

# Reuben Fleet's *Airplane*

As Interpreted by Terry Bolger

BUDD DAVISSON

**I**t really would have been fun to be a fly on the wall during the 1928-29 meetings of Consolidated Aircraft's board of directors. Then based in Buffalo, New York, they took a couple of "interesting" side steps that must have resulted in some pretty intense internal discussions.

Consolidated was founded by Reuben Fleet when he combined Gallaudet and Dayton-Wright aircraft companies in 1923. In short order, the new company was gaining a reputation for both its flying boats and its trainers like the PT-1. However, in 1928 the board of directors apparently decided to stop messing around with "little" airplanes like the trainers and concentrate on big ones, where the real money lay. So, they put their trainer line up for sale.

The decision must not have played well in Buffalo because Reuben Fleet himself formed a separate company, Fleet Aircraft, to purchase the trainer line for the express purpose of supplying trainers to both the civilian and military markets.

Reuben must have known what he was doing because a year later Consolidated bought Fleet Aircraft and set it up as a separate division to build trainers. It's not known whether this gave Reuben steady employment or put him out on the street but it would appear that there had been some serious "What does Reuben know that we don't" boardroom head scratching going on.

Regardless of what happened to Reuben, his company flourished and a branch was opened north of the border and named Fleet Aircraft of Canada. Fleet Aircraft disappeared from the official Consolidated organizational chart in 1939 and Fleet Aircraft of Canada ceased operations in 1957.

Although 1929 wasn't the ideal time to launch a new airplane company, Fleet produced a surprising number of little two-place biplanes. With an average wingspan of only 28 feet, they bucked the trend toward big biplanes (Waco, Travel Air, etc.) and were powered by smaller engines—Kinnners and Warners with a range of power from 90 to 160 horsepower.

Fleet produced Terry Bolger's airplane, NC788V, in 1929, the year before Fleet of Canada was formed, which makes his bird a Buffalo Fleet.

Terry, who is now from Elk Grove Village, Illinois, develops and leases shopping centers in his day job, and was your prototypical airplane guy from day one.

"I was attending Northern Illinois University at DeKalb when I started flying. The airplane was a nearly new 7AC Champ and I was hard pressed to come up with enough cash to fly very often. Eventually I was making \$13 a week driving a school bus and, as soon as I got my paycheck, I was off to the airport. I literally couldn't wait to spend all of that money on flying.

"When I graduated, my flying slowed down considerably, which is probably a very common situation, since that's about the time most of us start a family and get our careers going. I immediately got into real estate, first buying and rebuilding residential dwellings, then shifted over to commercial where I am today.

"I finally earned my private certificate in '78 and bought a new Turbo Lance II. However, at some point, and I'm not exactly sure when, I found myself looking more and more at older airplanes. The Champ I'd trained in probably set that hook.

"The Lance was great for transportation but it was missing the fun factor that was so evident in the Champ. So, I began looking around for something with more character.

"I ran into a 220-hp Stearman for sale that wasn't too far from me and figured that's the way I'd go. Of course, I had to learn to fly a tail-wheel all over again. It took about 15 hours to get me back up to speed, but when I got there, I stayed there. I've put over 1,000 hours on the Stearman and I'm a LONG way from being finished with it."

Terry's Stearman isn't just any Stearman. All of them have a certain amount of fame attached to them, but there aren't many like Terry's.

"My Stearman came out of the military and while it was still in a box went to Paul Mantz. He had it in storage for a number of years before finally pulling it out and putting



*To make it less likely a student could nick a prop or scrape a wingtip, the Fleet was designed with plenty of ground clearance, thanks to a long landing gear. The compact size of the Fleet contrasts sharply with the much larger Stearman used for primary training a decade later.*

it in the air. Last year at Oshkosh I met the mechanic who worked with Mantz in 1950 to pull it out of the box and put it together.”

In another curious connection, Mantz used an airplane virtually identical to Terry’s Model Seven Fleet to set a world record of 150 consecutive outside loops!

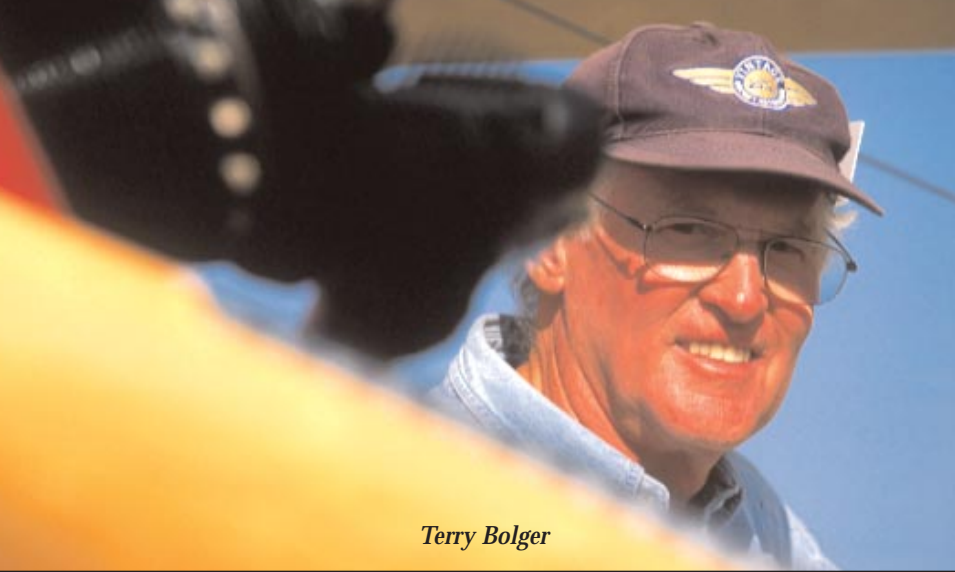
The Fleet came along in 1996 and that’s where Terry earned his spurs in aircraft restoration.

“My other airplanes were in flying condition when I bought them, but not the Fleet. It had been in storage for over 30 years and before that had been half way restored. Besides the fact that the work was quite old, it wasn’t very well done. I poked around on it a little and decided to take it all the way down and start over again.”

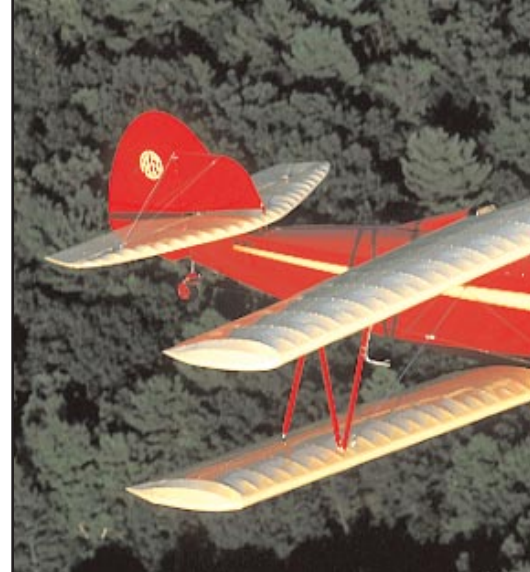
It’s always a painful decision to take an airplane that is “almost fly-







Terry Bolger



*Sitting on the grass, as it was designed by Reuben Fleet's team in 1929. Built in Buffalo, New York, it's been to the West Coast and back.*



placed. Same thing for some of the cross tubes. However, considering that the airplane was nearly 70 years old at the time, you'd have to expect that kind of thing.

"In general, my wings had to be completely rebuilt because there were so many things wrong. It had cracked spars, fabric nails were rusty, the ailerons were falling apart, most of the ribs were trashed and many of the fittings were rusting. So, we just took everything apart and literally built new wings."



*Basic VFR, 1929 style. Neither cockpit is overly endowed with instruments. Back then, and even today, the wind on your face tells you far more than the needles on the gauges.*

able" apart and start a process you know is going to ground it for a really long time. But, considering what Terry found inside his Fleet, it's a good thing he decided to do it right.

"A lot of the tubing was in bad shape. Really bad shape. It had the traditional rear fuselage moisture damage and most of the lower rear longerons were re-

The Fleet uses a different type of wing construction than most of its peers in that it has traditional wood spars, but the ribs are aluminum with stamped, hat-section caps.

"First, let me say I would have been unable to restore the airplane without the help of local restorers and the International Fleet Club. They shared their knowledge, time and tools. The ribs are an excellent case-in-point.

"The ribs use a special 3/64-inch rivet and are hard to work on without some sort of jig. I borrowed International Fleet Club President Sandy Brown's jig. He gave me a supply of the necessary 3/64-inch rivets and the special tool to set them. I was glad when that task was behind me."

Once the aluminum ribs were done it was time to tackle the wood-



work and there was lots of that to be tackled.

"The lower spars were cracked so they had to go. As far as that goes, most of the wood had to be replaced. The ailerons were good for patterns only and are completely new. The top wing main spars were okay and I reused those but everything else had to be replaced, so all of the wood up there is new, too.

"The aluminum leading edge was rolled for me by Wag Aero who had an old machine that was made specifically for this kind of work. They did it in 6-foot sections, which I flush riveted to the ribs.

"The drag-anti-drag wires are cables, not threaded rod, and the ends are pulled through the fittings, lapped back on themselves then wrapped with wire. They were a major pain to do that way, but I was doing my best to make the airplane as original as practical.

"The fuel tank, which had been manufactured on the East Coast years ago, looked pretty good. Unfortunately, I had the airplane finished and the weight and balance done and we were fueling it for its first flight when we found it leaked. Not a little, but a lot.

"I took the upper wing off, pulled the tank, and sent it to Wag Aero to weld the leaking seams and all rivet heads. Then I started recovering the 28-foot wing again."

Once all the major parts were finished (wings, fuselage) it was time to start working on the myriad of small parts and the control system.

"The control system was actually in pretty good condition. I bead blasted all of the parts and painted them. I did all of the control cable runs just like Fleet did it in 1929, which means no Nicopress fittings. The cables were all spliced the same way they do ropes on a boat. There are very few people who still know how to do that, but Andrew King of Lovettsville, Virginia, came to my rescue."

The Fleet airplanes are known for high system friction, something Terry confirms.

"The problem with the aileron control system is that it uses all push-rods, no cables, and none of the connections have bearings. So, you have dozens of bolts just going through steel fittings and push rods running in greased phenolic guide blocks. In flight the airplane is much more responsive than a Stearman but the system friction makes it feel as if you're working harder for what you get. Still, that's the way it was done back then and that's the way I did it."

When it came time to work on the fun stuff, the panel, windshield, etc., Terry was pretty much on his own because he had little with which to work.

"The instrument panels were nothing but junk. They weren't even good for patterns because they had been so badly butchered. I used factory photos as our guide and made new panels for both cockpits. The good news, however, was that I had some of the original instruments with the airplane, so, other than replacing a nonsensitive altimeter with a two-needle unit, we have original looking panels that function perfectly.

"In the interest of safety, I moved the magneto switch from its original mounting under the instrument panel because, at 6 feet 5 inches, I fill the cockpit up so much that my knee would hit the switch and shut it off.

"The windshield was fabricated exactly to the original plan we obtained from the late Tony Farhat in California. The windshield channels are all hammered into shape

and I'm proud to say we got it right the first time.

"I had all the leather for the airplane, including the combing, seats, and the boots around wires and stuff made by a local motorcycle clothing shop."

Terry says the mechanical brakes inside the big 8-1/2-by-15-inch wheels were fairly easy to rebuild because he was fortunate to find enough of the right parts that he didn't have to fabricate anything.

"The engine, which is a 125-hp Kinner B-5R with the rear exhaust, had supposedly been overhauled, but I didn't trust it and it turned out I had good reason not to. I sent it down to Al Ball at Antique Engines in Santa Paula, California. He's a wizard with old engines and he found a lot of stuff wrong, including a main bearing installed crooked, unairworthy pistons of questionable origins, magnetos infested with bead blasting material and valve guides and seats installed and reamed crooked. Large amounts of abrasive material had already caused severe damage to most of the moving parts. It was a failure just waiting to happen."

Terry made an effort to learn as much about the airplane's history as possible.

"We know the airplane was used as a test airplane by the Army to determine the suitability of Fleets for their aerobatic program. I don't know if it ever had a YPT designation attached to it. It was at Roosevelt Field in New York in the CPT program during WWII and in 1950 was towing banners in Jacksonville, Florida.

"It was towing banners when Navy lieutenant Charles Keating bought it. When he was discharged, he flew it home to California, where he went on to fly for Pan American Airlines. He's retired now but during the five years I was restoring the airplane, we kept in close touch. Periodically, I'd send him pictures of the work in progress.

"At Oshkosh last year, I had the

*continued on page 24*

pleasure of meeting Keating for the first time. He told me wonderful stories about his flight from Florida to California in a very beat up, ex-banner towing Fleet without a functioning airspeed or altimeter.

“At one point during the trip, he got caught on top, low on gas, and not sure where he was. He did the airmail pilot trick of spinning down through the overcast, hoping for a reasonable ceiling. He popped out at 500 feet agl, broke the spin, and landed in a farmer’s field. He says it took him 45 minutes to get his bladder back under control.

“At Oshkosh he climbed into the airplane and sat in it for the first time in 50 years. A lot of pictures were clicked as we told people of the historic meeting of the pilot and his old airplane.”

After all the hard work, Terry says he’s happy with the final result.

“It cruises at about 85 mph, which doesn’t exactly make it a speed demon, but you don’t fly airplanes like this to go places. You fly it for fun.

“I bring it down final at 60-65 mph and it’s like most old biplanes in that it bleeds off speed quickly as you bring the nose up to flair. Ground handling is excellent because of its huge rudder, which is almost as big as a Stearman’s. It is quick and responsive in crosswind landings. It flies about 10 mph slower than a Stearman but will out-climb it and uses a lot less stick and rudder travel to control it. After flying the Fleet for several weeks, the Stearman looks and feels as big as a 747.”

Having been bit hard by the restoration bug, Terry is now restoring a 1946 7AC Champ. So, he has come full circle to the type that got him started in the first place.

