

*SON of TOOT...
A Family Affair*





Little Toots enroute to Oshkosh'94. N62TR flown by Tommy Meyer with the Toot on the right, Brute Toot, flown by Leo Janssens.



The late George Meyer, EAA 64, and his famous 1957 Little Toot. This aircraft is undergoing restoration and will be at Oshkosh '96, flown by George's daughter, Joy Meyer Kelley.



Tommy Meyer, left, and Phil Witt

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A great many builders of scale and flying models reach a stage in their hobby when they begin to tire of simply duplicating existing airplanes and succumb to the urge to give vent to their creativity by designing and building their very own "dream" design.

Such was the case with George Meyer of Corpus Christi, TX, a long time true veteran model builder who had supplied scale models to the Smithsonian over the years. He sketched out his dream design in the late '40s, succumbing to the undeniable romantic allure of the single place biplane configuration, possibly as a result of wartime movies. The next step was the building of a non-flying, all metal scale model of about 1 foot span.

After looking at the model several weeks he thought about building an R/C flying model with an 8 ft. span. It was about this time he heard that it was now possible to license homebuilts in the experimental category, so came the overpowering thought, "Why not build the real thing? I've always wanted my own airplane and I could do it cheaply."

George also knew he had the ability, as he had been a sheet metal worker at Curtiss-Wright and currently was a sheet metal specialist for the Naval Air Corps Overhaul and Repair Depot. When he came upon a low time Cont. 90 hp engine at a bargain price, that cinched it.

He settled for a 19 ft. span of upper and lower wings, with a constant chord of 42" and a total area of 123 sq. ft. The airfoil section was a NACA 2212, with an 8° sweepback on the upper wing only, which would allow easy cockpit access (without a separate center section). Thus a dual N strut pylon type cabane was used, which also reduced building time. Dihedral was 0 degree on the top wing, 2.5 degree on the lower. Single inter-plane struts were used, with a threaded adjustment for incidence rigging.

The all-wood wing used 1" x 3" (or about 1" x 2" on the rear) solid spruce spars, plated both sides with 5 ply 1/4" birch at fitting attach points. A shaped spruce nose piece was used at the leading edge. Rib web members were of 1/8" 3 ply birch, routed out to lighten, and capstrips were all 5/16" x 5/16" spruce and were center grooved to accept the webs. 1/16" gussets were applied to the spar pockets for strength. Tip bows were of laminated spruce. Each wing panel had 3 bays with cable cross bracing internally.

Ailerons were of the Friese type and were on the lower wing only and were 6' x 1 2-1/4" and had 3 hinges each. They were cable operated to a differential throw bellcrank in the wings, then by push pull to the aileron horn. Aileron ribs, spars and leading edge were of formed and riveted sheet metal. Covering was of fabric, using predrilled rib stitch holes.

George designed a steel tube "cage" to enclose the pilot and 18 gal. fuel tank and to facilitate the attachment of the engine mount, pilot seat, pylon cabane and Cessna 120/140 gear legs. (The Little Toot

was one of the first, or perhaps the first to use this type gear in a tube structure.) The whole cage was then covered with quickly removable metal panels for easy access.

The aft fuselage was designed to be made out of sheet metal or welded steel tube and naturally George chose sheet metal for the prototype. He designed it to bolt to the "cage." This made it possible to build the fuselage in two separate units in a very small work space (i.e. a single car garage). He lofted the shape with ease of fabrication in mind, with a rounded turtledeck and underbelly joined by flat panels on the side. Large numbers of surplus Luscombe parts were available for "peanuts" in those days and so George saved some time and work by cutting down the fin, rudder, and horizontal tail from the Luscombe stock pile. Bulkheads were hand formed over form blocks.

He designed the Little Toot to use doubled flying wires (8 total) and landing wires (4) at front and rear spars for security, but left the tail group cantilevered, as it was on the Luscombe.

When he finished all his preliminary drawings and design calculations, he submitted them to two of the resident stress and aerodynamic engineers at the Naval Air Station for approval. To his and their amazement, they made only minuscule changes in his design, primarily in the angular throw of control surfaces. Apparently George's model building and design days were not wasted. They agreed that the airplane would be good for plus or minus 10 Gs, as George calculated, that it would have an empty weight of just over 900 lbs., have a wing loading of 10 lbs./ft², stall about 55 mph, climb about 1000 fpm on 90 hp, have a max speed of about 125 mph, and cruise about 115.

With that assurance behind him he started building the airplane in early 1951, a couple of years before EAA became a viable organization. It took him 6 years to complete it. It was test flown in early 1957 by Pauline Glasson, a local flight instructor, who pronounced it a "sweet flying bird, very easy to fly."

At my second EAA Convention in 1957 at Milwaukee's Timmerman Field, I was among the enthusiasts that crowded around the Little Toot for their first look at a brand new sport biplane. From every angle it was beautifully proportioned, areal eye catcher. Sitting up on its 6 ft. wide Cessna type gear, it had a sturdy, rugged look, somehow reminding me of a powerful bulldog. It won the Mechanix Illustrated trophy for Outstanding Achievement that year, the first in a long line of awards to come.

A year later George flew it up to Dallas to participate in a 3-day air fair, jointly sponsored by the Jr. Chamber of Commerce and the newly formed Dallas-Ft. Worth EAA Chapter 34. The air show brought huge crowds out to see such notable aerobatic performers as Bevo Howard and Harold Krier, both flying modified Bückers.

George urged me to fly the Little Toot as part of the air show, to give the crowd the EAA sales pitch over the PA system that this was a homebuilt built for \$1500 and now the FAA would let anyone build their own airplane. (Our booth passed out 3000 printed leaflets those three days.)

George couldn't pry me out of the cockpit. While I didn't get into such hi-jinx as inverted ribbon pick-ups, square loops, and the like, I did have a ball rolling, looping, and spinning it. Its crisp control response and most docile flight characteristics made it a revelation to those of us who had instructed in

Stearmans, Meyers, OTWs, Wacos, etc. that just "wallowed" through the routines as compared to the agile Little Toot.

An 18 sheet set of black and white printed plans were offered for \$25 at the fly-in. They were an excellent set of drawings done by George's high school age son, Tommy, who had bucked rivets for him, along with other "gofer" and helping hands chores in the building. Thereby begins a tale that carries over until today, about 40 years later.

Tommy became an avid model builder and a recognized craftsman, just as his father, gradually progressing to building 8 ft. R/C flying models. He was able to get in a few hours dual just before he joined the Air Force. He became a crew chief on C-124s and C-130s, accumulating considerable mechanical knowledge in the process, along with some occasional stick time in cruise.

While Tommy was home on leave he soloed the Little Toot after numerous fast taxi excursions down the runway, getting almost up to lift off speed. He went on to fly the airplane as often as possible, accumulating some 50 hours in it over the years. In 1971 George brought the fuselage home to install a Lycoming O-320 in it, along with an inverted fuel, oil, and smoke system. The wings were left intact in the hangar, tied to the rafters as an assembled unit to facilitate re-assembly. While the engine change was in progress along came Hurricane Celia with 185 mph winds, blowing in the hangar doors, demolishing the upper wings from the rear spar aft.

George succumbed to lung cancer in 1982, but had sold the aircraft a few months prior to his passing to a local aerobatic pilot, John Epperson, who flew Learjets overseas.

The aircraft went into storage in Laredo, TX and in 1985 Tommy began trying to buy it back, hoping to restore it, but John was in the process of a bitter divorce and was in no mood to sell it at that time.

Tommy wrote Leo Janssens Dayton, OH, who wrote the Toot Tales Newsletter and was also a builder, of his overwhelming desire to acquire the original Little Toot, telling him of his frustration in his attempts to buy and restore the original Little Toot to like new condition.

In late 1991 Leo called Tommy and said he had just acquired John Routh's Toot, called "Blue Toot" because of its paint scheme, further saying that he really didn't need two Toots and proposing a deal for Tommy that he couldn't pass up. Leo wanted his own Toot, the 200 hp "Brute Toot," recovered, completely reconditioned and repainted like the original Meyer Little Toot, the cost of which to be applied to Tommy's purchase of the Routh "Blue Toot."

A deal was struck and in early '92 Tommy and his side kick, Phil Witt, spent the next 6 months restoring Leo's Toot to mint condition. He had met Phil, an inveterate model builder and skilled sheet metal man of Arlington, TX, at about the time Leo's Toot arrived. Phil volunteered to help and spent the next six months helping Tommy, making a daily 60 mile round trip to Tommy's house in the process. The John Routh Toot was stored in Lou Rainone's Saginaw, TX hangar awaiting the completion of Leo's Toot's restoration.

In the meantime, at a family Christmas gathering Tommy told his mother of his attempts to buy the original Toot. She responded by saying, " Here's the money. I would like to see it fly again before I pass on. Try once more to buy it." Well, this time was the right time and they were able to make a deal. The engine had been sold in the meantime and the wings were in a barn in Mathis, TX, covered with 1/8" of dust, still untouched, but the fuselage was still in immaculate condition.

Now Tommy had two Toots. It was decided to spend most of their time completely restoring the Blue Toot first, so that he and Phil would have a Toot to fly while they got started on the original Little Toot restoration. It was completed and test flown in early summer of '93 and now their full energies are focused on the restoration of the original Little Toot.

Tommy went to work for Mobil Oil Corporation in 1971 as a pipeline designer, later moving up to office facilities management. While stationed in Denver at the time of his father's death, Mobil officials suggested a fitting memorial to his father would be an annual memorial get-together for model builders in the giant class. They also paid for moving 54 of the models built by George to the American Model Academy at Reston, VA, in addition to sponsoring an annual 4th of July Fly-In of Little Toot builders at El Dorado, KS (near Wichita) for the past seven years. Tommy has also awarded trophies for craftsmanship at Oshkosh the past few years (not restricted to Little Toot builders only).

In the intervening 36 years quite a number of Toots have been built, several of them with engines of 180 and 200 hp. The first plans-built Toot was "Hawk Pshaw" by Arlo Schroeder of Newton, KS. Featured on the June 1961 issue of SPORT AVIATION, it was painted exactly like the U.S. Air Corps' Curtiss Hawk P-6E of the '30s. That airplane is still flying regularly and once was dived to 260 mph with no ill effects.

The Little Toot was the first homebuilt biplane to be flown by Tom Poberezny, Jack Cox and other EAA Headquarters staffers and was widely praised for its gentle flight characteristics. The airplane has proved to be remarkably rugged, as the only structural change made was the addition of a heavier member in the gear clamping socket. This was identified when an inept pilot dropped the original in on one wheel while drifting downwind in a strong crosswind. Very, very few airplanes can point to a 36 year service record like that!

The Little Toot is unique in that the builder has the option of building the entire fuselage of steel tubing or simple sheet metal construction, as the original was. Modern pop rivet type construction would simplify the building process, in addition to eliminating the time and money consuming fabric covering process on the fuselage.

Still another construction option may soon present itself, as one Toot builder, Henry Pappas of Sun City Center, FL, has gone one step farther to pursue his dream of mass producing the aircraft, using modern day composite materials. He has built a Little Toot airframe of solid wood, with all dimensions 1/4" smaller, to allow for use of the 1/4" thick composite. Female molds are essentially complete at this time, greatly simplifying the construction process, so perhaps an all-composite Toot is a future possibility.

It seems likely that fly-ins around the country will be graced with several newly completed versions of George Meyer's 40 year old design in years to come.