

'Lifting Bodies' Concept To Undergo Flight Tests

By REYNOLDS KNIGHT

A whole new concept in space vehicles called "lifting bodies" will get a crucial test here sometime in the next few weeks.

The concept is a wingless glider with twin stabilizers and a nose and cockpit resembling the face of a one-eyed insect.

Lifting-body aircraft are now attracting sizable research efforts by NASA, the Air Force, and many of our large aircraft companies. In the upcoming test flights, some NASA officials confidently expect to find the technological base for tomorrow's space re-entry vehicles.

Looking like a contour bathtub, the lifting body uses its shape to make more air work against its bottom than its top, thus providing stability and buoyancy in the air. It is possible to slip lifting-body craft from side to side, a distinct improvement over present ballistic re-entry craft, which are on a fixed trajectory after retro-rocket firing. Another advantage is that the lifting-body glider slows sufficiently before landing to allow the use of a tricycle landing gear.

In the hope that ways will be found to fit these gliders with some sort of rocket power, planners are even envisioning them as space ferries capable of carrying men and supplies to and from orbiting space stations, or as transports capable of hurling passengers to any point in the world in a matter of minutes.

IN THE INTEREST of the nation's space and defense industries, the U. S. government has just dedicated a factory addition whose daily output could fit into half a teaspoon.

The new facility is part of a \$1,150,000 modernization program to improve the technology and productive capability of the Turtle Mountain Ordnance plant at Rolla, N. D. Here are made the synthetic sapphire, ruby, and tungsten carbide jewel bearings without which the highly precise instruments of space, defense and the aero industries could not function.

The plant, only one of its kind in the U. S., is operated for the General Services Administration by the Bulova Watch Company under a dollar-a-year contract. More than 17 million bearings have

been made there since its establishment in 1952.

An idea of the size of the jewels can be gained from the fact that a teaspoon can hold 25,000 of them. Each is drilled, shaped and polished to tolerances of one hundred-thousandth of an inch. There are 350 of these tiny bearings in a bombsight and up to 4,000 in an aircraft. Gen. Omar N. Bradley, Bulova chairman, said that to date some 39,000 jewels have been consumed in the Gemini and Apollo space programs.

ASTRONOMERS are on a heavenly buying spree, and their clamor for a closer look at the solar system is ringing up big sales for the nation's glass makers. Already the annual market for huge telescopic lenses is estimated at between \$6 million and \$10 million, and the figure is likely to grow enormously since orders for telescopes larger than 200 inches in diameter now are coming in, industry sources say. Retirement plans for self-employed people may be substantially liberalized under a bill voted by the House Ways & Means Committee. New rules would allow doctors, lawyers and other professional people to double the tax deductions they currently claim for setting aside retirement funds. Outlays by cities in the U. S. for parking facilities rose 28 per cent from \$80 million in 1963 to \$102 million in 1964, the latest year for which statistics have been made available.

FIBERBOARD residential siding produced by a New York firm is "toasted" by heat from the world's largest single industrial dielectric unit. The "Thermex" apparatus, 12 times as powerful as a "clear channel" AM radio transmitter, was recently built by the Votator division of Chemtron Corporation,

Louisville, to heat-cure fiberboard siding.

Four mats of wood fiber impregnated with resins adhesives are placed between the 600,000-watt unit's massive electrodes and heated uniformly and throughout their mass. At the same time the fiber is compressed in a 3,500-ton hydraulic press. The combination of dielectric heat and pressure converts the mats into rigid 5-by-18 sheets of fiberboard.

THE LATEST in auto seat belt hook-ups is the lap-shoulder belt, which uses just one buckle to adjust both portions of the belt. A new fully electric typewriter priced under \$200, features office typewriter styling, electric carriage return, and backspacer. It has full keyboard power, and is equipped with a fully-electric tabulator, ribbon feed, and shift. A telephone can be used to query a computer over ex-

isting telephone lines and obtain an immediate voice response. For instance, to check a person's credit takes about 30 seconds. In that

time the computer would give the caller an answer such as "Credit OK," or "limit credit to \$50," or "credit card reported lost."

Security First National To Open Del Amo Branch

The official opening of Security First National Bank's Del Amo branch, now nearing completion in the Del Amo Shopping Center, will take place Friday, June 24, bank officials announced.

In conjunction with the bank's first day of business, plans call for a day-long open house celebration from 10 a. m. to 8 p. m.

The new branch, located at 21700 Hawthorne Blvd., is one of three branch sites opened by Security Bank this month. It becomes the bank's 336th location in Southern

California and the fourth Security Bank branch to serve the residents and business community of Torrance.

The Del Amo branch will offer a complete line of banking services and provide safe deposit and escrow accommodations. For customer convenience, the bank has opened a rear entrance, adjacent to the customer parking area.

The contemporary styled building was designed by the architectural firm of Chaix & Johnson Associates, General contractor is E & T Constructors, Torrance.

Hahn Speaks To Clergy

A spiritual challenge to all ministers in Los Angeles County was issued this week by Supervisor Kenneth Hahn to help solve the serious problems of tension and unrest in Los Angeles.

"The challenge of inspiring a change for good in our community is greatest to you in this room," Hahn told more than 500 clergymen of all faiths in the first "Convocation of the Clergy" in County history at the Hall of Administration.

Hahn told the clergymen, who came from all parts of the county: "Basically, I feel the real and complete

answer to racial tension must come from the spirit. Permanent and lasting influences that change people's lives can only be a spiritual force."

FOR A RESULT GETTING CLASSIFIED AD CALL DA 5-6060

THE BIBLE SPEAKS TO YOU

Sunday, June 12th
KFI-640 kc-7:45 A.M.
KMPC-710 kc-8:45 A.M.
KDAY-1580 kc-4:30 P.M.
KGIL-1260 kc-11:00 P.M.
KALL-1430 kc-4:30 P.M.
This Week's Christian Science Program #219
"WHAT DO WE EXPECT FROM PRAYER"

Centinela Valley BOOK & BIBLE HOUSE
14929 S. Hawthorne Blvd. Lawndale
(1/2 Block N. of Compton Blvd.)
OLD BIBLES REBOUND LIKE NEW

Enroll Now Fall Semester
ALL-DAY CLASSES
Kindergarten thru 8th Grade

- Teaching the 4 R's with phonics
- Door-to-Door Bus Service
- Before and After School Care
- Reasonable Tuition

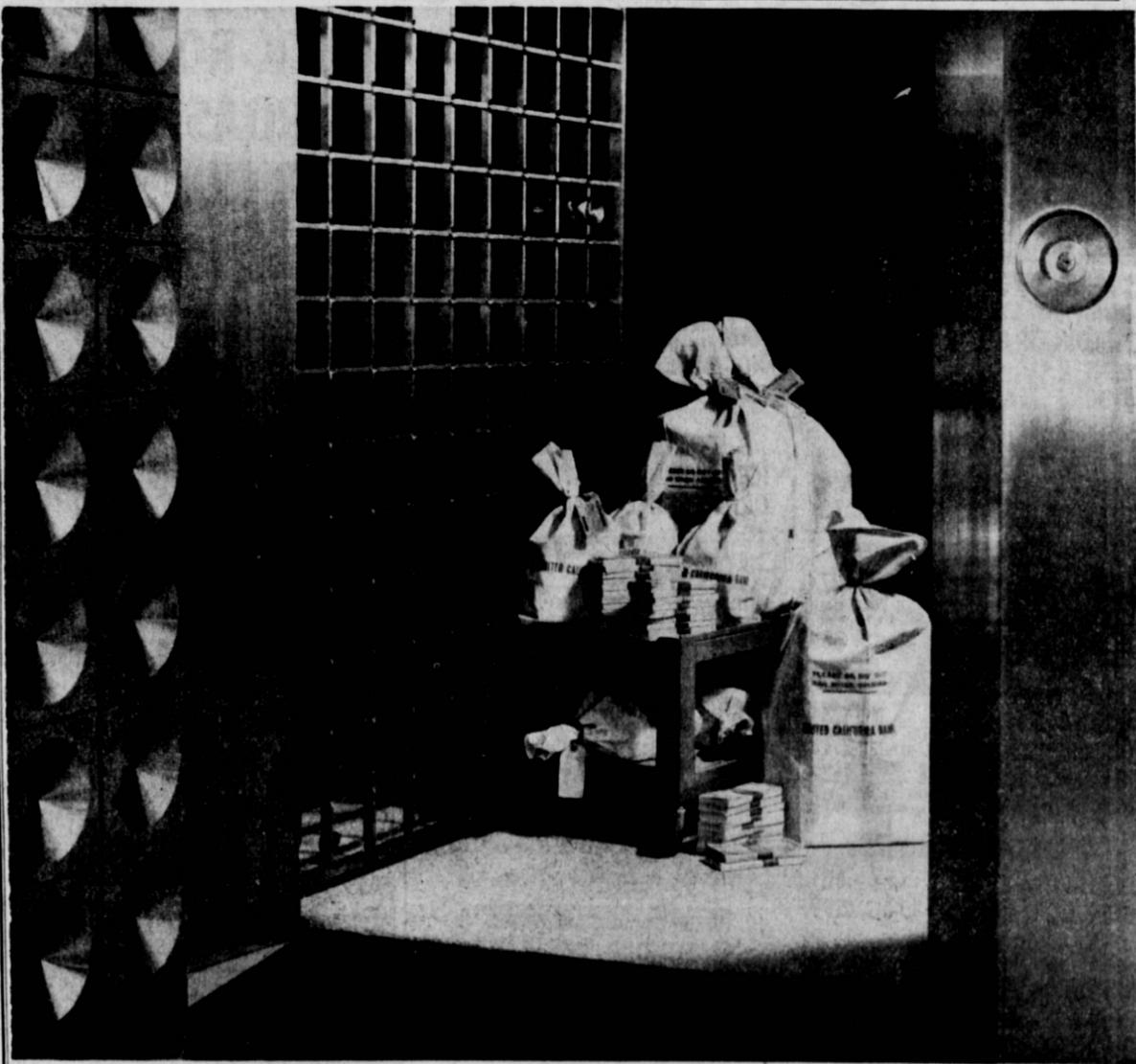
Hawthorne Christian Schools
13600 SO. PRAIRIE AVE. HAWTHORNE, CALIF. 90250
Phone: (213) 679-2591
IN HARBOR CITY 1050 WEST STONEBRYN DR. HARBOR CITY, CALIFORNIA
Phone: (213) 325-8500

Support Your Church

CHURCH CALENDAR

Torrance
Lomita
Harbor City

<p>NATIVITY CATHOLIC CHURCH 1447 E. Ingracia Ave., Torrance Phone: FA 4-2776 Rev. John P. Cremins, Pastor MASS SCHEDULE Sundays: 7, 8, 9, 10:15, 11:15, 12:15 and 5 p.m. St. Joseph's at 9:30 A.M. SATURDAY CONFESSIONS 10:30 to 11:30 A.M.; 3:30 to 4:30 P.M. St. Joseph's at 7:15 P.M. BAPTISMS Every Sunday at 1:45 P.M.</p>	<p>DEL AMO SOUTHERN BAPTIST CHURCH 3915 W. 226th at Ocean Torrance Sunday School—9:45 A.M. Training Union—9 P.M. Worship Services—11 A.M.—7 P.M. Wednesday—Midweek Services, G. A. & R. A. Auxiliaries—7 P.M. Prayer Service—7:45 P.M. Choir Rehearsal—8:30 P.M. Pastor—Daniel B. Weaver, Jr., FR 8-7440—FR 1-3925 MORNING WORSHIP SERVICE</p>	<p>FIRST CHURCH OF CHRIST, SCIENTIST 218th St. and Manuel Ave., Torrance, Calif. Church Services—11 a.m. Wednesday Eve Meetings—8 p.m. Sunday School—9:15 a.m. and 11:00 a.m. Children under 10 years of age must be accompanied by parent or guardian for enrollment. Reading Room—1406 Craven Open 10 a.m. to 5 p.m. daily except Sunday and Holidays Also 7 to 9 Monday and Friday evenings. All are welcome to attend our services and to use our Reading Room.</p>
<p>SOUTH BAY BAPTIST CHURCH 4865 Sharpyne Lane, Torrance, Calif. Pastor, Dr. J. C. Brumfield Frontier 5-3433 Sunday School.....9:45 A.M. Church Services at 11:00 a.m.—Junior and Primary Church 11:00 A.M. Baptist Training Union 6:00 P.M. Evening Worship.....7:00 P.M. Wednesday Prayer.....7:30 P.M. Nursery and food care—All Services. Bus transportation service.</p>	<p>FIRST LUTHERAN CHURCH 1725 Flower Street Phone 329-4181 William J. Roeder, Pastor Phone FA 8-3249 Phillip C. Hiller, Assoc. Pastor Phone 678-7710 Worship Services 8:00 a.m.—9:15 a.m.—10:45 a.m. Sunday School 9:00 a.m.—9:15 a.m.—10:45 a.m. Nursery services from 9:15 a.m. and 10:45 a.m. Holy Communion—First Sunday Luther League—2nd and 4th Sundays. Christian Elementary School—Kindergarten through 8th Grade</p>	<p>CENTRAL CHURCH EVANGELICAL UNITED BRETHREN Marcellina & Arlington Rev. Walter M. Stanton FA 8-3010 9:30—Sunday School 11:00—Morning Worship 6:30—Youth Fellowship 7:30—Evening Worship Midweek Worship Service 7:00 Wednesday Evening</p>
<p>FOUR SQUARE GOSPEL CHURCH Corner Allington and Sepulveda Tel. DA 6-3072 Rev. and Mrs. Jas. P. Lowen SUNDAY: Sunday school 9:30 Group Services 6:30 p.m. (Y.P. Chorus, Defenders) Evangelistic 7:30 P.M. a.m., Morning Worship 10:45 a.m. MIDWEEK Wednesday—Bible Study at 7:30 p.m. PUBLIC INVITED</p>	<p>FIRST METHODIST CHURCH Torrance Carson and El Prado Phone FA 8-2442 Rev. Arthur Nagel, pastor Res. Phone FA 8-6231 Rev. Richard Hansen, associate SUNDAYS—Two Worship Services 9:30 and 11 A.M. Two Communion Churches 9:30 and 11 A.M. All ages—nursery through adults. Fellowship Meeting 6:30 P.M.</p>	<p>IMMANUEL LUTHERAN CHURCH (Missouri Synod) 706 Knob Hill Ave., Redondo Beach Near Southwood Park Sunday School.....9:45 A.M. Worship Service.....8:30 A.M. and 11 A.M. Pastor E. M. Schoppa FR 5-9533</p>
<p>WALTERIA ASSEMBLY OF GOD 24404 Hawthorne Blvd., Waltersia Rev. Edw. L. Hughes, Pastor Frontier 5-7785 Sunday School—9:45 a.m. Morning Worship—11:00 a.m. Children's Church—11:00 a.m. Evangelistic Services—7:00 p.m. Wed. Prayer Meeting—7:00 p.m. Wed. Young Peoples—7:00 p.m.</p>	<p>FIRST BAPTIST CHURCH at Carson & Manuel St. Torrance, Calif. Phone FA 8-5030 Rev. Robert Coburn, Pastor SUNDAY—2 Morning Services 9:15 A.M.—10:45 A.M. Sunday School 9:15 for Nursery thru Juniors College and Adults 10:45—Jr. High and High School Fellowship Training—6:15 P.M. Evangelistic Message—7:00 p.m. WEDNESDAY—Bible Study 7:30 P.M. Communion Service and Prayer Nursery provided for all services, also sound proof mothers' room. ALL WELCOME</p>	<p>ST. CATHERINE LABOURE CHURCH 3546 Redondo Beach Blvd., Torrance Phone DAVIA 3-3900 Sunday Masses: 7, 8, 9, 10, 11, 12 Weekday Masses: 6:30 a.m. and 8:15 a.m. Confessions: Saturday 4:00 to 5:30 7:30 to 9:00</p>
<p>ST. ANDREW'S EPISCOPAL CHURCH 1432 Ingracia—FA 8-3781 Rev. Hugh R. Percey, R. A. B. D. Rector 7:30 a.m. Holy Communion 9:15 a.m. Family Worship Service followed by Church School and Coffee Hour 11:00 a.m. Morning Worship (Choral Eucharist on 1st and 3rd Sundays) (Child care and Nursery provided at 9:15 and 11 a.m. services) Weekdays—Holy Communion at 11 a.m. Thursdays and 6:30 a.m. on All Saints' Days.</p>	<p>FIRST CHRISTIAN CHURCH OF TORRANCE (Disciples of Christ) 2933 El Dorado, FA 8-2820 Rev. H. Milton Sippel, Minister Res. Phone FA 8-4485 Rev. Robert Neil Jones Minister of Education Res. Phone 678-6586 Two Sessions of Church School and Morning Worship, 9:30 and 11:00 a.m. Nursery provided at both sessions CHI RHO Fellowship 9:30 p.m. Christian Youth Fellowship—7 p.m.</p>	<p>ST. MARK'S PRESBYTERIAN CHURCH 24027 Pennsylvania Ave., Lomita DA 6-4086 Sunday Church School 9 a.m. (All ages including adults) Church Worship 10:30 a.m. (Nursery care provided) Youth Fellowship 6 p.m. The Rev. Eldon Durban, Minister THIS CHURCH WELCOMES PEOPLE OF ALL RACES</p>
<p>ST. LAWRENCE CATHOLIC CHURCH 1900 Prospect Ave., Redondo Beach Monsignor Daniel P. Collins Mass 7, 8, 9, 10, 11:15, 12:15 FR 5-8087</p>	<p>FIRST CHURCH OF THE NAZARENE 1501 West Carson R. Wallis Kornezay, Pastor Ph. FA 8-4080 9:45 Sunday School 10:30 Morning Worship 7:00 p.m. Evening Service</p>	<p>FIRST PRESBYTERIAN CHURCH OF GARDENA 1957 W. Redondo Beach Blvd. Phone DA 4-1064 Dr. R. Murray Jones, Minister 1492 W. 163rd St., Gardena DA 4-1718 Sunday Worship Service—11 a.m. (nursery care provided) Sunday Church School 9:30 & 11:00 a.m. Senior Hi Fellowship and Junior High Fellowship Sundays at 7:00 p.m.</p>
<p>NARBONNE AVENUE SOUTHERN BAPTIST CHURCH 24730 Narbonne Ave., Lomita Phone DA 6-6029 Church.....8:30 A.M. 10:50 A.M. Sunday School.....9:45 A.M. Training Union.....6 P.M. Worship Service.....7 P.M.</p>		



How'd you like to write checks on some of that?

Well, that's what 356 United California Bank's new BALANCE/PLUS is all about! It's your balance plus our balance and here's how it works.

After your credit's been approved, you just start writing checks. When your checking balance runs low, UCB builds it up again. Or if you prefer, you can use BALANCE/PLUS to write yourself a loan whenever you need it. Either way, the money's as easy to get as signing your name. And as easy to pay back as we could possibly make it. Best of all, once you have UCB standing behind you...you'll never have any more credit red tape in front of you. And here's a plus! You get a special UCB customer courtesy card which guarantees you can cash a check up to \$300 at any UCB office. BALANCE/PLUS really makes you feel like a million! We've often told you that United California Bank is the bank that does a little more for you. Well, BALANCE/PLUS is a little more that's always there when you need it. Why not stop by UCB...or call...and check on it!

BALANCE/PLUS



UNITED CALIFORNIA BANK

The bank that does a little more for you