Anniversary Issue

HILLER COPTER-NEWS

Published Monthly by the Manufacturers of Hiller Helicopters

Vol. 3 No. 12 PALO ALTO, CALIFORNIA December, 1952

RECORD PRODUCTION MARKS COMPANY'S 10th ANNIVERSARY



THEN—After several years of helicopter research and planning, Stanley Hiller, Jr., began construction of his XH-44 in late 1942. Photo above was taken in the Berkeley garage where this co-axial helicopter was built.

Helicopter Enterprise Begun in Berkeley Garage in 1942 Is Today One of Industry's Leading Producers

PALO ALTO, CALIF.—As 1952 draws to a close, Hiller Helicopters observes its 10th Anniversary of helicopter manufacturing with a record production for the year, with gross sales for 1952 of approximately double those for 1951 setting a new high for its entire history of operations.

During 1952, the company's steady growth was highlighted by completion of the first phase of expansion and attainment of new levels of production efficiency. An improved plant layout, additional equipment, and adoption of the latest aircraft production techniques all contributed to the firm's ability to surpass production schedules established by the military services.

Resumption of limited commercial deliveries last May was made possible when the company exceeded production quotas for Army and Navy helicopters.

It was in December, 1942, that Stanley Hiller, Jr., Founder-President of Hiller Helicopters, started work on his first helicopter, the XH-44 "Hillercopter," in a Berkeley garage. At this time he organized Hiller Aircraft, original forerunner of Hiller Helicopters, to culminate several years of initial research.

Completed in 1943 and flown the next year, the XH-44 was America's first successful co-axial type.

Development work was continued on this type of helicopter during World War II, when Hiller became associated with Henry J. Kaiser, in Hillercopter Division of Kaiser Cargo Company.

In this period, the organization built the X-2-235 helicopter, whose co-axial rotor system was developed under Navy contract. Small electronic

(Continued on Page 2, Col. 2)



XH-44—America's first successful co-axial helicopter being flown by Stanley Hiller in 1944, in Berkeley Stadium.



X-2-235 — This co-axial helicopter's rotor system was built under Navy contract when company was affiliated with Kaiser.



UH-4 — The streamlined two-place "Commuter," flown in 1946, won first prize at World Inventors' Congress in 1947.



J-5—America's first jet torque-compensating helicopter, built to test direct overhead control, flew in 1946.



UH-5—Experimental test frame flown in 1947 proved "Rotor-Matic Control," marked beginning of new helicopter stability.



FIRST 360—Certificated for commercial production in 1948, it was the third helicopter licensed by the CAA.



UH-12—Production 360s, with semi-monocoque construction and light, open canopies, were produced in quantity in 1949.



UH-12A—First military helicopters produced by Hiller (Navy HTE-1, Army H-23A) were modified versions of the 360.



HILLER-HORNET—First two-passenger ram jet helicopter, shown here in enclosed cabin version, was flown in 1950.



UH-12B—Designated Army H-23B, Navy HTE-2, this helicopter, equipped for military operations, was in production in 1951.

Development Accelerated by Military Acceptance of Industry

Hiller Helicopters' ten-year period of growth saw the passing of many milestones which pointed progress upward, but the greatest of these was acceptance of the company's helicopters for military service.

Just as industry progress was catapulted ahead by the government's increasing use of helicopters for military purposes, Hiller Helicopters received its greatest impetus when the Army and Navy ordered quantities of H-23s and HTEs. Resulting close teamwork between governmental agencies and Hiller Helicopters following greater military use of helicopters greatly accelerated both development work and attainment of production efficiency, and rapidly expanded an operation which had already manufactured commercial helicopters for 25 foreign countries and the United States.

The first Hiller helicopter acquired by the military was a UH-12A delivered to the U. S. Navy in September, 1950. In the same month, the U. S. Army acquired a YH-23.

These initial orders were quickly followed by Navy and Army orders for HTE-1s and HTE-2s, and H-23As and H-23Bs. First models were quickly modified versions of the Hiller 360. Pressed into service, it became apparent that civilian aircraft were not completely adaptable for military operations. With suggestions from the field and joint engineering meetings, military and company representatives together brought forth the HTE-2 and H-23B, each designed specifically for Navy and Army requirements.

History of Hiller Helicopters Has Many Industry "Firsts"

During a decade of building rotary wing aircraft, Hiller Helicopters has accumulated the following industry "firsts":

1944—America's first successful co-axial helicopter flown by Stanley Hiller.

1946—America's first jet torque-compensating helicopter flown.

1947—Application of "Rotor-Matic Control" brought first inherent stability to helicopter flight. This stability permitted "hands-off" flying for extended periods.

1948—With C.A.A. certification

(Continued on Page 3, Col. 3)



NOW—Standing at rear of today's main production plant, Stanley Hiller (arm raised) and (l. to r.) Board Member I. M. Laddon, Works Manager W. Renison, V. P. John Chadwick, and Executive V. P. Frank Learman watch newly-completed helicopter as it comes off production line for flight testing.

10th Anniversary Issue

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Volume 3 Number 12

December, 1952

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Published monthly by Hiller Helicopters, 1350 Willow Road, Palo Alto, California.
Manufacturers of Hiller Design Rotary-Wing Aircraft
Send news and editorial contributions in care of Editor.

7

History of Hiller a Story of Pioneering

(Continued from Page 1)

signal device helicopters were also built under Navy contract.

Affiliation with Kaiser was terminated by mutual consent at war's end, when the industrialist's interest turned to automobile production.

United Helicopters Formed

In 1945, Hiller formed United Helicopters, Inc., to continue research toward his original goal of producing a practical, simplified, low-cost rotary wing aircraft. From Oakland, he and his growing staff came to Palo Alto, where a temporary plant downtown was chosen for designing and building a number of twin and single rotor helicopters.

This led to the development and C.A.A. certification (in 1948) of the Hiller 360, a single rotor helicopter utilizing a new aerodynamic control system called "Rotor-Matic Control." The Hiller 360 was the first 3-place helicopter designed specifically for commercial applications in business and agriculture.

(Continued on Page 4, Col. 3)





THE WRONG SLANT—Learning the hard way exemplified by photos above showing momentary end of months of planning and work. In May, 1944 (left) one of Stanley Hiller's early helicopter flight attempts ends in a crash. In 1947 (right) he unsuccessfully tries to right the Hiller "Commuter" on test flight, while aide stands helplessly by.

EARLY DAYS FILLED WITH DISAPPOINTMENTS . . .

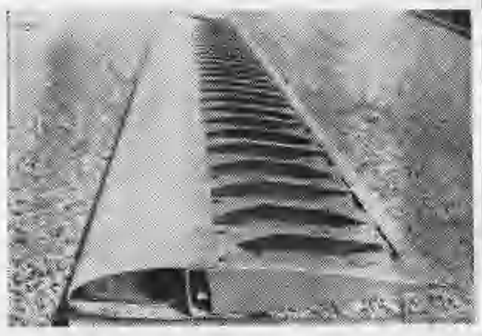
It's seldom smooth sailing all the way in the rise of any new industry or company, and Hiller Helicopters is no exception. Many bitter disappointments marked the efforts of Stanley Hiller and his associates in the early days when only a few pioneers saw the possibilities of rotary wing flight.

Sometimes the work of months, even years, was cancelled out completely in moments of disillusionment during which broken rotors thrashed about in a crash; and sometimes other failures, though not so spectacular, brought an abrupt end to hopeful expectations born of endless planning.

. . . BUT OUT OF EXPERIENCE CAME KNOWLEDGE

But throughout every effort that led to disappointment or failure — whether in testing rotor blades for lift, trying new controls for stability, or searching for simpler mechanisms — there ran one solid thread of continuity. That was the willingness to get up and try again, the determination to ultimately reach a goal sought.

And so, out of continuing effort through success and failure, came experience. And out of experience came knowledge which provided a background for later production.







PIONEERING DESIGN PROGRESS—Rotor system of XH-44, including all-metal blades (left) and rotor hub (center), represented some of the most realistic thinking in early rotary wing design concepts. Development of later design features, such as Rotor-Matic Control (right), was helped by early endeavors.

'Copter Comments

Written exclusively for Hiller Copter News

ON COMING OF AGE

By RALPH M. HEINTZ*



*RALPH M. HEINTZ, retired industrialist, is well known for his part in the fabulous growth of Jack and Heintz, Inc., Cleveland, which attracted world-wide attention for its phenomenal industrial accomplishments and employee welfare plans.

The "egg beater," the "windmill," the "mixmaster" has shed its diapers and can stand and take a few steps. To say that the helicopter has come of age would be as wrong as to say that the airplane had come of age when the Wright Brothers first flew their frail craft at Kitty Hawk. Ahead of the helicopter extends a vast plain into which can be carved thousands of trails, roads, and highways; not as long, perhaps, but more varied and certainly no less important than those that lay ahead of the airplane when it, too, shed its swaddling clothes.

The destiny of the helicopter is linked with that of the airplane as surely as the destiny of the automobile is linked with that of the railroad. The automobile has many functions other than serving the railroad; likewise the railroad has many functions that cannot be taken over by the automobile, but neither can get along without the other.

The automobile has, likewise, served the airplane. In fact, the airplane can't get along without the automobile, for without ground transportation air transportation would cease.

While the train and car had comparable speeds at the time of Kitty Hawk, and either could easily outstrip the Kitty Hawk plane, both are outstripped four or five fold by the plane of today. While the relatively slow moving automobile can well serve the slow moving train, it cannot properly serve today's airplane, cannot possibly serve tomorrow's.

It seems inevitable that the helicopter will take over, picking up passengers, mail and freight, at a hundred scattered points and delivering them, not to a terminal building, but to the airplane ready to take off. The helicopter will not supplement the airport bus—it will *be* the airport bus.

For this service alone, it will take thousands of 'copters for industry, private and general transportation, construction, and agriculture. Bigger 'copters, with stronger muscles, will become great weight lifters and indispensable building tools.

It takes both engineering and "imagineering" to make a helicopter what it is destined to be. It takes an agile mind, unlimited imagination, and the enthusiasm of youth to build, not today's helicopter, but the 'copter that is to be. It takes a man like Stanley Hiller to bring the helicopter to its destination.

Arrived at its destination, the helicopter will become the first flying machine to be mass produced. The helicopter will then have come of age.

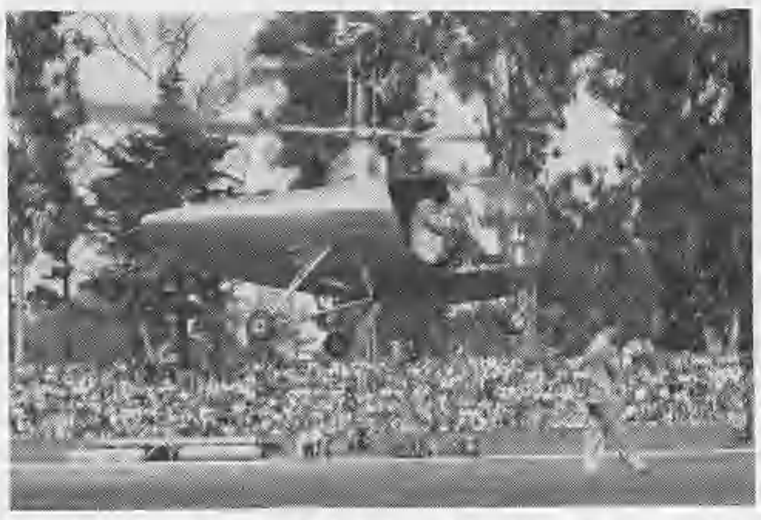


RUN-UP IN GARAGE—When rotors of XH-44 were first "revved up" in Berkeley garage, glass panes were drawn out of skylight by downdraft, testifying to craft's eagerness to get into air.

THESE EVENTS WERE HIGHLIGHTS IN



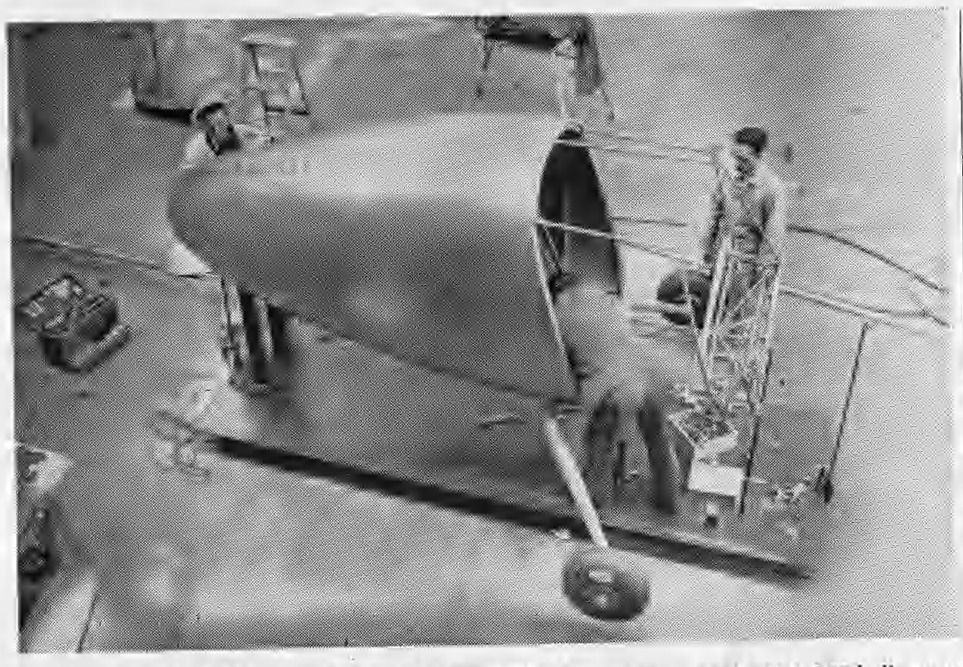
FIRST PUBLIC FLIGHT—On San Francisco's Marina Green in August, 1944, Stanley Hiller, Jr., makes first public appearance with his XH-44 single place "Hillercopter."



STOCKHOLDER DEMONSTRATION—Rented football stadium serves as backdrop for company's first public stockholder demonstration at Redwood City in 1947.



CERTIFICATION—Four years after first public XH-44 flight, CAA awards production certificate to company for Hiller 360 in ceremony held on same Marina spot.



BUILDING THE X-2-235—Most of the shop force is shown above as the X-2-235 helicopter is put together in a Berkeley plant while company was affiliated with Henry Kaiser during World War II.

HILLER "FIRSTS"

(Continued from Page 1)

of Hiller 360, company was first one formed exclusively for helicopter manufacturing to be awarded a commercial license.

1949—Hiller 360 made first commercial helicopter transcontinental flight, from San Francisco to New York. Demonstrations were given in more than 450 towns, and 9,000 miles were flown.

1949—First world-wide distributorship system for helicopter sales and service in operation.

1950—First operational ramjet helicopter, two-place Hiller Hornet, flown.

HOW HILLER STAFF GREW



1943—Six persons comprised the original staff of Hiller Aircraft, forerunner of Hiller Helicopters, when it was organized in 1942. Stanley Hiller is fourth from left, and third from left is Harold Sigler, oldest associate and now chief of Research and Development.



1946—Shown in front of "Commuter" frame during flight tests on Stanford University grounds are most of the personnel that comprised newly-formed United Helicopters, Inc., at this period.



1948—This photo, taken at CAA certification of the Hiller 360, shows entire personnel of Hiller Helicopters in October, 1948. Since then, the organization has grown to almost 700 employees.



SLEEK COMMUTER—Streamlined contour of Hiller's co-axial "Commuter" revealed when craft was on public display in 1947.



FIRST PALO ALTO PLANT—After organization of United Helicopters, Inc., company was housed in temporary plant on El Camino Real, in downtown Palo Alto. Photo above was taken in 1947 while building the "Commuter."



WILLOW ROAD PLANT—Sixty-one acres on Willow Road were acquired in 1946 for Hiller Helicopters' permanent plant site. In 1947 construction was well under way on framework of main building (left). By late 1948 a production line was in operation for the Hiller 360 (below).



HISTORIC FIRST MODELS NOW EDUCATIONAL DISPLAYS

The historic significance of early experimental models made by Hiller Helicopters has given them places of honor at widely-diversified centers of aeronautical interest.

Awaiting placement in the Smithsonian Institution, the XH-44 now hangs from the ceiling of the main plant where it is seen by many visitors. Beside it hangs the UH-5, with its original Rotor-Matic paddles.

Three UH-4 models are used for educational work by (1) the CAA Training Center in Oklahoma City, (2) San Jose (Cal.) State College, and (3) California Polytechnic Aeronautical School, San Luis Obispo.

Prototype of the Hiller 360 is also at the CAA Training Center in Oklahoma.

THE GROWTH OF HILLER HELICOPTERS



WILLOW ROAD PLANT—Frozen turf marks groundbreaking for company's present production plant in October, 1948.



NEW STABILITY—Illustrating inherent stability, Hiller 360 flies pilotless over San Francisco Bay in February, 1949.



TRANSCONTINENTAL FLIGHT—New York landing at foot of Wall Street in April, 1949.



FIRST DELIVERY TO ARMY—Major John Oswald accepts delivery of Hiller YH-23 for U. S. Army from Stanley Hiller, Jr., at the company's Palo Alto plant in September, 1950.

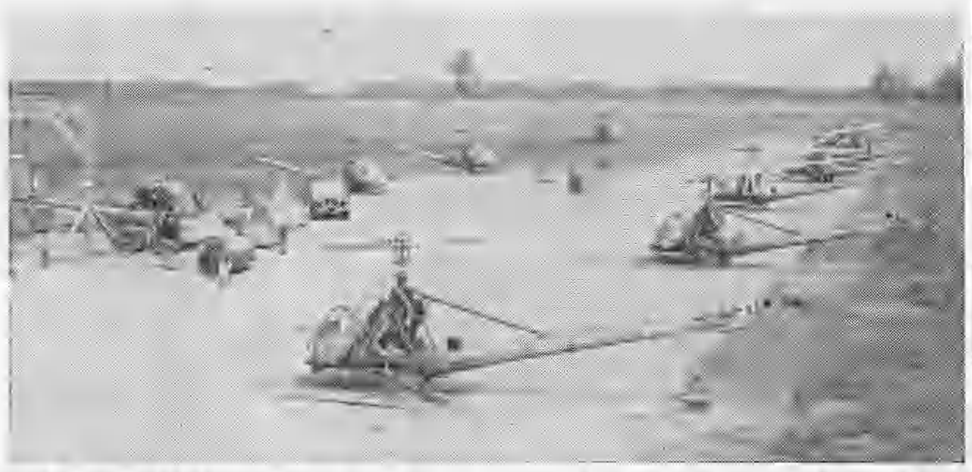
PRODUCTION EFFICIENCY GREW AS OPERATIONS EXPANDED



TODAY'S MACHINE SHOP—Part of Hiller Helicopters' present plant contains a modern, well-equipped machine shop which handles both production and experimental work.



FINAL ASSEMBLY LINE—End of the flow chart for sub-assemblies is the final assembly section, where finished helicopters are rolled out the back door.



FLIGHT LINE ACTIVITIES—Last-minute check-ups and flight tests are made on Hiller's large, paved flight ramp before production helicopters are delivered.

(Continued from Page 2)

Now in its Willow Road plant, United Helicopters, Inc., became, with Government certification of the 360, the first company formed solely for helicopter manufacturing to receive this approval. (The present corporate name of Hiller Helicopters was adopted later to avoid confusion with other firms.)

World-Wide Sales

In 1949 and '50, Hiller Helicopters sold more commercial helicopters through its world-wide distributorship system than all other manufacturers combined, placing 360s on all but one of the world's continents.

By late 1950, however, after the outbreak of the Korean war, the need for Army and Navy helicopters took precedence. Commercial sales were stopped, and the plant was converted to military production.

To direct an expanded production program, top administrative men of the aircraft field joined the rapidly expanding ranks of Hiller employees working to produce Army H-23 and Navy HTE helicopters. As a Navy Facility, a BAR office was set up in the plant, with Lt. Com. W. B. Woodward in charge.

Sales Reflect Growth

Annual sales of $557,000 in 1949, $1,262,000 in 1950, and $6,600,000 in 1951 reveal recent fast-growing operations of the firm.

Today Hiller Helicopters concentrates on further increasing its production efficiency in its two-plant operations at Palo Alto, while continuing extensive research on helicopters of the future, including work on an evaluation quantity government contract for the two-place ram jet HillerHornet.

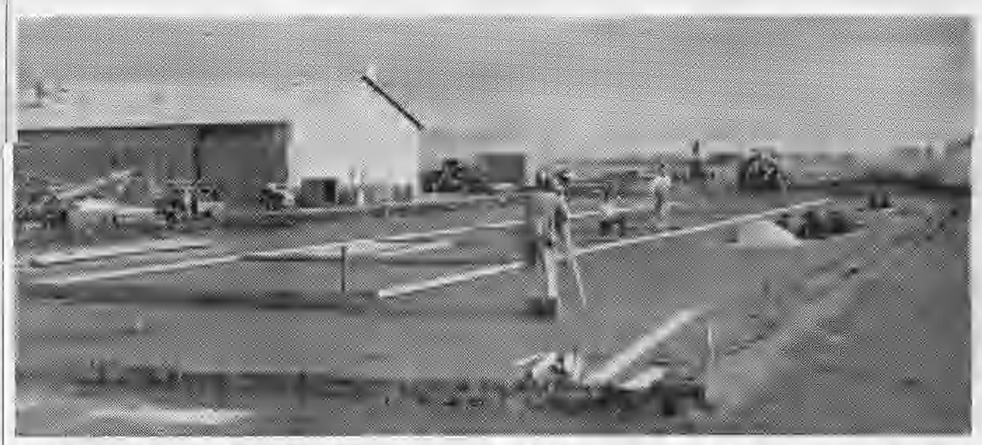
More than 400 sub-contractors and vendors, located throughout the United States, help Hiller Helicopters achieve its present rate of production.



TESTING JETS—Ram jet engine on whirl test stand watched closely by Experimental Supervisor Edward Bennett during thrust calibrations.



WOMEN ADDED TO PRODUCTION—During 1952, Hiller Helicopters employed the first women it used for production operations. They now work in wiring, welding, sheet metal and final assembly.



AND STILL GROWING—Just taking shape on the ground is the new Engineering Test Center, being erected behind the present Engineering Building.



PRESENT ENLARGED PLANT—Aerial view shows Hiller Helicopters' main plant, engineering building at right, and painting and plating building at rear. Experimental Division is located on another section of company's property.

RECENT YEARS BROUGHT BIGGEST CHANGES IN COMPANY OPERATIONS

Although company operations have become larger each year since 1942, the most striking changes have occurred in the last few years.



YESTERDAY—This was the Engineering Department in 1946, located in company's first Palo Alto plant.

Before 1948, Hiller Helicopters' entire efforts were directed toward certification of a stable, production-able helicopter. After certification of the Hiller 360, efforts were turned to production, and, as production expanded, so did the plant.

Particularly noticeable contrasts are in the Engineering Department, where personnel have increased 1,200 per cent since 1946.

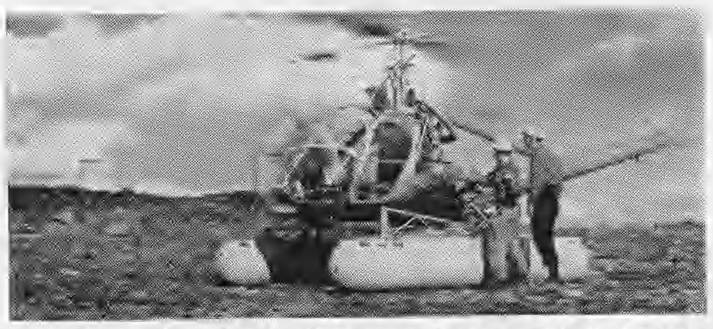
Receiving and Stores, which five years ago consisted of one person and a desk, today sprawls over an area of approximately one-fourth of Hiller's building area, requiring the help of 14 employees; while Purchasing has twelve times as many people today as it had when Hiller began 360 production.



TODAY—Growing staff already crowds offices in separate two-story Engineering Building erected in 1952 adjacent to main plant.

WORLD WIDE *Hiller* FLASHES

Since Hiller Helicopters began quantity production in late 1948, its commercial and military models have seen service throughout the world. Typical operations are shown below.



CANADA—In hinterlands of Ungava, Kenting Aviation's Hiller 360 transports surveyors in search of mineral deposits.



ENGLAND—The beauty of English countryside in Herefordshire was saved when 360 strung power cables from air, prevented marring of woods.



FRANCE—At Monte Carlo, passengers ride 360s from Nice and Cannes, take their chances on walking back after the games.

PAKISTAN—Hiller 360 used to combat locust hordes, carry out other helicopter pest control methods for Ministry of Agriculture.





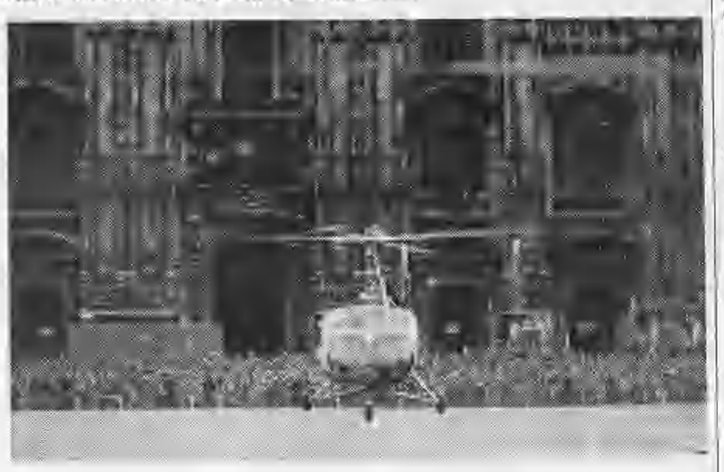
KOREA—Army H-23s played a part in evacuating wounded in the Korean war, as well as training Army pilots in United States.

SWITZERLAND—Three pretty Swiss maids advertise Toblerone chocolates by helicopter in unusual sales campaign.

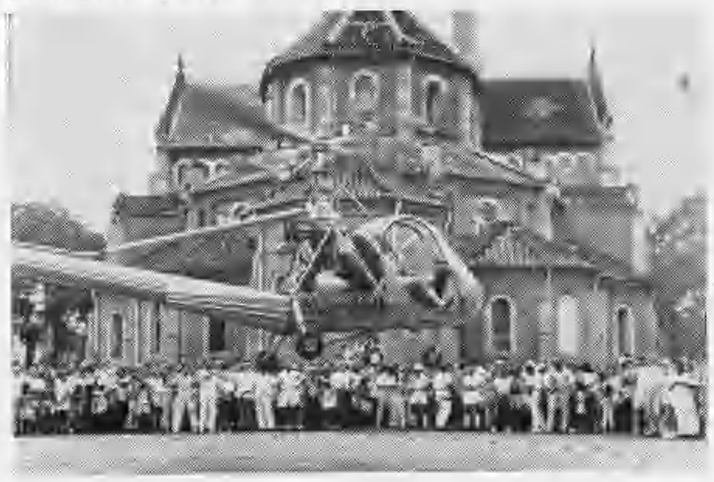


BRAZIL—Near famed Manguinhas Institute, the Honorable Joao Carlos Vital, Rio de Janeiro's Mayor, enjoys flight in Hiller 360.

ITALY—During early demonstration of helicopter flight in Milan, Hiller 360 lands in front of Cathedral.



INDO-CHINA—In La Place de la Cathedral, Saigon, Hiller 360 is demonstrated to His Majesty Bao Dai and French High Commissioner before going to combat front.





UNITED STATES—Navy Reserve Helicopter Squadrons add helicopter pilot training to modernize reserve program.



World-Wide Distributorship System Has Placed Hillers on Most Continents

With certification of the Hiller 360 in 1948, Hiller Helicopters embarked on a vigorous and unique commercial sales program which involved setting up the first world-wide helicopter distributorship system.

Most of Hiller's present domestic and foreign distributors became associated with the company before military production was begun in late 1950.

Rapidly Organized

The network of distributors and dealers was initiated about four years ago with almost simultaneous appointments of Helicop-Air, Paris, France; Field Aviation Company, Oshawa, Canada; and J. D. Reed Company, Houston, Texas. From this nucleus, the system was rapidly expanded to include nineteen foreign distributors, dealers, and representatives, and eight domestic distributors.

When commercial production was stopped in late 1950, several domestic distributors relinquished their franchises. However, appointment of additional foreign distributors since commercial deliveries were resumed last May has brought the total to a new high.

Helicop-Air Leads Way

Outstanding salesman of the system has been Commandant Henri Boris, President of Helicop-Air, which not only has complete Hiller sales and service facilities, as well as pilot and mechanic training schools in Paris, but also coordinates the activities of seven dealers throughout Europe, in Indo-China, and Madagascar.

Through his sales organization, Commandant Boris has placed Hiller helicopters in England, France, Belgium, Italy, Norway, Yugoslavia, Algeria, Switzerland, Madagascar, and Indo-China, where they have pioneered helicopter applications in business, agriculture and government and military service.



Commandant Henri Boris, President of Helicop-Air, shown in Hiller 360 (left) beside General Guillaume during military maneuvers.



HILLER-HORNET—Among the many Army, Navy, and Marine officers who visited Palo Alto to fly the Hiller-Hornet before Hiller Helicopters received contract for evaluation quantity was Major D. L. Bristol, Department of the Army, Washington, D. C. This helicopter is presently undergoing static and flight test programs preliminary to CAA certification.