



The AMA History Project Presents:
Biographies of
FRANK and CHARLES (CHARLIE) TLUSH



Written & Submitted by FT (03/1997); Transcribed by BS & NR (1997);
Edited by SS (2002), Updated by JS (10/2008, 02/2016), Reformatted by JS (02/2010)

This biography below was submitted as a hand written document. Volunteer and fellow modeler, Bill Shilling, typed it. Both Frank and Charlie Tlush were inducted into the Model Aviation Hall of Fame in 1988.

Letters received from Frank Tlush

2/13/1997

To Norman Rosenstock:

Finally got the material together for AMA History Program.

Surprised myself as to how much water has flowed under the bridge of life. No complaints. Four brothers still alive and one sister.

Re history: I tried hard to be brief and pertinent. Enclosing some recent and old photos. Use what you feel tells the story – but return them – some are one-of-a-kind. Perhaps you can be here Feb. 26, 1997. You will be more than welcome.

A bit more about American Standard.

At our peak, we employed up to 100 people. Engineers, draftsmen, toolmakers, machinists, quality-control personnel.

Quality was foremost. Our metrology lab was certified for all types of gauging tools, gauge blocks, etc., etc. The government had one lab in Philadelphia. Ours was more rounded out and to present-day standards at that time.

It would be great if we could get together for this SAM (Society of Antique Modelers) event and talk about nostalgia.

*Frank Tlush
Cape Coral, FL 33904*

3/20/1998

To Norman Rosenstock

Enclosed are some photos of our air meet at Cape Coral.

Sorry we did not have some time to talk.

Re History Program:

Am now 80 years old and modeling has been with me most of those years. One point I failed to mention in my previous letter. I was very involved in the formation of the AMA. The period before we split with NAA. I was making several trips to NAA, Washington. Remember being dined by the then President of NAA, Hiram Bingman, and shortly thereafter the agreements were signed as we became AMA.

Anyway, the phone is there if you need anything else.

Frank Tlush

Don't forget to return photos if not needed.

I was born January 17, 1917, one of eight children; five brothers and three sisters. (All brothers made their mark in aviation.) The Tlush household was always a beehive of activities. Education was foremost.

I was always into activities at an early age. Brother Charlie was our leader. Early aviation was my inspiration. Lindbergh's exploits were the motivator. We had an airplane club in high school that I organized and, knowing that Lindbergh and his wife were leaving Newark Airport, our club met at the field and since we were the only group there, he came over and shook our hands.

The Lyndhurst High School Aero Club was very active and we received numerous recognitions. I promoted an aero exhibit of our model airplane activities and included full-scale exhibits.

I personally visited Casey Jone's Newark School of Aeronautics and Clarence Chamberlain's Teterboro Airport School for Material. And we were flooded with material. This received quite a response in the papers. (These are in the AMA archives.)

This also brought me to the attention of H.W. Alden and we became closely associated. This was during the period of 1934-1935 and with Alden's help had our first regional meet at Teterboro Airport in the spring of 1935.

Before this time, 1929-1930, I had my first airplane ride in a Jenny at Teterboro. During high school vacation, I swept floors at the Fokker plant and met Tony Fokker. I assembled ribs at the Standard plant for 35 cents and hour.

I built huge box kites that I towed with my bike. Between all this, I built models as fast as money allowed. During my high school days (1932-1936), got wind of Kresge Aero Club, Ben

Shereshaw Director, and this was the serious beginning of my modeling activity.

Not to be forgotten – our neighbor was a mechanic of aircraft and serviced a plane OX5-Swallow for a wealthy person, and this is where I got my experience at handling real planes. I flew many types.

To continue, our cellar was a real beehive of activities. I had a small operation, selling balsa wood kits, bottling my own cement and dope, giving instructions and a meeting place for the pioneers-to-be. Ben Shereshaw, J.P. Glass, Bill Effinger, Frank Ehling, and Bill Winter, to name a few.

At one of our monthly Kresge Aero Club meetings (1934-1935) Louis Loutrel and Bill Bintliff came to demonstrate their engine, which was priced at \$35 – a lot of money. My brother Charlie and I had a good look and got their literature then went home to our cellar workshop and went to work. We had a South Bend lathe, drill press, etc. and built our first engine – mostly out of bar stock. By 1935, our engine was in small production, the Tlush Super Ace. Our club traveled to St. Louis in Charlie's Buick. I glued the two halves of the wing together (9-ft. span) and the first flight made fifth place. The Super Ace started to take off and developed quite an operation with lathes, milling machines, etc.

In the 1936 Detroit Nationals, my plane won first place in the Texaco Event. The original is now on display in Muncie, Indiana. Following this recognition came and my articles and plans were being published in Model Airplane News and Bill Winters' Air Trails. Several designs were successful. The up-scaled Mite appeared on Model Aviation's front cover in June 1993.

I represented the Junior National Aviation Association (NAA) at the 1936 Aircraft Grand Central Palace show in New York City, displaying my Texaco job and demonstrating my Super Ace engines. I had an interesting talk with Igor Sikorsky.

During the period from 1935 through 1937, I was very active in the early formation of what was to become the AMA. This was the era of Lt. H.W. Alden, Frank Zaic, others, and me. I was one of the seven who signed the original working agreement with NAA.

All this was accomplished with our own efforts and the little personal money that we had. Brother Charlie was on the original counsel.

I dropped out of the modeling activities after 1937-1938, which was interfering with my schoolwork at the Newark School of Engineering and Michigan State University. Then I got a job in Detroit, Michigan, as a junior engineer. Until 1943, after several deferments, I enlisted in the army engineers. Served overseas in the Pacific, discharged at my request in 1946.

During this war period Charlie was general superintendent of manufacturing in the Bendix Corp. at Teterboro, New Jersey and brother Vincent was in charge of all procurement and production. My brother John was in charge of the motor division, working with John Glass, who invented the

auto-syn motor. And as a modeler, inventor of microfilm and tech articles in Zaic's yearbooks.

Brother Al, a concert violinist, became a B-17 flyer, was shot down luckily at near the end of the war, and was injured. We all got together in 1946 (Al lives in Belen, New Mexico), purchased Air Force surplus machinery and started American Standard in Trevese, Pennsylvania.

This operation grew by leaps and bounds and soon became recognized as the largest producer of gyro components for all the major companies. Our production also became the source of all critical parts and assemblies for the Piaseciki helicopter. Later becoming Boeing and awarded many honors for zero defects and supplier of the year several times in a row.

In 1973, by popular demand, I was asked if we would make a run of Tlush Super Ace engines. This project became a large undertaking.

In order to reproduce such an item, we had to produce working drawings, operation sheets, etc. Luckily, the patterns were in storage and we were able to produce approximately 300 engines.

In 1986, knowing that the AMA was going to celebrate its 50th anniversary, I designed and had built a display cabinet displaying all the Tlush engines from 1934 to the reproductions of 173. This display was at Reston, Virginia, until the move to Muncie. With this display, I included all the engineering drawings and details necessary to manufacture this engine. Also included at this time was my 1936 Texaco model.

Noteworthy Accomplishments

- Winner of 1936 Nats
- 1936 Mite reproduction in 1996
- 1937 Inspirer-repro 1996, presented at Muncie
- 1937 Mercury Meteor original 1996

Conclusion

Frank is in the Model Aviation Hall of Fame; an AMA Life Member L-93; and AMA Founder No. 3. He was awarded the Historic Modeling Achievement Plaque at Muncie in 1996.

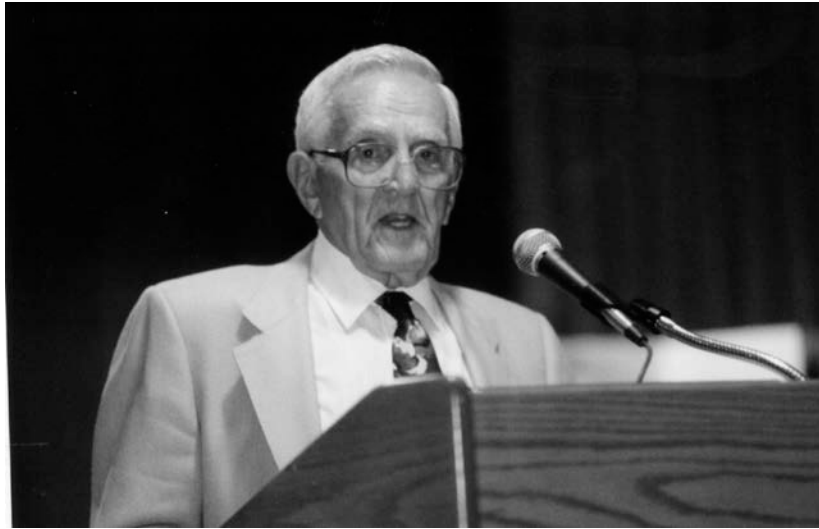
Charlie passed away October 17, 1996 in Cape Coral, Florida. He had a mind-boggling shop and was always working on new projects. Charlie was 94 and was of sound mind, but his body fell apart. John Worth can attest to the above. (He, Charlie, and four others started North Brunswick Airport, New Jersey. Had a bunch of Aeroncas (20). Now is a large industrial park.)

Myself:

Two bypasses; reconstructed back rods-wires . . .

*Frank J. Tlush
Cape Coral, FL 33904 (Jan.-May)*

Yardley, PA 19067 (May-Jan)



1996: Celebration of Eagles banquet, Muncie, Indiana. Frank Tlush speaking before an audience of 400 fellow modelers.

The following is from "Boeing Supply Lines," volume 2, number 8 in the spring of 1969.

American Standard is top 1968 supplier

A company that got its start 35 years ago building model airplane engines has been named "Supplier of the Year" for 1968 by the nation's leading producer of helicopters.

The American Standard Corporation, of Trevese, Pennsylvania, was so honored last month by The Boeing Company's Vertol Division, at ceremonies in Philadelphia.

A small business firm, American Standard won the award in competition with approximately 4,000 other suppliers of Boeing helicopter components. American Standard produces "detail" machined parts for the aerospace industry, including rotor hub hinge pins for Boeing's CH-47 Chinook and UH/CH-46 Sea Knight helicopters.

Family affair

Company President Vincent Tlush accepted the award from Vertol Materiel Director, Carrol Parrish. Edward N. Rosa, Middle Atlantic Area Administrator for the federal Small Business Administration, was on hand for the presentation.

Boeing's Gene Konecny, master of ceremonies at the award luncheon, described American Standard's growth and performance:

“This company is owned and operated by the five Tlush brothers. It was formed 35 years ago to build model aircraft engines, which were designed by the oldest brother, Charles. Another brother, Frank, made the company famous by winning the National Championship for Free Flight Models, using this engine design.”

Rejects nil

“American Standard has done well-more than a million dollars in sales last year, approximately 25 per cent with Boeing. Today it is a precision machine shop, producing complicated parts with close tolerances, to such high standards that rejections are practically nil.

“Production is so efficient that schedules are maintained and costs have held the line, or decreased, in the face of general increases throughout the industry. The Tlush family's energetic actions...coupled with the dedication of their employees, have brought them to this position of honor today.”

Repeat winner

The company's selection as Supplier of the Year reflects its yearend standing in the Vertol Division supplier performance evaluation program. Candidates for the honor were the firms selected as Suppliers of the Month during 1968. American Standard won the monthly award in January 1968, becoming the only repeat winner in the history of the competition. It had also taken the honor in May 1967.

In accepting the award, President Vincent Tlush said his firm was particularly pleased to be honored by Boeing, which it regards as “the top company in the United States,” based on its stringent requirements for supplier engineering and technology.

The following was written by SAM member Tony Penhall in November 1997.

One Fine Day

By Tony Penhall

The summer heat rises, shimmering upwards. A gentle breeze stirs the sea of grass before me, stretching away toward the distant shapes of the tall gray blue buildings of the city – silent and still. The bright sunshine etches the scene with sharp clarity. There are many people, young men, some talking, others watching the groups gathered, busying themselves, concentrating in some urgency with the job at hand. Moving forward to an assembly and peering over them as they are engaged with their task, we can see there is a flying machine. This is not a giant, but a beautiful miniature. It has an oval fuselage made of light wood, the tail surfaces are similar like the tapered wing, which must be between 8 and 10 feet in span. The blue of the body stands against the white of the wing with its orange border in sharp contrast. This is no ordinary machine. It sits purposefully in the heat attended by several of the young men, waiting, waiting. Others are engaged in the same pursuit, adjusting tail surfaces, some turning the engines over with their hand-carved propellers.

The young man nearest to me turns his head with a nod and a smile. Grinning back at him, I feel as if we know each other, but we have never met. This fellow is now intent on starting his engine. He primes the motor with (neat) fuel via a small trap door in the side of the cowl, shuts the flap home, and flips the propeller over smartly. Pop, pop, pop...suddenly the engine bursts into life as the crowd of onlookers moves aside. Turning to me he says, "Hold the fin, buddy." I smile in surprise, moving to the tail end. "OK. Yeah," comes the reply over the exhaust note of the burbling engine, which is running rich, pumping out blue gray smoke. The flyer bends down to the cowl again, opens the little trap door and fiddles with the mixture setting. The exhaust note sharpens into the healthy bark of a two-stroking engine and the smoke clears away very quickly loosing its density in the breeze. Everyone seems transfixed by the activity; all eyes watch this single event in time. The young man moves around the machine to my side. "Let me have her now," he requests with a smile. "All yours," I reply. Taking the fin from me and kneeling, he points the machine toward the breeze. Pausing, he listens once more to the exhaust note – raucous and urgent – for a few long moments. Then as the watching crowd moves in uneasy anticipation, he calls out, "Stand clear!" A last check that everyone is out of the path of the machine, he looks up, releasing the fin. The big model moves forward, slowly at first, gathering momentum until some 40 feet hence she tilts a point left with the tail coming up as the wheels sever their earthly ties. A cry sounds out about the din as the model lifts into the air. The young man is next to me and I hear him mutter, "Climb, climb." Glancing away toward the sound of the engine I can see that the flight is progressing well. The machine is gaining height quickly in a wide left hand power circle. I am amazed at the preparatory work undertaken by the young fellow in order to arrive at such a superb flight. I watch, fascinated.

Other enthusiasts also watch in silent awe or talk and point in excitement, shading their eyes against the sun, tracing the path of the model's climb. Five, 10, 15 minutes elapse; we can still hear the unbroken song of the engine powering the plane onward and upward into the pale blue sky. The model is very high now. Eyes are straining to keep the flight in view. Two older men have stopwatches and one remarks, "It's in glide now." The other says, "That's 18 minutes." The crowd of onlookers continues to follow the progress of the model as it starts to descend and the drama unfolds. As the machine reaches about 300 feet someone calls out, "The ship is in lift!" The streamlined machine describes circle after circle. There is no loss of height. As the glide hooks into the thermal, heat rising to many thousands of feet, the highly efficient plane rises and rides upward toward a huge altitude. Looking to one side then the other, I am aware that the young man is no longer with me. The two men with their stopwatches are missing, too. Others follow suit. Some start their engines for the own flights, letting their models go, only to crash or terminate prematurely for some reason. Some manage to get aloft for a good flight, but none to match the streamliner, which is still soaring above in the blue, drifting toward the bit town with its tall gray buildings reaching into the summer sky as if to welcome it.

Automobiles have left with their occupants in pursuit of some of the more successful machines and the young dark haired man is among them, following his model with the timekeepers to keep it in view until it alights somewhere far away.

The day wears on with many brave attempts made until late afternoon when the officials usher the contenders to gather their machines and belongings to wend their way home again. I linger about hoping to meet the dark haired young man once more, but there is no sign of the smiling stranger with a glint in his eye. Retiring to my car, I sit alone quietly in the cool evening air, reflecting on what has gone before – the people, the planes, the enthusiasm, the excitements, and the achievements.

Several days later, a newspaper report describes a model airplane flight from Wayne County Airport in Detroit, Michigan. Followed by its designer and constructor and the maker of its unique power plane, a 10cc two-stroke petrol engine, his model had flown for 45 minutes and 34.5 seconds into model aviation history. It won the coveted and hotly contested Texaco trophy at the National Championships.

Those events are still crystal clear in my mind. I can still hear the young man ask me to hold the fin of his model, hear the engine break into life and see the take-off as if it were yesterday. I never spoke to this flyer at length, but I am pleased that I was able to take part in some small measure with preflight operations before that wonderful moment when he released the model.

A voice peals out, shattering my private world: “Cup of tea, dear?” I wake with a start. Oh, my! It all seemed so vivid and real, but I am tinged with sadness. A regret that I was never at that scene to experience the wonder and the exhilaration of miniature aviation on that special day in those far off times. They must have been truly remarkable.

Who was this pioneer who made his model and engine? Why, Frank Tlush, of course! What a legacy he has left us all. May we continue to enjoy this heritage for all time.

The following info about Frank Tlush was gathered by History Project staff.

Stats:

- Born in 1917
- Started modeling in 1927
- AMA #L93 (Previously F3)

Career:

- AMA Life Member L-93
- Built first engine mostly out of bar stock: by 1935, the engine was in small production called Tlush Super Ace
- 1935-1937: Was very active in the early formation of what was to become the AMA
- 1936: Won first place in the Texaco Event at the Detroit Nationals
- 1936: Represented the Junior NAA at the Aircraft Grand Central Palace show in New York City

Honors:

- 1988: Model Aviation Hall of Fame
- AMA Founder No. 3
- 1996: Historic Modeling Achievement Plaque awarded at Muncie, Indiana



c. 1936/1937: Frank Tlush and his Inspirer. Air Trails magazine photograph



1986: AMA headquarters, Reston, Virginia, Frank Tlush's presentation of his engine display to the AMA. From left: Norm Rosenstock, John Worth, Bill Winter, Frank Tlush, Frank Ehling, Mike Granieri and Museum Curator Col. Hurst Bowers.



Frank cranking up a one-of-a-kind Tlush engine, a 1/2-in. bore, 5/8 stroke engine. The airplane was named Mite and was featured in a 1937 issue of Air Trails magazine.



Frank and Adam Sattler readying the Inspirer for flight.



Frank's models on display at the AMA's Museum in Reston, Virginia. Shown here are models on display during the AMA's 50th anniversary celebration. The models of Frank's displayed were his 1936 Texaco Event winner and his 1938 Mercury Meteor.



1996: Tlush at the Celebration of Eagles in Muncie, Indiana. The Inspirer was given as a gift to the National Model Aviation Museum.

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