



The AMA History Project Presents: Autobiography of BRUCE A. THARPE



Written by BT (06/2023) and CE (2016); Reformatted by JS (03/2016); Updated by JS (06/2018, 08-09/2023)

The following autobiography was written Bruce Tharpe in June 2023 and submitted by Tharpe to the AMA History Project in August 2023.

Signs indicate that I've been a designer all of my life. One of my earliest memories involves a roll of butcher paper and a fresh box of crayons. My mom told me to draw anything, so I drew an airplane, of course. But it wasn't the usual type of plane that kids draw with one wing sticking straight down and the other sticking straight up. No, my drawing was a pure side view of a model plane. My dad said it might be better if the bottom of the fuselage was curved instead of the top. Maybe that's when I started to develop the designer's "eye".

A variety of model designs followed, mostly drawn in class when I should have been doing schoolwork. The models were typically Free Flight gliders or rubber-powered machines or even rockets - as long as it would fit on an 8½" x 11" piece of paper. And most of them went unbuilt because creating the original plans was my actual hobby.

Back in those days, I used a ruler to make straight lines and accurate stick sizes. Eventually, I discovered graph paper, and still use it nowadays to sketch out ideas. My world was really shaken up by a drafting class in high school. T-squares, triangles, and mechanical pencils became my life. I remember asking for (and receiving) my own drafting tools and board; tools that I own to this day. College was like heaven because there were rooms full of drafting tables with drafting machines (available at all hours) and a blueprint machine. Later, 2D CAD software came along, and now most of my design work is done on a computer.

For the record, I was born in San Mateo, California, but my younger sister and I grew up across the bay in Hayward. During college I lived in San Jose, then moved to Las Vegas for a little while. Work brought me to Iowa for 7½ years. I moved to southern Oregon in 1993 (mainly to be closer to my parents who earlier left Hayward) and have lived there ever since. I met my eventual wife in Las Vegas, married in Iowa, and we have two wonderful kids.

Before my modeling career, I worked for my father as a mechanic in his auto repair business. In high school, I worked as a lifeguard and as a lineboy at a Fixed Base Operator (FBO) on the Hayward Executive Airport. After college, I worked for the same FBO in their parts department.

I played trumpet through junior high and swam competitively through high school. In my thirties through my fifties, I did a lot of recreational running and entered numerous 5K, 10K, and half-

marathon races. It's clear to me now that all of these side activities never reached the level of importance of model airplanes in my life.

In high school, I actually earned my private pilot license before my driver's license! After many hours in the air, it occurred to me that although flying was enjoyable, what I *really* liked was airplanes. My eyes preferred an aircraft in flight to clouds or tiny houses.

For college, I went to San Jose State University (SJSU) mainly because it was close to home and it had its own aeronautics department and a facility at the San Jose Airport. The end result was a four-year Bachelor of Science degree in Aeronautics. A co-op program allowed me to take a break from SJSU to work for a short time at Douglas Aircraft Company in Long Beach, California. It quickly became apparent that most young engineers hopped from company to company, project to project. They were lucky to design a bracket or some other small part for a system that might go into an aircraft someday. Big corporations were not for me - I wanted to conceptualize and design airplanes.

In my teen years, Burt Rutan was making a name for himself as a forward-thinking aircraft designer, first with his own homebuilt aircraft company and later with Scaled Composites. My goal was to be the next "Burt Rutan". So after college, I sent resumes to several homebuilt aircraft companies and eventually began working for Morrisey Aircraft Company located at the North Las Vegas Airport. Bill Morrisey was entering the homebuilt aircraft market with the Bravo, a sporty low-wing that he displayed at the big Oshkosh show a year or two earlier. Little known to me, the Bravo caught the eye of famous model designer, Claude McCullough, and later the 1/4-scale Bravo kit was introduced by Sig Manufacturing.

At that time, at least, my intent was to work in full-scale aviation. However, model aviation was always my main hobby - most of my free time was spent designing and building model airplanes. This is where things start to get a little blurry. Hazel Sig and Maxey Hester, President and Vice President of Sig Manufacturing, were also registered pilots and they flew their (full-scale) Bonanza to North Las Vegas to possibly buy a full-scale Bravo kit. I wasn't in on their conversations, but they ended up with Morrisey's prototype and flew it back to Iowa.

Of course, as a model builder, it was a thrill to meet Hazel and Maxey. Things were not working out with Morrisey, so I ended up asking them for a job at Sig. They just happened to be looking for a new designer with some writing skills. They gave me a shot and I made the big move out to Montezuma, Iowa.

My first day on the job was spent in a van on its way to the famous Toledo trade show. It was a great way to meet my new friends and learn about their fantastic product line. That was in April 1986. Unfortunately, I never got the chance to work alongside the company founder, Glen Sigafosse (who had died earlier in a plane crash), or the legendary model designer, Claude

McCullough (who retired shortly before my arrival). I did, however, get to work with Hazel, Maxey, and Mike Gretz. I was fortunate to be surrounded by such extreme talent - all of those people mentioned are in the AMA Model Aviation Hall of Fame.

The Sig experience was definitely “midwest”. We started at 7am. There were no meetings. The design department operated smoothly without a real department head. I was told to design whatever I wanted; the reason being that if I liked it, chances are that others would like it too. An aspect of the job that I found particularly attractive was that the kits were not designed by committees. Models were designed and tested after hours. If we decided to kit a design, then that particular designer was expected to do all of the work - plans, instructions, photos, advertising, box art, everything.

During my time as a product engineer at Sig, five of my designs were produced as kits. The Four-Star 40 is perhaps my best known - who would have guessed? My personal computer also made a significant impact. The designers were all pretty amazed when I brought in my own IBM PC to work on my first project! Later, I was on a team of three who spent nearly a year writing custom software and installing a network of PCs in the Sig office. Before that, orders were processed on a remote mainframe. Hazel was encouraging yet pragmatic - she ran both systems in unison for about a month before making the switch!

I left Sig in 1993. The writing was on the wall. Hazel had just sold the company. My little boy was about to enter Kindergarten - my wife and I agreed that we didn't want to get him started in the Montezuma school system only to yank him out a few years later if need be. Besides, I wanted to try to make it on my own in the hobby business. My folks had moved to Oregon; we had visited their new home and liked it; so we made the now-or-never decision to move back to the west coast.

My dad opened another auto repair shop when he moved to southern Oregon. The plan was to work for him as a mechanic for a while before starting my own model airplane kit business. I started my kit company, Bruce Tharpe Engineering (BTE), in the garage at his residence and started drawing up my flagship model, the Venture 60. It took about a year to develop that design and the various manufacturing processes that BTE uses to this day. Instead of die-cutting (commonly referred to as die-crunching), BTE kits featured machine-cut and sanded parts (with templates) that are smooth and accurate, but labor-intensive. BTE went on to manufacture numerous other kits. In my spare time, I also built dozens of UAV airframes for the military, universities, and a TV show.

As a youngster in the '70s, I was a member of EBRC, the East Bay Radio Controllers. Then I went many years without belonging to a club. Luckily, after leaving Sig, I discovered the local RC club in southern Oregon had (and still has) a wonderful flying facility and a lively membership. I joined the Rogue Eagles RC Club near Medford, and quickly took on numerous

leadership roles. Among other activities, I served three separate terms as club president and published our newsletter for over seven years. In addition, I joined the Vintage RC Society (VRCS) in 2010 and have served them as Treasurer and Membership Chairman. I currently serve VRCS as the Executive Board Member for their Northwest district.

My father, Bruce Tharpe Sr., passed away in 2018. He was a fine modeler, flying mostly Control Line (CL) and RC. He's been mentioned several times already, so it should be obvious by now that he was inspirational and vital to the success of BTE and my career in this industry. He introduced me to the hobby (like all good modeling dads), taught me to fly, and, perhaps most importantly, he demonstrated that a man could "hang his shingle" and run a company all on his own initiative. I can see now that it was his own, personal business success that gave me the confidence to start BTE.

Oh, and he introduced me to my favorite type of engine, the pulsejet. As a kid, I remember seeing his old, sport CL ship with a Dyna-Jet still bolted in place. We pulled it down from the rafters and managed to fire it up. Well, that red-hot noise maker really left an impression! Much later on, I designed an RC ship for that engine. Truthfully, pulsejet-powered models are highly impractical and there's no real market for them, so the two of us made it our little "hobby within the hobby". We built numerous RC pulsejet airplanes just for fun, culminating in our twin Dyna-Jet model, the Double Whammy. In general, I was the designer and pilot; dad was the primary builder and ground crew.

Although I have spent nearly forty years in this industry (Sig and BTE), I'm reluctant to call myself a professional. My customers are mostly model-building friends that I haven't met face-to-face (yet) and we're all part of this creative, constructive community. Still, I am extremely grateful to have met so many skilled modelers in my lifetime, and for the many experiences and memories this hobby has brought my way.

Notable Model Designs

- Findragger - Plan and construction article, *Model Builder*, January 1983 issue
High-wing, 3-channel, inverted fin. Bill Northrop gave me my first chance in a magazine.
- Weekend Wonders - Plan and construction article, *Model Builder*, April 1984 issue
1/2A models based on Ace foam wing. #3 and #4 presented together, single plan.
- Whathehell - Plan and construction article, *Model Builder*, March 1987 issue
1/2A plank-style flying wing. 2-channel, no landing gear, very simple design.
- Necromancer - Plan and construction article, *Model Builder*, March 1987 issue
1/2A swept-back, low aspect ratio flying wing. Presented together with Whathehell.
- Eel - Plan and construction article, *R/C Modeler*, June 1992 issue

.09 Shoulder wing, no landing gear, 2-channel. No real vertical fin, looks slippery.

- 1/3-Scale Spacewalker - Sig kit, released in 1987. 104" wingspan.
My first Sig design. Hazel and Maxey also built two full-scale Spacewalkers.
- Four-Star 40 - Sig kit, released in 1990. My most popular Sig design.
Low wing, 4-channel RC sport model. Numerous enlarged and reduced versions.
- Mid-Star 40 - Sig kit, released in 1991
Shoulder wing, tricycle or taildragger landing gear. Used same wing as Four-Star 40.
- Four-Star 120 - Sig kit, released in 1992
The Four-Star family of enlarged and reduced versions, kits and ARFS, started here.
- Wonder - Sig kit, released in 1993.
Based on smaller Weekend Wonder designs. Kit has decals for four different versions.
- Venture 60 - BTE kit, released in 1994. Low-wing RC sport plane. BTE best-seller.
My "improved" Four-Star featured smoother aesthetics and better ground handling.
- Flyin' King - BTE kit, released in 1996. High-wing RC utility plane, 80" wingspan.
Saw Disney's "Lion King" in theater; thought rhyming name would be good for model.
- Delta Vortex - BTE kit, released in 1999. Simple delta wing, 54" wingspan, twin rudders.
Thick airfoil designed for aerobatics, not speed. ARF version distributed by Cermark.
- Super Flyin' King - BTE kit, released in 2002. Enlarged (160%) Flyin' King. 132" wingspan.
Designed as response to customer request. Huge, but limited market appeal.
- Reaction 54 - BTE kit, released in 2004. All-wood model designed for turbine engine.
ARF version manufactured by PST Jets in Thailand; distributed in U.S. by BTE.
- Double Whammy - RC twin pulsejet design. Included with Real Flight simulator add-on.
Fully aerobatic, but had to land deadstick. Sound clip purchased by movie studio.
- Hauler - UAV airframe, built at BTE. Powered by gas engine or electric motor.
Simplified version of the Flyin' King. Most purchased by universities.
- Super Hauler - UAV airframe, built at BTE. Powered by 100cc or 120cc gas engines.
Essentially, a stretched Super Flyin' King, optimized for carrying a payload.

Published Writings

- "Sig Morrisey Bravo" kit review, *Model Builder*, March 1986
- "Bravo" sidebar, *Model Airplane News*, September 1986

- “Minnesota Masters Meet” event report, *Scale R/C Modeler*, December 1990
- “More Airplane Equals More Points” article, *Giant Scale Models*, Vol. 1 No. 2, 1993
- “Contest Savvy” article, Scale Model Research 1994 catalog
- “Designer Scale: A New Challenge” article, Scale Model Research 1995 catalog
- “What I’ve Learned... And Who I’ve Learned It From” article, Scale Model Research 1997 catalog
- “Pulsejet Powered R/C Models” article, *R/C Modeler*, February 2000 (with cover photo)
- “Double Dynajet Fun” article, *Model Airplane News*, May 2002
- “Using Kit Wood Wisely” article, *R/C Report*, December 2002 (reprinted in *R/C Report*, November 2006)
- “Carving STOL Wingtips” how-to article, *Model Aviation*, November 2005

Accomplishments, Achievements, and Awards

- President, model rocket club in high school
- 1st place, Sportsman RC Sport Scale, 1987 AMA Nationals, Sig Citabria
- 1st place, Expert RC Sport Scale 1991(?) Mint Julep Scale Contest, Sig Spacewalker
- NASA “Flight Achievement” award, 1991(?) Mint Julep Scale Contest, Spacewalker
- NASA “Flight Achievement” award, 1995 AMA Nationals, Spacewalker
- Competed in RC Scale at Top Gun Invitational, U.S. Scalemasters, AMA Nationals
- Started BTE (Bruce Tharpe Engineering) in 1993; sold first BTE kit in 1994
- 1st place, 2001 AMA Convention, Aircraft-Sport-Jet, Double Whammy
- 1st place, 2001(?) Toledo Expo, Sport Monoplane, Double Whammy
- “Damndest Thing I Ever Seen” award, 2001 Central Oregon Jet Rally, Double Whammy
- “Best Sport Jet” award, 2002 Central Oregon Jet Rally, Reaction 54
- “Best Jet - Turbine” award, 2004 Central Oregon Jet & Scale Rally, Reaction 54

- “Best Sport Jet” award, 2008 Jets Over Whidbey, Reaction 54
- “Pilot’s Choice” award, 2008 Jets Over Whidbey, Reaction 54
- “Best of Show” award, 2018 Rogue Eagles All-Scale Contest, Pou de Ciel
- President, Rogue Eagles RC Club, three separate terms
- Organized and served as CD, Northwest VRCS Fly-In, 2012 through 2022
- Organized and ran Rogue Eagles Winter Build Challenge, 2018 through 2022
- “Spirit of Selinsgrove” award from Vintage RC Society, 2013
- “Modeler of the Year” award from Rogue Eagles RC Club, 2014
- “Carl and Beth Goldberg Vital People Award” from AMA, 2015



***I designed, built, and flew this WinterWing for the 2019 Rogue Eagles Winter Build Challenge. The electric flying wing featured elevons and could be flown with or without the removable outer wing panels. Used dolly for takeoff.
(Photo provided by Bruce A. Tharpe. Photo taken by Rick Lindsey.)***



*This picture was used on the cover of the last Rogue Eagles newsletter for which I served as editor. Although I built all the models in the photo, the only one that was my own design was the small model in my hand. The rest are vintage designs.
(Photo provided by Bruce A. Tharpe. Photo taken by Sean Mersh.)*



*Based on the Flyin' King, the Hauler was a proprietary design that I built only at BTE. These seven Hauler airframes were ordered by the University of Texas at San Antonio. Their intent was to use them to develop their swarm technology.
(Photo provided by Bruce A. Tharpe. Photo taken by Brandon Tharpe.)*



*The finish on my plans-built Super Pacer pays tribute to my other hobby, recreational running. Funny story: I built the smaller Pacer as a kid, but always wanted the “giant” Super Pacer because it seemed so BIG. Oh, how your perspective changes.
(Photo provided by Bruce A. Tharpe. Photo taken by Rick Lindsey.)*



*With three of my favorite vintage airplanes: the Candy (bottom left), an early pattern ship; the Esquire (bottom right), an early trainer designed for rudder-only control; and the Quickie (in my hands), a simple, aerobic 3-channel design.
(Photo provided by Bruce A. Tharpe. Photographer unknown.)*



The Super Hauler was a stretched Super Flyin' King and weighed about 50 pounds. This proprietary design was built by me here at BTE, primarily for universities. One was used on the TV show "Stormchasers" to drop probes into an oncoming tornado.

(Photo provided by Bruce A. Tharpe. Photo taken by Bruce R. Tharpe.)

The following was published in the "In The Air" section of the April 2016 issue of Model Aviation magazine. Bruce received the Carl and Beth Goldberg Vital People Award in 2015.

Carl and Beth Goldberg Vital People Award

Congratulations to Bruce Tharpe for being named as one of the recipients of the 2015 Carl and Beth Goldberg Vital People Award!

Bruce's interest in aviation started when he was a boy, influenced by his father to build and fly model aircraft. Bruce's passion carried forward with an education in aeronautics and employment with Sig Manufacturing, designing kits such as the Four-Star 40.

He eventually started his own business, Bruce Tharpe Engineering, located in southern Oregon. Some of his designs include the Flying King, Delta Vortex, and Venture 60.

Bruce's professional accomplishments mirror his dedication to AMA, including guidance and assistance for educational institutions and model enthusiasts across the country.

Despite his busy schedule, Bruce has worn many leadership hats throughout the decades in an effort to assist both club and model aviation growth. His current leadership roles include newsletter editor for the Rogue Eagles R/C Club and treasurer of the Vintage Radio Control Society. Bruce is a talented, yet extremely humble, modeler and leader who is always eager to help and teach others.

-Calvin Emigh
Rogue Eagles R/C Club president

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