



BRIEFINGS

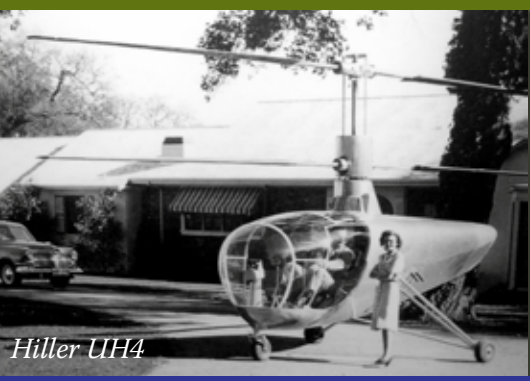


June - August 2020

HILLER AVIATION MUSEUM WHERE INSPIRATION TAKES FLIGHT

AIRCRAFT FOR ONE THE QUEST FOR PERSONAL AIR MOBILITY

by Jon Welte



Hiller UH4

One of the larger but less-celebrated designs from Stanley Hiller Jr. on display at the Hiller Aviation Museum is the UH-4 Commuter. As implied by its name, the Commuter was expressly intended to provide personal air transportation for the general public. Promotional photos from 1947 show an enthusiastic professional landing his Commuter in the driveway as his adoring wife looks on, no doubt impressed at her husband's cleverness in avoiding the evening traffic by flying far above it.

The concept of personal air transportation predated the invention of either the helicopter or the airplane. One of the earliest pilots known to use an aircraft for everyday jaunts around town was Brazilian aviation pioneer Alberto Santos-Dumont, who gained international fame flying a series of



Alberto Santos-Dumont

dirigible airships (and later airplanes) in and around Paris, France. Santos-Dumont famously won the Deutsch de la Meurthe Prize in 1901 with a record-setting trip around the Eiffel Tower in his *Airship No. 6*. In subsequent years Santos-Dumont frequently flew a smaller and more maneuverable airship low over the rooftops of Paris, stopping off at cafes for lunch

Biggest Little AIR SHOW
"Virtual"
Saturday June 13
10am-11am

PEAXY TOTAL DATA ACCESS FOR INDUSTRY

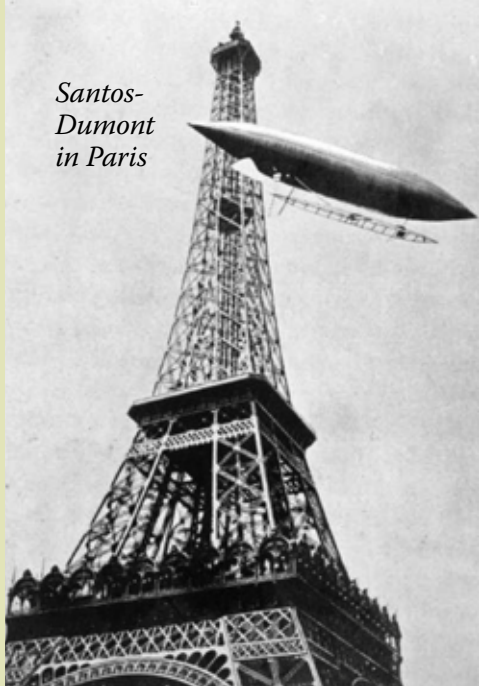
PLANES, TRAINS & COOL CARS!
SATURDAY JULY 18

Airport Runway Run
Saturday, Aug. 8

SPECIAL NOTE

THE HILLER AVIATION MUSEUM WILL REOPEN AND RESUME EVENTS IN ACCORDANCE WITH PUBLIC HEALTH ORDERS. EVENTS LISTED IN THIS EDITION OF BRIEFINGS MAY BE MODIFIED, RESCHEDULED OR CANCELLED IF NECESSARY TO COMPLY WITH FUTURE PUBLIC HEALTH GUIDANCE. PLEASE VISIT WWW.HILLER.ORG FOR UP-TO-DATE INFORMATION.

Santos-Dumont in Paris



with his dirigible tied off at the street outside like any ordinary steed. Santos-Dumont's habits did not quite usher in the era of personal air mobility, but did inaugurate the modern pilot's tradition of the 100-franc lunch.

Private aviation sprang back to the forefront in the minds of many aircraft manufacturers in the years immediately following World War II. Hundreds of thousands of young pilots who learned to fly as part of the war effort returned home with the onset of peace, and airframe builders dreamed of filling their wartime assembly lines with thousands of orders for personal aircraft. Hiller hoped that the helicopter's independence from the need for runways would differentiate it from the bewildering array of general aviation airplanes that appeared in the late 1940s, but while helicopters could operate in and out of constrained spaces their expense, their requirement for high levels of pilot training and their prodigious ability to turn fuel into noise conspired to keep them out of the hands of the common man during the boom years of the 1950s.

Throughout the 1950s and into the 1960s, advances in aviation trended toward larger and faster aircraft. The



BlackFly

development of turbojet and turbofan engines spurred the jetliner age, as exemplified by the Boeing 707 and Douglas DC-8, which entered service in the late 1950s. However, the idea of personal air transportation was not entirely lost in the transition to jet propulsion. In the early 1960s, entrepreneur William Lear formed a company to develop and market a smaller jet transport based on a Swiss fighter aircraft. The aircraft became the Lear 23, the first purpose-built jet transport intended for operation by businesses and individuals. Only 101 Lear 23s were built, but a market was created that now numbers thousands of operational business jets.

While specialized planes such as the Lear 23 thrived, they were not a form of transport accessible to the general public. The pilot training and certification requirements were significant, operating costs high, significant airport facilities were required and noise was always an issue. New technologies were needed to make personal air transportation feasible on a large scale.

The modern concept of the personal air transportation vehicle dates to NASA research disseminated in 2003. A paper presented by NASA Langley scientist Mark Moore anticipated that newfound technologies then finding their way into autonomous flight vehicles could likewise be applied to a personal air transportation system ideal for bypassing surface transportation bottlenecks in the urban environment. Aircraft would be much smaller, quieter, and slower than commercial jetliners, and generally flown over much shorter distances.

The distributed thrust model – using a larger number of smaller engines and propellers – is key to allowing use of such small aircraft in the urban environment. In a drone, replacing a single large rotor with four or more small ones is done primarily to allow for simplified flight control. However, when scaled up to larger sizes distributed thrust makes possible vertical take-off and landing operations (VTOL) and appreciably lower noise levels for small passenger aircraft.

Marcus Leng conceived of the BlackFly as a one-person, electric-

powered VTOL aircraft designed specifically with personal air transportation in mind. First built and flown as a proof-of-concept aircraft in Canada, Leng formed the company Opener to develop the aircraft and relocated to Palo Alto, California. The current version of the BlackFly appears at first glance to be a tiltrotor or tilt-wing aircraft, with two tandem wings each sporting four electric motors and propellers. The wings, however, are mounted at fixed angles to the fuselage, and each motor is likewise



Marcus Leng

fixed to the wings. When power is applied, the entire aircraft pitches on the ground until the propellers are oriented nearly straight up, allowing for vertical takeoff. At altitude, the entire aircraft pitches again to accelerate, with the wings developing aerodynamic lift and supporting the aircraft in forward flight. The current pre-production model first flew in 2017 and continues in development at Opener's Palo Alto facility today.

The Hiller Aviation Museum will soon exhibit the Opener BlackFly as an exemplar of modern personal air transportation vehicles. The technology used has changed tremendously since the days of Alberto Santos-Dumont and Stanley Hiller Jr., but the goal is the same: enable nonstop, door-to-door personal air transportation. The Hiller Aviation Museum is pleased to showcase the work of innovators such as Marcus Leng and his team as they pioneer new approaches to harnessing the promise of aviation.

Resources

<https://www.opener.aero/about-us/>,
Downloaded 15 May 2020

Vertical Challenge: The Hiller Aircraft Story, Jay Spenser, 2003

Wings of Madness: Alberto Santos-Dumont, Paul Hoffman, 2003

PLANES, TRAINS & COOL CARS



SATURDAY 18, 10:00 AM – 2:00 PM

Where else can you check out unique aircraft, Model Trains and Cool Cars from local car clubs and individual owners? At the Hiller Aviation Museum's Planes, Train and Cool Cars show, that's where! Come vote for your favorite to win the people's choice award. We also have a kids favorite category too. If you are interested in displaying your car please check out our website for more information: <https://www.hiller.org/cool-cars-reg/>



PLANES TRAINS AND COOL CARS



HILLER AVIATION MUSEUM

SATURDAY JULY 18TH, 2020 • 10AM-2PM

UNIQUE AIRCRAFT - COOL CARS - EUROPEAN MODEL TRAINS



HILLER
AVIATION
MUSEUM

WWW.HILLER.ORG

EVENT INCLUDED WITH MUSEUM ADMISSION

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The 24th EuroWest
MODEL TRAIN SHOW

Theme for 2020:
Eastern European
Trains and Railways

HILLER AVIATION MUSEUM
601 Skyway Rd., San Carlos, CA 94070

Saturday, July 25th, 2020 10:00am to 5:00pm
Sunday, July 26th, 2020 10:00am to 4:00pm

- Operating European Model Train Layouts
- Clinics, Lectures and Presentations
- Fun Challenges for Young and Old!
- Sales Tables
- Children's Activities
- Raffle Prizes
- Manufacturer and Distributor Displays

ADMISSION PRICE INCLUDES ADMISSION TO THE HILLER MUSEUM
Please see <http://www.hiller.org> for current admission

For show and vendor information please contact
Dave Cowi: eurowest@eta.org or visit <http://www.eta.org>

BIGGEST LITTLE "VIRTUAL" AIR SHOW

**SATURDAY, JUNE 13, 2020
10AM - 11AM**

Due to the COVID 19 virus and the uncertainty of being able to have a crowd at the show, we have made some changes to the format. Welcome to the first ever Biggest Little Virtual Air Show presented by PEAXY. That's right, this year the show will be live streamed so you still can enjoy the thrilling action of these unbelievable RC aircraft and pilot skills. San Carlos Airport will close to regular traffic from 10:00 am to 10:30 am to allow realistic jet and propeller-powered model aircraft to roll down the runway and into the sky to take part in a unique aerial extravaganza including aerobatic helicopters, drones, quadrotors and more!

PERFORMERS:

- The RC Flyers model aircraft demonstrations
- Aerobatic gyroscopic routines
- 3D aerobatic helicopters
- Quadcopter Drones
- Model Rockets
- Jets and other RC aircraft

Check out <https://www.hiller.org/event/biggest-little-airshow/> for the live stream link for the show.

NO PUBLIC will be allowed to attend this event in person unless State and County health guidelines permit it. Stay tuned to our web page as things change quickly.

PEAXY TOTAL DATA ACCESS
FOR INDUSTRY





PRESIDENT'S PERSPECTIVE

It's amazing how quickly the hustle and bustle of the Bay Area transformed, during a single week in March, 2020, into a hushed suspension of nearly all activity and enterprise. But as the COVID-19 situation slowly resolves, we look forward to a summer with the museum reopened and the promise of indulging our collective dreams of flight.

As this is written, we don't know when the museum's reopening will occur, precisely, but we anticipate it to be a phased affair, slowly ramping up in scope and scale of activity that conforms to public health guidelines. Our website, www.hiller.org, is the best way to see how all this is shaping up at the museum."

Meanwhile, we've created opportunities for online engagement with our "Hiller at Home" web page and our new Virtual Invention Lab. Plus, we offer a weekly series of live 30-minute "Hiller Hangar Talks" on the Zoom platform where we share presentations, exploits, research and personal stories of young professionals just beginning their aviation careers. Please visit www.hiller.org for more information on these activities.

We are also grateful for and humbled by the financial support we've received during the lockdown. If you're inclined to support the museum, your help is most welcome. And thanks to everyone who has supported the museum already this spring!

We greatly appreciate our family of museum visitors for helping make the Hiller Aviation Museum a vibrant and exciting part of the community. We look forward to seeing you soon at the Museum this summer!

*Jeffery Bass, President & CEO
Hiller Aviation Museum*

Hiller Aviation Museum



AVIATION CAMP 2020

Take Flight This Summer!

Created for children entering Grades JK-8, Aviation Camp uses hands-on experiments, authentic flight simulation and real aircraft to provide week-long adventures in flight.



Air & Space

Entering Grades K-5

Explore the universe and the science of spaceflight!



Aero Engineer

Entering Grades K-5

Design, build and fly aircraft and drones!



X-Plane Pilot

Entering Grades K-5

Explore cutting edge aircraft!



Physics Flyers

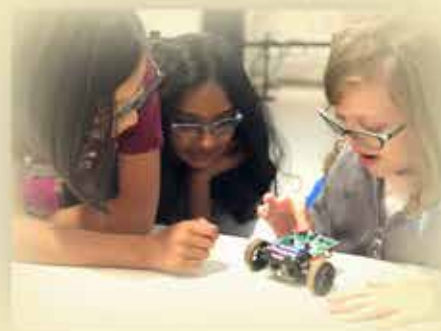
Entering Grades K-5

Investigate the science of flight!

Advanced Camp

Entering Grades 5-8

Additional sessions are available for children ages 10-13. Visit www.hiller.org for complete information.



ENROLL TODAY

www.hiller.org ♦ (650) 654-0200

The Hiller Aviation Museum is a 501(c)(3) public nonprofit organization, ID #94-3226411



REGISTER NOW

WWW.HILLER.ORG/RUN

SATURDAY, AUGUST 8, 2020



HILLER
AVIATION
MUSEUM



WALK • JOG • STROLL
on the **San Carlos Airport Runway!**

Certified 5K and 10K courses & 2K fun run

**EVENT IS EXPECTED
TO SELL-OUT AGAIN.
REGISTER EARLY!**

**SPONSORSHIPS
NOW AVAILABLE!**

**VOLUNTEERS
NEEDED!**

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ADVANCED PACKET PICKUP – HIGHLY RECOMMENDED!

Friday, August 7 • 2 pm – 7 pm
Sports Basement
202 Walnut St., Redwood City, CA 94063

20% off all in-store purchases*
during packet pickup hours for
Airport Runway Run participants!

*Some exclusions apply.

Sports
Basement
www.sportsbasement.com



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



Join Now!

Senior (age 65+) \$50

Unlimited admission for you + 2 guest passes.

Individual \$65

Unlimited admission for you + 2 guest passes.

Family \$90

Unlimited admission for 2 named adults and up to 4 children (17 & under) + discounts on Aviation Camp.

Pioneer \$125

Family Membership benefits + an additional card for a named member (ideal for caregivers) and 2 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:

- | | |
|--|---|
| <input type="checkbox"/> Senior (65+) \$50 | <input type="checkbox"/> Barnstormer \$550 |
| <input type="checkbox"/> Individual \$65 | <input type="checkbox"/> Adventurer \$1,000 |
| <input type="checkbox"/> Family \$90 | <input type="checkbox"/> Explorer \$2,500 |
| <input type="checkbox"/> Pioneer \$125 | <input type="checkbox"/> Navigator \$5,000 |
| <input type="checkbox"/> Pilot \$275 | <input type="checkbox"/> 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 _____

SUPPORT THE MUSEUM!

DONATE YOUR CAR TRUCK, RV, OR BOAT



CALL TOLL FREE 1-888-205-3420

Or call Development Office at

650-654-0200 x203

Tax Deductible Gift

AN AVIATOR'S PARADISE! VISIT OUR GIFT SHOP

Gift Certificates available!

Thank you for your support.

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

