

# BRIEFINGS

MAY 2004



## Hiller Aviation Museum WHERE INSPIRATION TAKES FLIGHT



### Vertical Challenge Helicopter Invasion!



*Otto the Clown Helicopter will perform the Yo-Yo act and many other tricks at Vertical Challenge*

The annual Helicopter Air Show at the Hiller Aviation Museum located on the San Carlos Airport, CA allows thousands of visitors to see up close what the VTOL (Vertical Take-off and Landing) aircraft have to offer. This year's "Vertical Challenge" is scheduled for June 12, 2004, 9 AM to 5 PM. Over 50 helicopters are on display and doing things only helicopters can do; from giving rides, to static display, to a full blown helicopter air show. There are choppers everywhere!

From the heavy lift "Monsters of the Sky" to the quick, agile fighter helicopters, the military invades in force. SAR (search and rescue) Demos are performed by the U.S. Coast Guard with their HH-65 Dolphin for the crowd. The California Department of Forestry brings their full ensemble of equipment for display. Emergency services are well represented by CHP Eurocopter AS-350, San Jose Police EC-120, Stanford Life Flight BK-117, and Calstar BO-105.

The air show will be the biggest yet. All the way from Florida will be Otto the Clown Helicopter. The headline act is the ShowCopters, a three-ship helicopter act that demonstrates the versatility of the helicopter and performs some spectacular formation maneuvers. This year also marks the 60th anniversary of Hiller Helicopters.

There is a variety of private and commercial helicopters, including KGO radio's Bell 206B Jet Ranger. Helicopter rides are the order of the day, provided by Diamond Aviation & Verticare helicopters in their Robinson R-44s.

"Vertical Challenge" helicopter air show is an incredible event that allows visitors to see helicopter operations first hand. The Helicopter Invasion is devoted to educating the public of how helicopters affect our daily lives from traffic and news reports to its unique life saving ability. For more info call (650) 654-0200 or [www.hiller.org](http://www.hiller.org)

### Hiller Helicopters

By Bob Erdman



*In 1954 the Hiller Model 1033 was designated by the military as the XROE-1 "Rotorcycle."*

A Flying Submarine and a Flying Bridge! Yes, these were two of many products seriously proposed by the Hiller Helicopter Company to the US Navy and US Army. The two military forces did not take up the company on the proposals, but many other advanced concepts were funded and, in some cases, went into production. The Hiller Company was innovative, imaginative, creative, as well as practical and efficient. Of the four pioneers in vertical flight, Sikorsky, Piasecki, Young and Hiller, Stanley Hiller, Jr. founded and led the company which carried its name and which went on to develop over 20 different models and produce

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# Hiller Helicopters

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in excess of 3,000 successful aircraft. Many of the helicopters produced were used by the military in the defense of the United States, and others functioned in a wide variety of commercial applications. In fact, a high percentage of those produced are still in operation throughout the world.

The very first Hiller model, the XH-44, was designed and flown by Mr. Hiller in 1944 and it is currently on display at the Hiller Aviation Museum in San Carlos, California. It will soon be given an honored position in the new National Air and Space Museum adjacent to the Dulles International Airport outside of Washington, DC. However, the San Carlos Museum has many other examples of Hiller range produced, and aviation museums throughout the United States also exhibit many of the type.

The XH-44 was the first helicopter developed and flown on the West Coast. It utilized counter-rotating rotor blades which obviated the need for a tail rotor to counteract torque. Following up on the success of the XH-44, Mr. Hiller established a company, United Helicopters in Palo Alto, California, to develop and produce a range of helicopters for the market which was expected to expand as the utility of vertical flight became recognized and accepted.

United Helicopters first model, the J-5, was also innovative and unique because it used an air jet to counter torque but it proved to be impractical because it had insufficient power. A follow-on design, the UH-4 with counter rotating blades, was intended as a "Commuter" vehicle however, it was well ahead of the market and was not put into production. Finally, the company developed a more "conventional" helicopter. The NC-5 was the first of the line to utilize an idea conceived by Mr. Hiller to provide stability unknown in competitive products. The device named "Rotormatic" provided a dramatic

*See Hiller Helicopters on page 3*

# President's Perspective

"Time flies" is more than a cliché around an aviation museum....it seems to be truth.



I swear it was only yesterday that I was looking forward to my first experience with Vertical Challenge. Now here we are one year later and getting ready for that big day again. The staff and many, many volunteers have been working for some time to provide a terrific event for you.

This year we celebrate in special ways as we present the country's largest all helicopter air show and the magic number would appear to be "6." The museum will be celebrating our 6th Anniversary of opening to the public back in June 1998. However, an even bigger celebration that we highlight this year is the 60th anniversary of Hiller Helicopters. To honor the 1944 developments that Stan Hiller offered the world of aviation, we will have an array of Hiller aircraft on display. His earliest, the XH-44, will be shown here for the last time during Vertical Challenge before it heads back the following week to its new home at the Smithsonian Air &



Space Museum's new Hazy Center at Dulles International Airport. We have had it on loan since we opened and now it is time to say good bye.

So, come and join us on a special day of Northern California Aviation history. We will celebrate the wonderful feeling of flight with you our extended family as private, governmental, and military helicopters show the public their contributions that make our world both safe and exciting. This is a wonderful day for families to share an activity that is entertaining and educational. Bring family and friends and come see us and celebrate!

*Alan D. Wauffle  
President & CEO*

## Book Sale at Vertical Challenge

The Michael King Smith Research Library will be selling duplicate aviation related reference books during Vertical Challenge. The books will be sold in the Museum's Lobby. Proceeds from the sale will support Library functions and allow for new book acquisitions.

### **Vintage Airplane Kit Models for Sale at Vertical Challenge**

Vintage plastic kit (1/72 scale) models from all over the world, some no long in production and

up to 35 years, will be sold in the book sale area. Airfix and Frog kits from England, Heller from France, Italeri from Italy, Hasegawa and Tamiya from Japan, Revell and Monogram from the USA as well as Canada, Russia and Czech Republic are available. Early aircraft through the World War fighters to modern jets are represented.

Add to you collection! If you are looking for a particular kit from the past, you may just find it here!

# Hiller Helicopters

Continued from page 2



improvement in stability and it was incorporated in future models. A former US Army helicopter pilot, John Kerby-Miller, who flew both Hiller and Bell aircraft, reports “the Hiller is highly stable and substantially easier to fly. It is less demanding and reduces fatigue.”

The range of aircraft developed by the Hiller Company is absolutely astounding. It ranges from a “Flying Platform” to a Vertical Take Off and Landing airplane (VTOL). Between this range are several highly successful helicopter models including the H-12/H-23/360 which comprises the major part of the company total production. As noted, the Company was very inventive having developed the Rotomatic feature but it also was first to apply rotor tip mounted ram jet propulsion to a helicopter. The latter technology was used on the Hornet model for both the Army and Navy.

Some of the products were quite successful but were not put into production for reasons unrelated to the design. The Flying Platform performed to specifications but the Army concluded that it was not

appropriate for the application intended. The Hornet model (HOE-1) and the Rotorcycle (YROE-1) were other examples of this situation. Like in other industries, some only got to a single prototype.

Others did not get beyond the idea. For example, The Flying Submarine and Flying Bridge were only ideas however, the Hornet was reconfigured as an “autogyro” and test flown but that was its limit. However, Hiller had a cooperative arrangement with Vaught and Ryan to build a VTOL aircraft as an extension of the Hiller X-18, the XC-142, as it was called by the military. Five of the type were built and flown but the military did not contract for volume production.

A similar concept to the XC-142, the Osprey, is currently under evaluation by the US Marine Corps. Though the Hiller Company discontinued manufacturing aircraft, it was a major factor in establishing the worldwide helicopter industry with thousands of units produced every year. These aircraft are in daily use for defense, search and rescue, law enforcement, traffic monitoring and many other applications.

# Join the Vertical Challenge STRAIGHT-UP CLUB

Enjoy Vertical Challenge from a new perspective—seated under a tent with drink in hand while hobnobbing with the pilots.

You can NOW have a front row seat and lunch in a tent especially set up for your comfort. The Straight-Up Club has been created to help you celebrate our 5th year in style and to support the event at the same time.

Join the Straight-Up Club today and we’ll save you a seat to enjoy the 2004 Vertical Challenge extravaganza!

\$125 gives you 2 tickets to the event and admittance to the Straight-Up Club tent where your seats and lunch are waiting.

\$200 gives you a family ticket (2+ same family) to the event and admittance to the Straight-Up Club tent where seats and lunch are waiting.

Please return this portion with your payment to: Hiller Aviation Museum, 601 Skyway Rd., San Carlos, CA 94070

Yes, I want to become a member of the Straight-Up Club and support the Museum at the same time I enjoy the show.

\$125  \$200  Other (I can’t attend but I want to support the event)



Stanley Hiller Jr. (third from the right) and his team in front of the XH-44

NAME
ADDRESS
EMAIL
PHONE
VISA/MC/AMER. EXP.
EXP. DATE
SIGNATURE

# Calendar of events:

June 12	Vertical Challenge 9am-5pm
August 28	Lecture, Joe Cotton, XB-70 pilot, 11am
September 6	Reno Air Race Day 10am-2pm
October 9	Spy Planes lecture 11am
December 4	Santa arrives by helicopter 10am

## Vertical Challenge

### Schedule of Events:

**Two completely different Air Shows Saturday June 12**



8:00 – 9:30	Helicopter arrivals
9:00am	Gates Open
11:30 – 12:30	1st Show
11:30 – 11:35	Anthem featuring Allen Silver Parachute jumpers
11:35 – 11:45	Helicopter lesson
11:45 – 12:00	RC Helicopters
12:00 – 12:15	U.S Coast Guard Demo SAR
12:15 – 12:30	Otto the Clown Helicopter
2:00 – 3:00	2nd Show
2:00 – 2:10	Bay Area Sundowners Kites
2:10 – 2:25	129th Rescue Demo
2:25 – 2:35	Water Drop
2:35 – 2:50	The ShowCopters
2:50 – 3:00	Surprise formation flight
3:30 – 5:00	Helicopter Departures

*\*Schedule subject to change*

### Speaker Schedule:

10:00 – 10:30	Flight schools
10:30 – 11:00	Hiller Aircraft History
11:00 – 11:20	TBD
12:30 – 1:00	Whirlybirds
1:00 – 1:30	TDB
1:30 – 2:00	TBD



## A Profile of a Major Donor at Hiller

Enthusiasm, love for life and people characterize Stu Denton. He has been a donor and docent at Hiller for over 5 years. Married for 57 years to his wife, Ethel, they enjoy visits from their 4 grandchildren. For 27 years Stu worked at Pan American Airlines as a sheet metal mechanic. His skill makes him one of a kind in his field. A treasured collection of cast iron antique coin banks line walls of his den. Stu always finds time to share his talents by making reindeer, rabbits and whirly birds for everyone's children and grandchildren.

We are so grateful for Stu's willingness to give of his time, talents and finances to ensure the Hiller Aviation Museum stays strong.

You can ensure that the museum continues to be an enjoyment and an inspiration for generations to come.

Join the "Leaving a Legacy Group" by putting Hiller Aviation Museum in your will. Contact Tish Bayer in our Development Department for details.

# Membership Application

Becoming a member of the Hiller Aviation Museum means you are participating in the growth of museum exhibits, and have a role in the education & research center's goal to advance air transportation.

## Basic Membership Benefits: Individual, Family and Senior

- Free admission to museum exhibits
- Museum decal
- Subscription to the quarterly *Briefings* newsletter
- 10% discount in the museum Flight Shop

## Sustaining and Supporting Member Benefits

- All Basic Membership benefits listed above
- Listed in *Briefings* newsletter

## Directors and Patron Member Benefits

- All Basic Membership benefits
- Individual name plaque on the museum's Donor Wall
- Invitations to new exhibit previews
- Invitation to the annual Donor Recognition event

## Benefactor, Trustees and Founders Circle Benefits

- All Basic Membership benefits
- Individual name plaque on the museum's Donor Wall
- Listed in *Briefings* newsletter
- Invitations to new exhibit previews
- Invitation to the annual Donor Recognition event
- Naming opportunity on a specific exhibit or operating facility

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

- |                                       |       |   |                    |
|---------------------------------------|-------|---|--------------------|
| <input type="checkbox"/> Senior (65+) | \$35  | <input type="checkbox"/> Directors Circle | \$500              |
| <input type="checkbox"/> Individual   | \$50  | <input type="checkbox"/> Patron           | \$1,000            |
| <input type="checkbox"/> Family (2+)  | \$75  | <input type="checkbox"/> Benefactor       | \$2,500            |
| <input type="checkbox"/> Sustaining   | \$100 | <input type="checkbox"/> Trustees Circle  | \$5,000            |
| <input type="checkbox"/> Supporting   | \$250 | <input type="checkbox"/> Founders Circle  | \$10,000 and above |

New member       Annual renewal

Gift Membership: from \_\_\_\_\_

Membership name \_\_\_\_\_

Mr.  Mrs.  Ms.  Dr.  \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

Phone \_\_\_\_\_

Fax \_\_\_\_\_

Payment amount \$ \_\_\_\_\_

Visa  Mastercard  American Express

Card # \_\_\_\_\_ Exp. Date \_\_\_\_\_

Signature \_\_\_\_\_

All memberships are annual. Thank you for your support!

Please make checks payable to: Hiller Aviation Museum  
601 Skyway Road, San Carlos, CA 94070  
Tel: 650-654-0200, Fax: 650-654-0220

Donations are tax deductible to the extent allowed by law.

# USS Hornet

The USS Hornet invites Hiller members to celebrate the 35th anniversary, "Splashdown," of the recovery of Apollo 11 and 12 on July 16-25. Astronauts Dick Gordon and Alan Bean will be present at various events to commemorate the first landings on the moon. In addition, Don Blair, the radio voice of Apollo 11, will be speaking and signing copies of his newly published book.

As part of the celebration, Hiller members will be offered discounted general admission of \$10 (regularly \$14) for adults and \$5 (regularly \$6) for youth, ages 5-17. Children under 5 are free. (Just show your Hiller membership card.) Hiller members are also eligible for discounted Individual Membership \$40 (regularly \$50) USS Hornet Family/Dual membership at \$60 (regularly \$70)\*.

And for Hiller aficionados of swing dance and the Big Band sounds, the USS Hornet will offer Hiller members the opportunity to dance the night away for discounted tickets of \$35 (regularly \$40) on board the USS Hornet—one of the most famous naval aircraft carrier museums in the country. See the World Famous Jimmy Dorsey Orchestra Saturday October 9, 2004.

Please contact 510.521.8448, extension 238 or membership@uss-hornet.org for more information. Offer available through September 30, 2004\*.

# Member Free Reciprocal Weekend with Coyote Point Museum!

Members of Hiller Aviation Museum may visit Coyote Point Museum on July 17 and 18 at no charge with your membership cards

See our newest Exhibition "Sounds of the Sea" where you will listen to an underwater symphony of naturally occurring and human-introduced sounds. Rumbling Earthquakes, eerie whale songs and whirring propellers will be some of the sounds you will experience

Don't Miss Coyote Point Museums new Aviary and Honey Bee Exhibits. Fox Feeding at 11:30 AM (Tuesday – Saturday) and Otter Feeding at 12:15 PM Daily.

Coyote Point Museum is a learning center that inspires each of us to make a lifelong commitment to act responsibly in caring for the earth. We provide engaging educational experiences through our zoo, gardens, exhibitions and programs that relate to the global environment.

# Visit the Hiller Gift Shop!

The Osprey is one of hundreds of different vertical takeoff items in our store. The model shown is handcrafted in mahogany (\$169.95). On Vertical Challenge day we will have a special booth set up outside with all our special collection of vertical take-off toys.



Volunteer Tim McIntosh has been an instrumental organizer of the Vertical Challenge helicopter Air Show since the first one five years ago. Tim is responsible for the field layout and recruiting of helicopters. "When ever Tim sees a helicopter land at San Carlos, he is in his car and driving to meet them so he can invite them to the show" said Willie Turner, Director of Vertical Challenge. "Many of our attending helicopters are directly related to Tim's efforts." For that, Tim has been promoted to Air Show XO (Operations Officer) and is also the liaison for the participants.

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## HILLER AVIATION INSTITUTE AVIATION • EDUCATION & RESEARCH CENTER

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