A Baker's Dozen

THIS issue is Volume 13, Number 1; we start our thirteenth year of publication. It is interesting to pull Volume 1, Number 1, of the *Journal of Aircraft* (JA) from the shelf and compare it with the issue you hold in your hand now. The scope of JA has changed little in 13 years. The focus of papers changes, but the defined scope of JA is nearly unchanged. This is a credit to the AIAA members and staff who originally planned JA as well as the other AIAA publications. Initially, JA published articles concerned with hydronautics and marine vehicles. In July 1967, however, the *Joural of Hydronautics* was launched.

A technology which has developed strongly over the past twelve years has been computers. JA publishes articles involving computer-aided design, integration of computers into aircraft, numerical solutions to complex problems, and similar articles. The articles published in 1975 fit into the original framework defined in 1964.

In 1971 each issue became thick enough to print the journal identification along the spine, and JA became a monthly journal; previously it was a bimonthly. This fact is emphasized because the price per printed page has not changed significantly since 1964.

The Publications Committee and AIAA staff have considered many concepts and proposals to keep publications financially healthy. One action which is a direct consequence of inflation has been the increase of page charges from $40 in 1964 to the present $85. Mandatory page charges were considered seriously in 1975. Another action has been the initiation , in 1975, of in-house technical composition of the JA and other AIAA publications. The rear cover of the February issue of JA announced the change. Without decrease in quality, significant savings have been obtained. JA is on a catch-up schedule; tardy publication was caused by the switch in technique.

The function of JA, as well as of other archival journals, is the dissemination of new knowledge. A good technical library has journals that were published many tens of years ago. Extrapolation of that fact, besides identifying the need for more library shelf space, implies that every journal will have an $n+1$ volume. Costs of publication may preclude continuation of the present journal format. Change in format will not occur next year or the following year; however, before JA commences publication of Volume 33, an acceptable, efficient new method of dissemination and storage may have evolved.

In Volume 12 most of the papers were either aircraft aerodynamics or aircraft propulsion. Flight mechanics, structures, and noise papers also were numerous. The remainder of the papers involved aircraft design, navigation, airline operations, V/STOL, flight testing, or human factors. The topical distribution of papers in JA for 1975 was determined mainly by the research and development activity of 1973 and 1974.

Let us examine aerospace activity in 1975 so as to anticipate some of the papers to be published in 1976, 1977, and 1978. A key factor is inflation, which has an impact on each of the three segments of aircraft interests: military, commercial, and general aviation. The influence of inflation will be discussed for each of these three segments.

In military aviation, the goal is to replace outdated and technically obsolete aircraft. This includes helicopters. Viet Nam is past, but inflation dilutes the defense budget. In recent times, numerous new aircraft have been rolled out with the band playing and with suitable speeches. The speeches have emphasized design-to-cost and a new interest in manufacturing skill as a way to reduce costs. The new aircraft have entered flight testing; some have completed flight testing. These include B-1, F-16, F-17, YC-14, and YC-15. Several new aircraft have become operational, including the F-14 and F-15. More articles about aircraft design with cost as a constraint are anticipated, and papers dealing with manufacturing techniques will be submitted.

High energy lasers have emerged from the laboratories into the daily newspaper. Aircraft are a likely laser platform; consequently JA will have laser aircraft papers. Work has been sponsored for several years on ceramic turbine components. Once again the results of this work should be ready for publication in the near future. Although sponsored by the Defense Department, the ceramic turbine would have an impact in commercial aviation as well. Sales of helicopters are growing in both military and business flying. Helicopter technology is specialized; however, JA does publish, and will continue to publish, outstanding papers in this area. Remotely piloted vehicles (RPV) have demonstrated cost effectiveness for some missions. Mini-RPV for harassment of air defenses is one such mission. A multiple-purpose RPV for reconnaissance, EW, and attack roles may be developed. There are technology items which are unique to RPV; papers on these technology items are appropriate for JA. Depending on the outcome of the SALT negotiations, cruise missiles may or may not become important. Once again, JA intends to publish relevant papers on the topic of cruise missiles.

In commercial aviation, 1975 was the year of the deregulation debates. This was a perturbation to airline management which makes fleet planning more complex. Enthusiasm for new aircraft and the related new technology diminshes as the arguments for deregulation are espoused.

Before inflation and the escalation in fuel costs, the airlines maintained sizable staffs for long-range planning. The airlines were conscious of having first-line aircraft. Now the airlines must buy, sell, lease, or contract aircraft to enlarge or slim their fleets in response to short-term events. With numerous used aircraft available, the market for new aircraft is slower. The motivation to develop new commercial aircraft is lessened. Introduction of new technology is slowed. One driving force to counter this trend is the savings in fuel costs that is possible by new aircraft. Supercritical wings, larger aspect ratios, winglets, high bypass turbofans, prop-fans, and composite structures offer important fuel savings. Based on the previous discussion, additional papers related to fuel-saving technology are anticipated. Safety of airline travel undoubtedly will receive additional attention as a result of recent events. Papers dealing with features of basic aircraft design, air traffic control, and improved avionics may be forthcoming.

In general aviation 1975 was another boom year. Sales in 1975 were approximately $1,000,000,000, with projections to twice that by 1980. Helicopters have been mentioned in the discussion of military aviation. In business flying, helicopters are important for exploration. Oil wells may be 200 to 400 miles offshore, with helicopters being the primary transportation. Exploration for mineral resources is facilitated by using helicopters. Developing third-world countries, as well as countries with petrodollars, have an appetite for helicopters.

The activity in general aviation should generate articles suitable for JA. Our previous Associate Editor for General Aviation, Dr. Roy E. Reichenbach, has taken an assignment with the U.S. Army Research Office in London. Consequently, a new Associate Editor has been recruited for General Aviation. He is Professor Melvin Snyder, Chairman of the Department of Aeronautics at Wichita State University. Dr. Snyder is located at one of the important centers of general aviation. Dr. Reichenbach has agreed to serve as European Editor for JA.

Many different groups of people are involved in the production of JA. First, of course, are the authors. Without the authors and their papers, there would not be a JA. Let us not forget that obvious fact. So we thank the authors for their papers and their selection of JA as their journal for rare trivial review makes the editors appreciate all the more the complete review. To the JA reviewers the editors extend publication. (Please don't quote this paragraph if we happen to reject your paper.)

Next there are the Associate Editors (AE) who are responsible for evaluating the papers. The AE's require two talents in almost equal proportion: 1) sufficient experience to be able to judge the merit of a paper and 2) sufficient administrative skill to keep the editorial process moving. The Associate Editors for JA for 1975 have done an excellent job. My thanks are extended to Toshi Kubota, Carson Yates, Ed Stear, John Povolny, Jim Dougherty, and Roy Reichenbach. We had a guest editorial staff for the April issue of JA. Bill Walker was the key individual; to him and the other guest editors, I also extend my appreciation for their help.

The reviewers are the anonymous, but essential, facet of the JA production team. Almost every reviewer does a thorough, objective, conscientious, timely job of review. A few reviewers submit shallow, trivial and superficial reviews. The editor discounts this input. Once a shallow review has been received, we delete that person from our reviewer list. The their sincere thanks for their help in maintaining technical quality. Those for 1975 are listed below.

The AIAA Publications Committee and the Vice President-Publications, Ralph Ragan, serve in a capacity analogous to the Chariman and the Board of Directors; this analogy is valid for the publication activity. The Editors and the AIAA New York staff are the executives who implement the plans that have been formulated. Your Editors have spent many hours in committee meetings and conferences sharing the problems of publication. With that background, the Editors of JA acknowledge the help, advice, and assistance that the Vice President and the Publications Committee have provided in making JA successful in 1975, and we look forward to a dynamic 1976.

Finally, the key group in the production of JA is the New York staff. Miss Ruth Bryans, Mr. David Staiger, and Mrs. Anne Huth have contributed very significantly to JA. It has been a pleasure to work with each of these individuals.

Allen E. Fuhs
Editor-in-Chief

Reviewers for *Journal of Aircraft*, September 1, 1974 – August 31, 1975*

Abell, Eric E.
Abzug, Malcolm
Addy, Alva L.
Adee, Thomas C.
A'Harrah, Ralph C.
Alexander, Ben
Allen, Jerry M.
Andeen, Richard E.
Anderson, John D.
Anderson, Ronald O.
Anderson, William J.
Antonatos, Philip P.
Arbocz, Johann
Armentrout, Everett
Aronson, Nathan
Asseo, S. J.
Ball, J. Norman
Ball, Robert E.
Barger, Raymond L.
Barlow, Jewel B.
Baron, Sheldon
Batdorf, Samuel B.
Bauer, Ernest
Beckwith, Ivan E.
Bell, R. N.
Bellantoni, Juan F.
Bellman, Donald R.
Bennett, Arthur G.
Bergey, Karl H.
Bergman, Dave
Bert, Charles W.
Bevilaqua, Paul M.
Biblarz, Oscar
Bikle, Paul F.
Bilanin, Alan
Blaisdell, Robert
Blick, E. F.
Blumenthal, Vaughn
Boisvert, Bernard W.
Boyce, M. P.
Bradley, Richard G.
Bratt, R. W.
Breakwell, John V.
Brennan, Tom J.
Brown, Sam
Buffum, Harvey E.
Burden, Harvey
Burns, R. P.
Bush, Ivan
Butze, Helmut F.
Caldwell, William
Campbell, G. S.
Campbell, John P.
Carson, Bernard H.
Cassidy, Mell D.
Cavage, Robert L.
Cebeci, Tuncer
Chalk, Charles R.
Chamberlain, John
Chamberlin, Roger
Chambliss, Anthony G.
Chamis, Christos C.
Chandler, R.
Chang, I-dee
Chaplin, C. H.
Cheney, M. C.
Cheng, Hsien K.
Chevalier, Howard L.
Chung, Paul M.
Clark, D. R.
Collins, Daniel J.
Cooksey, James M.
Cooper, Thomas
Cooper, Thomas D.
Corsiglia, Victor
Costen, Robert C.
Coty, Ugo
Covert, E. E.
Craig, J. I.
Crooker, T. W.
Crow, Steven C.
Cullom, Richard
Cunningham, Atlee M., Jr.
Curran, Edward T.
Curtis, Frederick A.
Curtiss, H. C., Jr.
Czysz, Paul
Dansby, Ted
Davies, Kent B.
Davis, Dean F.
Davis, H. Max
Davis, John G., Jr.
Davis, Joseph T.
Dayman, Bain, Jr.
Decker, Roger M.
Dettling, Ronald
Dickson, John N.
Diedrich, James H.
Dillow, James D.
Dix, Donald M.
Dixon, W. J.
Dosanjh, D. S.
Doughty, Julian
Dugundji, John
Dunham, R. Earl, Jr.
Dyer, Calvin L.
Earl, T. D.
Edelbaum, Theodore N.
Edenborough, H. Kipling
Edwards, Wallace W.
Eggspuehler, Jack
Eichenbaum, F. D.
Elber, Wolf
Ellis, David R.
Engle, R. M.
Ericsson, Lars E.
Erzberger, H.
Etkin, Bernard
Eudaily, R. R.
Fannin, Eugene R.
Farr, J. E.
Faulkner, Frank D.
Felderman, John E.
Fenning, Walter
Fink, Martin R.
Finkleman, David
Flaherty, Richard J.
Flanagan, Steve
Flax, Alexander H.
Fletcher, L. S.
Foley, William M.
Folias, E. S.
Foreman, K. M.
Forney, Adrian K.
Freudenthal, Alfred M.
Gallagher, Joseph P.
Garabedian, Paul
Gawain, Theodore H.
Gawienowski, John J.
Giesing, Joseph P.
Gill, J. C.
Gilmore, Jerold
Glasgow, Edsel R.
Gogan, Harry L.
Goodman, John W.
Graef, Jack D.
Gran, Richard
Gran, Robert L.
Gratch, Serge
Gray, Vernon H.
Greene, Terrell E.
Gross, Larry
Haas, Ray
Hackett, James E.
Hafez, M. M.
Haftka, R. T.
Hall, W. Earl, Jr.
Hallock, James N.
Ham, Norman D.
Hammond, Alexander D.
Hanson, Perry W.
Harney, Donald J.
Harris, Roy V., Jr.
Hartin, John P.
Hassig, Hermann J.
Haviland, John K.
Hazen, David
Hedman, S. G.
Hemsch, Michael J.
Henderson, George T.
Henne, Preston A.
Heppenmeyer, William
Herndon, C. F.
Hess, Ronald
Heyson, Harry H.
Hidalgo, Henry
Hill, Jacques A. F.
Hill, Richard
Hippert, Robert D.
Hoak, Donald E.
Hoblit, Frederic M.
Hoffman, Joe D.
Hofmann, Lee Gregor
Holaday, Will
Hovde, Robert J.
Howell, Clarence S.
Howell, Robert
Huang, S. L.
Hubbard, Harvey
Huston, Robert J.
Ii, Jack M.
Inger, George R.
James, Calvin R., Jr.
Jenney, David
Jerome, K. L.
Johnson, V. J.
Johnson, William G., Jr.
Jones, R. A.
Jones, Robert T.
Jones, William P.
Jordan, L. R.
Jordan, Peter F.
Juhasz, Al
June, Reid R.
Kacprzynski, Jerzy J.
Kaleps, Ints
Kastner, Thomas M.
Kelley, Henry J.
Kellis, James
Kendall, George E.
Kerrebrock, J. L.
Keyes, Franklin M.
Kidd, David
Kimsey, William F.
Kirk, Donald
Kirsch, R. A.
Knauss, W. G.
Kobayashi, Albert S.
Koch, L. C.
Kohlman, David L.
Kovitz, Arthur A.
Krepk, John
Kroeger, Richard A.
Krug, Edwin
Kuchta, D. J.

*Because it is difficult to include the reviewers from September, October, November, and December 1975 in this issue of the Journal, they will be listed with the reviewers for 1976, in the January 1977 issue.