's happening"? Jim Seymour, in the right seat, has been injured, when both his knees smashed into the instrument panel and is now on the control yoke and throttles attempting a gradual pullout. As this is happening, (in my opinion), the guy in the left seat comes alive and grabs the control yoke and attempts a high-G pull-out. Jim is now pushing almost as hard as the other guy is pulling. Jim recovers the aircraft around 15 or 16 thousand feet in level flight. What we don't know is the real extent of the damage. Fortunately, (I will explain why later), the rudder control torque tube has disconnected from the 113 degree miter gear box, severing all control of the rudder from the cockpit. We have no control of the rudder. We were in a left turn with wings level and don't understand why. The test probe on the right wing tip appears to be bent downwards, but really is not. The entire wing is twisted downwards. The left wing is twisted upwards. How is that for "angle of incidence"? Joe Carlisle comes to the cockpit and informs us the left main gear is extended. What a surprise..... This explains the turning to the left. It is such a surprise because the gear handle and indicators show up and locked. We will never know if the left gear pulled itself out of the up-lock claw during the buffet, or the pull-out, or combination of both. When the gear strut up-lock bar passed through the claw, the claw closed again making the micro-switch gear up signal.

Now, we only have partial elevator control as the horizontal stabilizer is no longer level and is severely damaged. It is hanging downwards at about the same angle as the ones on the F-4 phantom fighter, on both sides of the fuselage. What we don't know is the now two-piece horizontal stabilizer is only attached to the aircraft by four spar caps (two on each side) the skin and the paint. When the spar caps were removed at the Edward's A.F.B. hangar, the horizontal stabilizer pieces fell off.

We decided to fly to Edward's A.F.B. which has Roger's Dry Lake Bed. We also declared an emergency and requested the Air Force scramble a fighter and give us a visual inspection. The F-4 met us half way to Edward's, but only had a UHF radio. We only had VHF, so the damage report had to be relayed thru approach control. We were told that our left main gear was extended and there was a large gash in the right horizontal stabilizer.

Coincidentally, in the air that day flying a light twin was a highly respected FAA pilot, Captain Joe Tymczyszyn (pronounced Tim-Chisun). He picked up our emergency and caught up with us descending into Edward's. Unfortunately his radio kept cutting in and out and we didn't get his damage report until lower altitudes. He confirmed the F-4s report. Descending through 6,500 feet, Joe was able to fly behind us and without warning, the FAA pilot in the left Seat said, "Ok Joe I'm going to fan the rudder." Simultaneously and smartly, (in my opinion), he straight-legs the rudder pedals stop to stop. Of course and fortunately, the rudder never moved; the resulting stress could have severed the stabilizer and elevator control.

From fanning the rudder to a position on short final to the dry lake bed runway 23, was almost a comedy, when I think about it. With the patience of an instructor/check pilot, Jim let him go to see what else he would do. First he asks Edward's approach if they "want him to land across the black-top runway". (This I want to see)! Then, he says he is going to land on the "Sled-Track". (What ever that is). Then, he states he is going to land on the "Compass Rose"? (Interesting). The wind is 230/10 gusts to 18 and he asks for runway 18 with no rudder.

Lake bed runway 23 is about 20 miles long. There are helicopters hovering with fire bottles below them, and they follow us from short final on both sides. Fire trucks all over the place and smoke pots along the runway markings to try to give us some height reference above the dry lake bed, but it doesn't work. It's like ditching on water, there's little visual reference to height and we make a classic CL-44 pedestal-shaking landing, but we are safely back to earth.

As I explained to my dear friend Captain Kevin Keegan over a tall, cool one, that the chap that caused all this trouble, (in my opinion), has a very limited aeronautical ability, and no apparent fear of death. As it turns out, I just happen to have a copy of the thirty minute cockpit voice recording of this test flight, handy to have when I'm writing an article that happened thirty seven years ago.

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