

BRIEFINGS

September - December 2023

HILLER AVIATION MUSEUM WHERE INSPIRATION TAKES FLIGHT

FARCHILD HILLER FH-1100 THE LAST OF THE LINE

by Jon Welte

Stan Hiller Jr.'s engineering skills and business acumen inspired two decades of creativity in the world of vertical flight. The pioneering XH-44, first flown by a teenaged Stan in 1944, was the first helicopter to fly on the West Coast. The Hiller 360, adopted into US Army service as the OH-23 Raven, was mass-produced in modern day Menlo Park and for a time was the world's most popular light helicopter. And throughout the 1950s, the Hiller Aircraft Corporation was a leader in rapid development and prototyping of many spectacularly out-of-the-box designs, ranging from the futuristic Hiller Flying Platform to the tilt-wing X-18.

While breathtakingly innovative, none of the creations that followed the Hiller 360 and its derivatives saw widespread production. All 360s were powered by piston-powered engines, but as the 1950s ended the requirement for more powerful helicopters drove the adoption of turboshaft engines – essentially, a jet engine turning a helicopter's rotor shaft. Helicopter rival Kaman Aircraft had experimented with turboshafts as early as 1947, and Hiller designed its own entry into jet-powered helicopters with



the Model 1099 ("Ten-99"), a prototype built in response to a US Navy project. The 1099 proved an effective platform, but lost its competition to a maritime version of the soon-to-be ubiquitous Bell UH-1 "Huey" – a taste of things to come.

Military aircraft design competitions were common in the 1950s, as rapid advances in technology and a Cold War imperative to improve led to the continual introduction of new designs – many aircraft and helicopters of the era remained in service for only a decade or even less as they were rendered obsolete. While work on the 1099 continued, Hiller Aircraft simultaneously entered a separate US Army competition for a new Light Observation Helicopter – a competition that would give rise to Hiller's last mass-produced aircraft.

While the Hiller OH-23 and the Bell OH-13 (better known as the Bell 47 in civilian service) had both served capably for the US Army, by the mid-1950s the capabilities of turboshaft engines made it evident that a higher-performance replacement was needed. A formal competition was launched in 1960 and three designs were selected for prototyping and evaluation – one each from Bell, Hiller, and Hughes Tool Company.



OCT 21 – OCT 31

TURKEY TOSS



NOV 22



Smithsonian Institution
Affiliations Program

As it followed the 1099, Hiller's design was internally named the Model 1100. Based around an Allison 250 turboshaft engine, the 1100 could carry four at speeds and ranges the piston-powered 360-series aircraft could not hope to match. Upon being selected for evaluation, the 1100 was designated YOH-5. A total of five were built as part of the US Army competition, with the first flying in early 1963. Performance was excellent and test pilots rated its flying characteristics as the best among the three designs which were test flown.



Hiller
YOH-5
Prototype

Of the 1100's two competitors, the one from arch rival Bell Helicopter was eliminated early on. The YOH-4A's turboshaft engine proved to be inadequate for its airframe, which was heavier than Hiller's 1100. The Bell entry's speed, range and payload capacity all suffered in comparison, and it was dropped from consideration as a result.

Howard Hughes had pivoted his aircraft design and manufacturing efforts from airplanes to helicopters in the late 1940s and found success with the small piston-engine Hughes 269 in the late 1950s. Hughes' YOH-6 entry into the Light Observation Helicopter competition featured design innovations that reduced its weight and gave it performance comparable to Hiller's 1100, though at the cost of handling and stability. The competition was ultimately decided on price, and Hughes submitted a bid substantially lower than Hiller. In 1965 the Army awarded the contract for production of over 1,000 OH-6 Cayuse helicopters to Hughes.

During the competition, Hiller Aircraft merged with Maryland-based airplane manufacturer Fairchild. Both companies had significant sales for commercial and military aircraft, and had highly complementary product lines. The combined company was known as Fairchild Hiller. Stan Hiller initially served the combined company as executive vice president, but left the combined company and returned to California to pursue other business opportunities about a year after the merger closed.

The loss of the Light Observation Helicopter project to Hughes was a seri-



H-23 in flight

ous setback for Fairchild Hiller, but the 1100 was not abandoned. Instead, it was certified for civilian use by the FAA as the Fairchild Hiller FH-1100. Entering production in 1966, the FH-1100 was adopted around the world by police departments, small air forces, and private operators.

Ironically, production of the Hughes OH-6 proved highly problematical for both Hughes and the US Army. By the mid-1960s, the price which had won the bid proved to be substantially below Hughes' cost to manufacture the light helicopters. Facing price overruns and production delays in the midst of the Vietnam War, the Army reopened the Light Observation Helicopter competition for a second production lot of helicopters in 1967. Fairchild chose not to enter the FH-1100 in the new competition, which was ultimately won by Bell. Without a major military contract to support it, only 253 FH-1100s were built before production ended in 1973. By then helicopter assembly had already been shifted to Fairchild's facilities in Maryland, with the Hiller Aircraft factory on Willow Rd. shuttering in 1966. As FH-1100 production ended the era of Hiller-designed helicopters drew to a close, although its legacy of creativity endured.



Fairchild Hiller FH-1100

The Hiller Aviation Museum has long served as a repository of the many remarkable achievements of Hiller Aircraft, and in July 2023 it added an FH-1100 to its exhibit gallery. The aircraft now on display was part of the test fleet used in the FAA certification. It takes its place in a lineup of Hiller designs that started in 1944 – two decades of innovation in the world of vertical flight.

Resources

Bell Helicopter Textron Story, David Brown, 1995

Howard's Whirlybirds, Donald Porter, 2013

Vertical Challenge – The Hiller Aircraft Story, Jay Spenser, 1992

PRESIDENT'S PERSPECTIVE FALL 2023



It's been a whirlwind summer at the Hiller Aviation Museum! From our 25th Anniversary and our Biggest Little Airshow event in

June through a busy season of Aviation Camp, we've seen more visitors this summer than ever before.

The museum strives to inspire young people to imagine a future in flight, and it was in that spirit that the Hiller Flight Training Scholarship program was launched. With the generous funding of the Ray Foundation, this year the museum selected two recipients. Marion Fowler and Evelyn Tale are local high school graduates and student pilots who will be attending area universities in the fall. Each has received up to \$15,000 in support of their flight training as they continue their journey in aviation.

Dreams also take flight at the museum's annual Benefit Gala, to be held on October 14. Our keynote speaker is Dr. Alan Weston, CEO of LTA Research. LTA is re-imagining the massive airships of the Zeppelin age as helium-filled, electric-powered dirigibles capable of performing humanitarian relief missions. Dr. Weston will share the story of lighter than air flight and his work to bring giant airships to our skies once more.

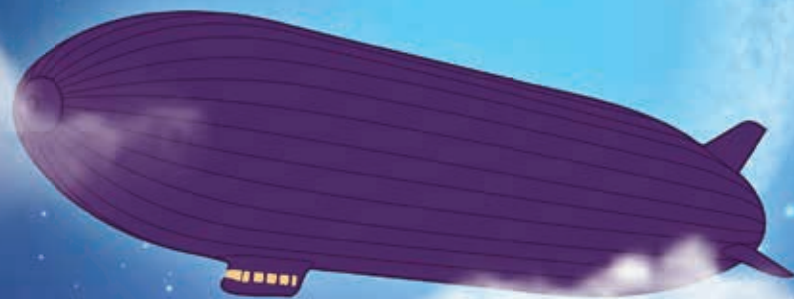
Since 1998 the Hiller Aviation Museum has seen over a million visitors and has strived to give each a new perspective on the wonder and adventure of flight. Thank you for your support – members and donors, visitors and volunteers, and everyone who helps bring the museum's mission to life.

Jon Welte
President & CEO
Hiller Aviation Museum

HILLER AVIATION MUSEUM PRESENTS

Dreams Take Flight

19TH BENEFIT GALA & AUCTION



Saturday, October 14, 2023

5pm · Cocktails 6:30pm · Dinner & Auction



Keynote by **Alan Weston**
CEO of LTA Research

Benefiting the Museum's Aviation and STEM education programs



HILLER
AVIATION
MUSEUM

Individual Ticket
\$300

Questions?

Contact **Logan Davis**, Development Associate
650-654-0200 x 216 / logan@hiller.org

Table of 10 Sponsorships
\$15,000 · \$10,000 · \$5,000 · \$3,500

Tickets, Sponsorships, Donations · www.hiller.org/gala



EDUCATION PROGRAMS FALL/WINTER 2023

AVIATION CAMP

FALL/WINTER AVIATION CAMP

HOLIDAY CAMP PROGRAMS

OCT 2023 – JAN 2024 • 9 AM – 4 PM

Launch an adventure in aviation over the fall and winter holidays at Aviation Camp! Build and fly model aircraft, take on realistic flight simulations, explore museum aircraft and more while exploring a unique subject in flight.



TEST PILOT ACADEMY

OCTOBER 2-6 & DECEMBER 26-29 (4-DAY)

FABULOUS PHYSICS

NOVEMBER 20-23 (3-DAY)



MAGIC OF FLIGHT

DECEMBER 18-22 & JANUARY 2-5 (4-DAY)



SPECIAL 1-DAY PROGRAMS ALSO AVAILABLE



**VISIT
WWW.HILLER.ORG
FOR MORE
INFORMATION.**

PUBLIC EVENTS

FAMILY SUNDAY PROGRAMS • FALL 2023

Join the fun this fall for a series of special outdoor family events! Held on select Sundays, each features hands-on activities just for kids ages 5+. Visit www.hiller.org for more information on each event.

BOT BOWL

NOVEMBER 12,
DECEMBER 10
10 AM – 12 PM



FLIGHT SIMULATOR RALLY

OCTOBER 15,
DECEMBER 17
2:30 PM – 4 PM



GLIDER DISCOVERY DAY

SEPTEMBER 17,
NOVEMBER 5
11 AM



HELICOPTER ADVENTURE

SEPTEMBER 3,
OCTOBER 1,
DECEMBER 3
11 AM – 12 PM



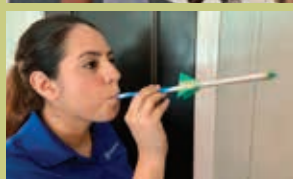
KIDS' CARNIVAL

AUGUST 27,
SEPTEMBER 24,
OCTOBER 21-22
NOVEMBER 26
10 AM – 12 PM



STRAW ROCKET WORKSHOP

NOVEMBER 19
11 AM



WATER ROCKET RALLY

SEPTEMBER 10,
OCTOBER 8
11 AM



HOLIDAY FUN WEEK

DEC 26-31

Celebrate the holidays with a special event in flight! Daily events December 26-31 provide special experiences in aviation for kids and adults alike! Each is included with museum admission.

GLIDER DISCOVERY DAY



TUESDAY,
DECEMBER 26
11:00 AM

Investigate the world of gliding flight!

Learn the parts of an airplane or glider while helping to assemble the full-sized Penguin airplane, then construct and launch a high-flying balsa glider!

OPEN COCKPIT

WEDNESDAY,
DECEMBER 27
10 AM – 1 PM

Explore the captain's seat in airliners, seaplanes, helicopters and more! The doors of many of the Hiller Aviation Museum's unique and historic aircraft swing open for visitors of all ages on Open Cockpit Day.



HAPPY BIRDS



THURSDAY, DECEMBER 28
11 AM

Take flight on the wild and feathered side with the Happy Birds! Back by popular demand, this outrageous troupe of parrots, macaws and cockatiels performs a remarkable routine of natural and trained behaviors.

KIDS' CARNIVAL

FRIDAY,
DECEMBER 29
10 AM – 12 PM

Explore the wonder of flight with child-sized special experiences! Build and fly gliders and helicopters, climb aboard real aircraft, tinker with giant-sized inventions and test vertical wind tunnels in a fun-filled discovery of flight.



NOON YEAR'S EVE PARTY



SUNDAY DEC 31, 10AM – 1PM

Join the countdown to twelve noon on the last day of the year in a kid-friendly New Year's Eve spectacular! Dance and music routines, hands-on activities, and special presentations prepare the way for the dramatic countdown and noon-time balloon drop. Advance reservations are highly recommended!

HOLIDAYS BY HELICOPTER

HOLIDAY FUN BY HELICOPTER

Helicopter Operations Donated by Bay Area Helicoptours, www.bayaerial.com

HALLOWEEN PUMPKIN DROP



**SAT & SUN,
OCT 28-29,
12PM**

THANKSGIVING TURKEY TOSS

FEATURING COMMEMORATIVE FOAM TURKEYS
**WED,
NOV 22,
11AM**

SANTA CLAUS ARRIVES BY HELICOPTER



**SAT,
DEC 2,
10AM**

All Helicopter Events are Weather Permitting

HALLOWEEN EVENTS



HALLOWEEN HAUNTED HANGAR



**OCT 21 – 31
10AM – 5PM**

Share a family-friendly fright as the Hiller Aviation Museum transforms into the

Halloween Haunted Hangar in a special annual tradition! Enjoy creepy creations, dreadful decorations, and spirited Halloween fun.

HALLOWEEN KIDS' CARNIVAL

**SAT/SUN,
OCT 21/22,
10AM – 12PM**

Paint the museum's Cessna Cardinal in ghastly Halloween colors, launch a



Ghasticopter in a wind tunnel, assemble a Halloween craft and more at the Haunted Hangar.

HALLOWEEN FESTIVAL AND PUMPKIN DROP



**SAT/SUN,
OCT 28/29
10AM – 12PM
(PUMPKIN
DROP
AT 12PM)**

Join the fun as our high-flying witch prepares her doomed pumpkins for their final flights! With Halloween games, special prizes, and

helicopter-borne pumpkin drops as the clock tolls 12 noon.

WRECK CHASING: SEARCHING FOR LOST AIRCRAFT

SATURDAY, SEPT. 30, 11:00 AM

Presentation by Nicholas A. Veronico

Wreck Chasing: Searching for Lost Aircraft

Nicholas A. Veronico

How many rare aircraft flying today were recovered from wreck sites? How many one-of-a-kind aircraft in museums and private collections were found in forests, lakes, swamps, or encased in ice? How many aircraft crash sites have been documented in an effort to remember those who perished? Join author Nicholas A. Veronico as for a global look at a number of rare, flying aircraft – am Fw 190, a P-38, an F4U Corsair, a pair of P-51 Mustangs hidden in garages — that were recovered from the wilds and visit a number of crash sites – including the Philippine Clipper and one of the first B-17s to take the fight to the Japanese — that have been documented or recovered over the years. A number of Bay Area wrecks, including a Navy R4D that crashed in the hills of San Carlos will be discussed.

Author Bio:

Author Nicholas A. Veronico comes from a family of pilots, both his mother and father held private tickets, and his brother is a commercial pilot who flies for a major airline.

Veronico got his start as a freelance writer, then joined "Pacific Flyer" Aviation Newspapers. He then went on to serve as editor of "In Flight USA," contributed extensively to "FlyPast" magazine, and subsequently joined "Airliners: The World's Airline Magazine." On a freelance basis, he has contributed to "Air Classics," "Aviation History," "EAA Warbirds," "Warbirds Worldwide," "Airways," "Airliner World," "Warbird Digest," "Warbirds International," "Classic Wings," and many others. Event included with Museum admission.



HILLER AVIATION MUSEUM



Saturday Oct 21 through Tuesday Oct 31st, Daily 10am-5pm

SAT-SUN
OCT 21/22
10 AM-12 PM

- SPECIAL ACTIVITIES JUST FOR KIDS
- PAINT THE MUSEUM'S PAINT-A-PLANE
- AIRCRAFT CHECKOUTS
- COCKPIT EXPLORATION
- GLIDER AND HELICOPTER CONSTRUCTION AND MORE
- FUN FOR THE WHOLE FAMILY!

SAT-SUN
OCT 28/29
10 AM-12 PM

- HELICOPTER PUMPKIN DROP @NOON
- CREEPY GAMES AND PRIZES
- MEET THE WITCH AND SIGN HER SPECIAL HALLOWEEN PUMPKIN

GET TICKETS AT WWW.HILLER.ORG

HILLER AVIATION MUSEUM 601 SKYWAY RD SAN CARLOS, CA 94070

CALENDAR

SEPTEMBER

SUN, SEPT 3 • 11AM
Helicopter Adventure

SAT, SEPT 9 • 10AM-1PM
Open Cockpit

SUN, SEPT 10 • 11AM
Water Rocket Rally

SUN, SEPT 17 • 11AM
Glider Day

SUN, SEPT 24 • 10AM – 12PM
Kids' Carnival

OCTOBER

SUN, OCT 1 • 11AM
Helicopter Adventure

SUN, OCT 8 • 11AM
Water Rocket Rally

SAT, OCT 14 • 5PM-10PM
Dreams Take Flight Gala

SUN, OCT 15 • 2:30PM-4PM
Flight Sim Rally

OCT 21 – OCT 31 • 10AM-5PM
Halloween Haunted Hangar

SAT/SUN, OCT 21/22 • 10AM – 12PM
Kids' Halloween Carnival

SAT/SUN, OCT 28/29 • 10AM – 12PM
Halloween Helicopter Pumpkin Drop

NOVEMBER

SUN, NOV 5 • 11AM
Glider Day

SUN, NOV 12 • 10AM – 12PM
Bot Bowl

SUN, NOV 12 • 10AM-1PM
E-Waste recycling drop off

SUN, NOV 19 • 11AM
Straw Rockets

WED, NOV 22 • 11AM
Turkey Toss

THURS, NOV 23 • CLOSED ALL DAY

SUN, NOV 26 • 10AM – 12PM
Kids' Carnival

DECEMBER

SAT, DEC 2 • 9:30AM – 12PM
Santa by Helicopter

SUN, DEC 3 • 11 AM
Helicopter Adventure

SUN, DEC 10 • 10AM – 12PM
Bot Bowl

SUN, DEC 17 • 2:30PM – 4PM
Flight Sim Rally

WED, DEC 25 • CLOSED ALL DAY

TUES, DEC 26 • 11AM
Glider Day

WED, DEC 27 • 10AM – 1PM
Open Cockpits

THURS, DEC 28 • 11AM
Happy Birds

FRI, DEC 29 • 10AM – 12PM
Kids' Carnival

SUN, DEC 31 • 10AM – 1PM
Noon Year's Party

FLIGHT SIM ZONE AND FMX FLIGHT SIM
WEEKENDS 11AM - 2PM

INVENTION LAB
WEEKENDS 11AM - 3PM

DRONE PLEX
WEEKENDS 11AM - 3PM

HELICOPTER TURKEY TOSS



WED NOV. 22, 2023 11 AM

Celebrate the Thanksgiving holiday with a family-friendly re-enactment of a classic television event! In 1978, WKRP in Cincinnati first aired its timeless "Turkeys Away" episode. In 2023, the Hiller Aviation Museum commemorates this fictional holiday catastrophe with a "Turkey Toss" of its own.

The museum is known for many helicopter-borne events throughout the year. At Thanksgiving the museum will drop turkeys - not the actual birds, but soft foam turkey toys! Small, squeezable take-home turkeys will rain from the sky - reminding all of the immortal words of WKRP General Manager Arthur Carlson, "As God is my witness, I thought turkeys could fly!"

SANTA CLAUS ARRIVES BY HELICOPTER

SATURDAY, DECEMBER 2, 10 AM
RAIN OR SHINE.
DOORS OPEN AT 9:30.

Join the West Bay Community Band and sing Christmas carols while the kids line up to tell Santa their Christmas gift list. No Museum admission fee required for this event!



You can help inspiration take flight... by donating your vehicle!



No matter your reason, donating your vehicle is as easy as pie.

www.hiller.org/vehicle

1-855-550-4483

Sunday, November 12, 10 am – 1 pm

RECYCLE YOUR E-WASTE!

Hiller Aviation Museum, 601 Skyway Rd, San Carlos



Rotary
Club of
Peninsula Starlight

Golden State
Waste & Demolition

SM
area
Chamber of
Commerce

HILLER
AVIATION
MUSEUM



HILLER AVIATION MUSEUM

601 Skyway Road, San Carlos, California 94070 www.hiller.org

Non - Profit
Organization
US POSTAGE PAID
San Carlos, CA
PERMIT No. 96

Halloween Costumes

Be an Aviator,
pioneer
airline pilot
fighter pilot
or astronaut



Suit up in
the Gift Shop!

Special Holiday Shopping

NOV 24 THROUGH DEC 31

MUSEUM MEMBERS RECEIVE A
25% DISCOUNT
IN THE GIFT SHOP

NOVEMBER 26 - DECEMBER 31

Become a Museum Member
and take advantage of this
great holiday offer!

Join Now!

Senior (age 65+) \$55

One adult plus 2 one-time use guest passes

Individual \$70

One adult plus 2 one-time use guest passes

Family \$105

2 adults and up to 4 children (17 & under)
plus discounts on Aviation Camp

Pioneer \$140

Family Membership benefits plus one
additional card for an adult, ideal for
caregivers (up to 3 adults per visit),
& 2 one-time use guest passes

Pilot \$275

Family Membership benefits with a
total of 3 guest passes + 8 FMX Flight
Simulator passes and 50% off additional
FMX tickets.

Barnstormer \$550 Adventurer \$1,000
Pilot Membership benefits with a total of
4 guest passes + 10% off Museum Rental
and Birthday Parties.

Explorer \$2,500 Navigator \$5,000
Pilot Membership benefits with a total of
8 guest passes + 15% off Museum Rental
and Birthday Parties.

Aviator \$10,000

Pilot Membership benefits with a total
of 12 guest passes + 25% off Museum
Rental and Birthday Parties and a
Hiller Aviation Museum jacket.

Annual Membership Application

Or join online at www.hiller.org/member

I want to be a member of Hiller Aviation Museum in the following category:

- | | |
|--|---|
| ☐ Senior (65+) \$55 | ☐ Barnstormer \$550 |
| ☐ Individual \$70 | ☐ Adventurer \$1,000 |
| ☐ Family \$105 | ☐ Explorer \$2,500 |
| ☐ Pioneer \$140 | ☐ Navigator \$5,000 |
| ☐ Pilot \$275 | ☐ Aviator \$10,000 |

☐ New Member ☐ Annual Renewal

Primary Adult Member: _____

Second Adult Member: _____

(Family Memberships and up)

Third Adult Member: _____

(Pioneer Memberships only)

Address: _____ City: _____

State: _____ Zip: _____ Daytime Phone: _____

Email: _____

This is a gift membership from: _____

Payment Amount: _____ ☐ VISA ☐ MC ☐ AMEX

Card #: _____ Exp. Date: _____

CSC: _____ Print Name on Card: _____

Signature _____

Thank you for your support.

Please make checks payable to
Hiller Aviation Museum
601 Skyway Rd, San Carlos, CA 94070

