

Marion Cole and Early Aerobatic Competition

January, 2007 Giles Henderson, IAC No. 159

Pre-Aresti Competition

I recently talked with Marion Cole (EAA number 48) about the early US aerobatic competition known as the *All American Air Maneuvers*. This national, invitational contest was held in the 1940's and early 1950's at the Opa Locka Airport*, about 7 miles north of MIA, Miami International. The Cole brothers, Duane, Lester and Marion were all invited participants during the years 1949 up to 1952, the last year of the event. This meet was a weeklong affair, sponsored by Gulf Oil Company and held in mid January. It included air races and daily airshows in addition to the aerobatic contests. At the conclusion of the Miami program, participants were invited to fly their aircraft to Cuba for additional performances and prize monies.

Contestants were required to be members of FAI and to successfully complete an eight-figure qualification sequence. Marion recalls that about half of these qualifying maneuvers were outside and that one was a single roll in a 360-degree turn. Several well-known pilots failed to qualify.

There was no category structure, as we know it today. All of the contestants were in a single category with significant prize money for the top places. Although there were no altitude limits, flights were restricted to a performance zone or box. Each pilot was allowed to compose a sequence made up of any combination of about 180 allowed figures. No repetitions were allowed. However, variations of some maneuvers were permitted. For example a hammerhead or a roll to the right was not considered a repetition of a hammerhead or roll to the left. Each maneuver had a difficulty coefficient and was graded by a team of 5 judges. A lively, airshow like commentary of each competitor's sequence was provided by an announcer. The biggest deviation from our current IAC Aresti format was that the score for the flight was dependent on how many figures the pilot could complete in a 7-minute time limit. A stopwatch was started at the completion of a wing wag and scoring stopped at the expiration of the time limit. There was a provision to score a figure that was started but not completed in the 7-minute limit. Marion said he took advantage of this rule by usually putting a rolling 360 at the end of his sequence. Because the time limit was such an important factor in this competition, it encouraged a completely different style of flying than what we have become accustomed to. In order to maximize the number of figures in their sequence, pilots blended their maneuvers together in one continuous stream. Marion recalled that he had nearly 30 figures in his sequence.



Marion's favorite aircraft.

Marion competed with an exceptionally high performance Stearman. This big biplane was stripped down to 1750 lbs empty weight and was powered by a

hopped up Pratt and Whitney R-985 that developed over 500 hp. (I would need a 200 hp Lyc. bolted on my Clipped Cub to have an equivalent hp to weight ratio.) The four aileron Stearman had all balanced controls and was routinely flown to speeds of 200+ mph. The big Pratt and Whitney had to be hand-propped since it had no starter, battery, generator or any kind of electrical system. Marion commented that although he loved the Bucker and the Pitts Specials, that Stearman was his favorite airplane. Marion won the All American Air Maneuvers Championship in 1952 flying against such legends as Jess Bristow, Woody Edmondsen, Bevo Howard, Rod Jocelyn, Billy Fisher, Betty Skelton, Caro Bayley, and his own brothers, Duane and Lester.



Marion Cole. International Aerobatic Hall of Fame, 1988.

The International Council of Air Show Hall of Fame, 2006.

Member 1968 US Aerobatic Team. Competed in East Germany with a 200 hp Bucker Jungmann.

Marion is a founding member of the International Aerobatic Club (IAC number 9). He taught aerobatics at the basic and advanced levels, and for the last 50 years has tutored many young aerobatic pilots. In addition he flew air shows throughout the continental United States from the late 1940s into the early 1990s. Though retired from the air show circuit he still

counsels, tutors and announces for some young aerobatic hopefuls and still attends several air shows each year.



Ryan PT-22, one of Marion Cole's early airshow planes, 1946.



One of Marion's 450 Stearmans.

Marion was the youngest of the Cole Brothers. He flew his first airshow in 1946 and was invited to compete at Miami in 1949 at age 24. Although he never had to use a parachute in his long aerobatic career, he told me of a couple of incidents in which he would have if it had been an option. He once pulled his Stearman up to a vertical line with an airspeed of over 180 for a vertical snap roll. He would let the biplane continue in autorotation until it finally ran out of energy and would torque around into a spin. When he initiated the recovery he discovered that the rudder was somehow locked in a deflected configuration. It turned out that the top half of the balanced rudder had broken and had jammed against the vertical stabilizer. Marion somehow managed to land in a cross-controlled slip.

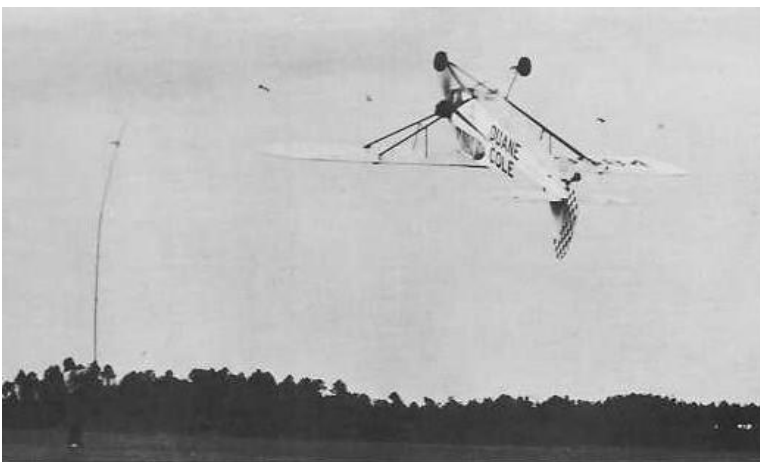
Some years later, he sold the Stearman to Bill Adams. Bill was killed in this aircraft as a result of an engine/prop failure.



“Tater Chip” Peoria, IL early 50’s

In addition to his competition and airshow career, Marion raced several midget racers. He once test flew a formula 1 Goodyear racer called Tater Chip. Shortly after takeoff the midget accelerated to about 150 mph when the stick began to shake and in less than a second the ailerons began to

disintegrate from flutter. Marion chopped the throttle and pulled the nose way up to slow down. The flutter was quenched at about 90 mph, slightly above the stall speed. However the little racer had lost both ailerons and a good part of the rear spar. Having made about 1000 take offs and landings in formula 1 racers, I cannot imagine how Marion managed to get safely back on the ground with just the elevator and rudder.



Marion’s first inverted ribbon cut in Duane’s Cub, Panama City FL, 1950.



Under the ribbon inverted. Paul Poberezny holding a ribbon pole.

Marion Cole probably holds the unofficial record for having made more inverted ribbon cuts with the greatest number of aircraft than any other pilot. Marion told me that the best and safest aircraft he ever used for this act was

the Decathlon because of its unusually good visibility, excellent inverted flight characteristics and extremely effective trim.



Marion performing the first (and perhaps, only) inverted ribbon cut act with an aerobatic Beechcraft Bonanza.

The all time worst aircraft that he performed an inverted ribbon cut with was the aerobatic Bonanza. The biggest problem was its inadequate elevator. In anticipation of the

necessary down elevator need for the inverted flight segment, Marion would run the elevator trim to the forward stop while turning to the runway heading. As he descended towards the runway for the approach, it required both hands and arms with extreme backpressure to keep the Bonanza from diving into the ground. With this adverse control pressure, the half-roll to inverted was completely contrary to one's long established muscle memory. Once inverted, full forward trim was completely inadequate to maintain level flight. It again required both hands and arms, now pushing very hard on the yoke to maintain the flight path to the ribbon. It was not in the interest of one's longevity to take a hand off the yoke for any purpose. Marion had special modifications to the pilot's seat to withstand the stress from the heavy force applied to the seat back. It is highly unlikely that spectators had any idea of how difficult this demonstration was.

Marion Cole was inducted into the International Council of Air Show Hall of Fame during the December 2006 convention in Las Vegas. Congratulations Marion! You had a truly great run.

* Glenn Curtiss founded the Opa-locka airport in 1927. Mr. Curtiss gave his Florida Aviation Camp to the US Navy shortly before his early death in 1930. Opa-locka Airport was part of U.S. Navy Training Command during WW II and the hub of 6 Naval training bases. Amelia Earhart took off from this location on her ill-fated around the World Flight attempt in 1937. The U.S. Navy Dirigible "Akron" crashed in a thunderstorm on its 1933 return flight after leaving Opa-locka. In the Cold War era, Opa-locka Airport played a part in both military and civilian efforts, including the infamous "Black Flights" to Guatemala in the 1950s, the Bay of Pigs invasion and the Cuban Missile Crisis.

Photo credits:

From Marion Cole collection and Duane Cole publications.