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the avian

The award-winning newspaper of college aviation

Embry-Riddle Aeronautical University

Volume 32

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Issue 3



From Barnstorming to Jumbo jets

Kim Scribner Recounts Aviation History



KIM SCRIBNER

Tonight, Wednesday, the 13th, Captain Kim Scribner will talk about "The Golden Age of Aviation." Kim Scribner, who has been flying for 44 years and started at the age of 15, will tell all. Kim will talk about the history of aviation from barnstorming to jumbo jets, and at the same time relate his many experiences during the course of history. For example, you will hear about Kim's skydiving days, flying to Rio in flying boats, flying in the Bermuda Triangle without instruments and his many experiences in the Boeing 747. Kim will not only talk about his experiences, but will also highlight them with an extraordinary slide show. Kim will also talk about the many careers in Aviation and the best way to approach them. He will also go into flight safety, and the aviation industry's surprising record.

In case you are wondering, Kim has 27,000+ hours flight experience and 4,700 of these hours in the Boeing 747. He became chief pilot and master pilot of the 747 for an American Airlines. He is a member of the OX-5 Aviation Hall of Fame and recently received the Bishop Wright Air Industry Award. He has been on the lecture circuit around the world and has written his own books.

Come see Kim Scribner tonight, Wednesday, June 13th at 8:00 p.m. in the U.C.

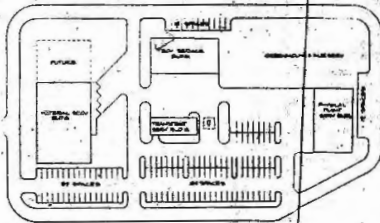
Changes

Physical Plant Relocates

By Kevin Keenan

The Embry-Riddle campus, which has never kept a static form for very long, is preparing for a new change. The E-RAU Physical Plant Facilities and the Air Force ROTC Detachment have each been given a deadline of September 1st for the vacating of their respective buildings. These buildings are scheduled for demolition as part of the Daytona Beach Regional Airport expansion program.

The permanent home for the physical plant operation will be a new set of buildings called the University Service Park. This will be a set of four buildings with associated access roads and parking areas



ARCHITECTURAL DRAWING OF UNIVERSITY SERVICE PARK

Architect's preliminary drawing of UNIVERSITY SERVICE PARK.

present building and into the new service park, the physical plant shops will be housed in the Bell-Fab building, Bldg. 28, at the airport.

The Embry-Riddle Air Force ROTC Detachment will also be getting a new home, to be built in the area between the University Center and the flight complex.

This building will adjoin the Field House, although the Field House is not scheduled to be built for several years. The AFROTC building, like the

service park, is slated for completion in Feb. 1980. Until that time, the fadets will move their operations to the Dorm 1 Annex.

Mr. Ray Glogher, Director of Development, is heading the fund raising drive for the building projects, which will total almost \$2 million.

Other projects on the E-RAU drawing board for the more distant future include baseball and soccer fields during area extension for the U.C., and additional pods for the

Continued—Page 2

NOTICES

KEYS TO OFFICES NO LONGER AT SWITCHBOARD

The set of maintenance keys will no longer be available from the switchboard. If anyone needs to borrow them they will be available from the University Center

Manager. It is the responsibility of each office to be sure that the University Center Manager has an up to date key for your office.

Robert Spraker
Manager, University Center

NEW ACCOUNTING SECTION OPEN AT E-RAU

By popular demand another Accounting I - MS 110 section has been open for Term B. The class will be scheduled for 12 noon in A-209, and the instructor will be Mr. Newman. Students may add this course, if they already preregistered for Term B by processing a drop / add form or by registering during Term B registration.

GRADUATION AND YOU

According to the University calendar, students anticipating Summer 1979 Graduation are required to fill out Graduation Applications no later than Friday, June 29, 1979. Please be advised that NO DIPLOMA will be ordered if this application form is not processed by the Admissions and Records Office. Apply at the Admissions and Records Office.

FALL GRADUATION???

Submit your application one trimester ahead for Graduation so that we can help you prepare for a smooth completion. Check with the Admissions and Records Office if you have any questions!

Future Pilots Ass. answers questions posed by Riddle student

(Thomas Parker, Aeronautical student at Embry-Riddle wrote to the Future Pilots Association and asked them a number of questions about getting a job in the airlines. The following is the end result of those questions.)

1) WHAT ARE THE AIRLINE COMPANIES ASKING FOR IN THEIR EYESIGHT? WILL THEY BE LOWERING THEM?

Enclosed is a chart showing minimum qualifications required by the airlines. A trend has developed to allow less than 20/20. If it is correctable to 20/20. If hiring continues and supply of pilots dwindles, the trend should continue, but a few of the major trunk carriers will stay with the 20/20 restriction.

2) HOW DO AIRLINES FEEL ABOUT CFII SEL TIME?

Experience as an instructor in light SEL is O.K. but the pilot should view this mainly as a method of building hours to go on to a "stepping stone" job - commuter or corporate. Use your CFII experience to build time and make contacts but don't stay with it any longer than you have to. The pilot market is just too competitive to limit yourself to SEL experience only.

3) HOW GOOD IS CFII TIME IN GENERAL?

For the serious aspiring airline pilot, it's not good enough! Some pilots are hired with CFII SEL, only experience but the percentages are so low it's not an acceptable risk.

4) WHAT EFFECT WILL FUEL CRISIS HAVE ON HIRING?

If there is a fuel "shortage" and airlines must reduce number of flights, the hiring would stop and, furloughs would occur. If fuel is available but "expensive", expansion and hiring would continue among carriers who are well managed and financially strong as long as the passenger traffic justified expanding.

5) WHAT SORT OF QUESTIONS ARE ASKED ON PSYCHOLOGICAL TESTS & ATTITUDE TESTS?

Read "How to Beat the Personality Tests" by Charles Alex. Questions you can expect in your interview will include:

When and how did you get interested in flying?
When did you start flying seriously?
What are your hobbies or interests besides flying?

What can you offer our company?

What have a "good" airline Captain?

What military experience have you had?

Why are you separating from the service?

What do you think about the military reserves; are you currently in a reserve unit?

If you got offers from two airlines at the same time, which would you choose?

Who is the best or worst pilot you have ever flown with and why?

Note: There are several airlines which ask specific questions about the type of aircraft you have been flying.

If you are a FAPA member and have an interview, be sure and call for an up-to-date briefing!

6) IS THE SIMULATOR RIDE REALLY DEMANDING OR IS IT JUST TO MAKE SURE YOU CAN FLY INSTRUMENTS?

They want to see if you can fly basic instruments competently with your claimed/experience level. None are really difficult. You should review use of Jepperson Approach charts and instrument procedures.

7) WILL WOMEN HAVE AN EASIER TIME THAN MEN GETTING HIRED?

Qualified females are in strong demand by all airlines. A female with 1,500 hours, ATP and FE (written or practical) would have greater chance of being hired sooner than male counterpart.

8) ARE AIRLINE MEDICALS MORE STRINGENT THAN CLASS I PHYSICALS BY FAA?

Yes. FAPA recommends you buy a complete medical with treadmill EKG, Glucose Tolerance, X-rays, Gaucoma check, full blood test, urinalysis, vital capacity, blood pressure, eyesight, hearing (in booth). Do this prior to airline physicals. An airline physical is the wrong place to discover a problem which could have

been corrected had you known about it! Don't drink (much), don't smoke, and stay "fit" with an aerobic exercise program (running)!

9) WHICH RATING WOULD BE MOST IMPORTANT?

Full ATP in general. Brand-name ATP is preferred by carriers resulting full FE. Many prefer or require the ATP. We recommend for the general aviation pilot (without veteran's benefits) the ATP in a light aircraft and the FE written. FE certificate can then be obtained when necessary and affordable.

10) HOW IMPORTANT ARE INSIDE CONTACTS?

Very important, but not essential. Importance varies by airline! If you have them use them. If you don't have them - make some. They don't have to be "inside" just influential.

11) HOW DO I OBTAIN AN INTERVIEW WITH AN AIRLINE USING NON-STANDARD APPROACHES?

The standard approaches are:

- 1) Professional letter writing campaign.
- 2) Use of influential contacts.
- 3) Continuous updating.
- 4) Occasional phone calls (sometimes detrimental).

Some non-standard approaches could be:

- 1) Mailing yourself to the chief pilot.
- 2) Posing as a telephone repairman to get into chief pilot's office.
- 3) Rent a trailer in front of the airlines employment office and occupy the lobby all day everyday until they decide to interview you.

SERIOUSLY - There are some effective non-standard approaches. Their main characteristics are:

- 1) Unique (are you the first to do it).
- 2) Impressive (does it evoke a good response?)
- 3) Timely (are you wasting your time with an airline who's not hiring?)

If we published some of the non-standard approaches that are being used it would destroy characteristic No. 1 and every-

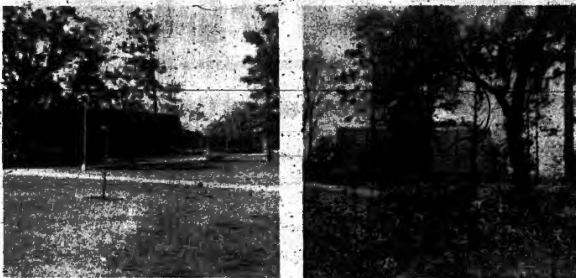
Continued—Page 2

editorial

Well term A is coming to a close and nothing too exciting has come to pass so far this summer. I hope that everyone is reading the AVION, and I would like to take this opportunity to encourage participation in the campus clubs and organizations. There is alot to be gained by being active in any of the Riddle organizations. There is an organization for just about every interest, and the Sports program needs support too. So, have a good summer, do well in school, and get involved!!



Ed Milner



The beautiful grounds at the University of West Florida in Pensacola, Fla.

Avion Staff Members
Take Trip To Help Avion
And University

Ed Milner and Jean Snyder, Avion Editor and Staff Secretary, just returned from Pensacola, Florida where they delivered about 19 years of student newspapers from Embury-Riddle to be microfilmed at Mays Printing Services.

This microfilming project has been a very long-running project of Ms. Snyder who took about 1 1/2 years of extra time to index both chronologically and subject-wise the articles in all of the papers to be preserved.

This microfilm will be available both in the Avion and in the library for use of all the Embury-Riddle community, for it spans two decades of progress from Embury-Riddle Aeronautical Institute in Miami, Florida to the present university in Daytona Beach.

It follows the development of courses, clubs and cafeteria events. And it holds a multitude of information for class research in a variety of subjects.

The Avion houses the subject index file which will be kept in the newspaper office, second floor, of the University Center. The chronological index has been copied and will be kept with a microfilm copy in the library for your reference.

In addition to this transporting of papers, Ed and Jean visited the University of West Florida to visit the campus student newspaper, the Voyager,

and to gather information and course curriculum from the Communication/Arts Department for use in possible future lab and direct study credit courses for students interested in photojournalism, layout, art work, editing, sports writing, feature writing and more. This base information plus other facts gathered earlier are important before the Avion could even begin to present such ideas to the administration.

At their staff meeting, here, on Wednesday at 5:00 p.m., the 12-member staff met to discuss the trip and to introduce the new advisor. He is

Bingham Stewart, English instructor here and 40 active member of the Society of Collegiate Journalists on a national level. His interest in our operation is greatly appreciated. Welcome, Bing, thanks for becoming our new advisor.

For those students who have been so active in the paper, a dinner party will be held at our secretary's home - Jeanie Snyder will be holding the dinner this Saturday at 6:00 p.m. All those who attended the last meeting or who were unable to attend but who know they have been active should stop by the Avion office for instructions.

New signatories were discussed and membership in various national organizations was also pondered before the meeting adjourned.

If you want to get involved in this active and informative organization - THE AVION - just stop the office and let us know - then - don't leave - never to be seen again, but get and stay involved. It will be well worth your time and energy.

PUBLISHED WEEKLY THROUGHOUT THE ACADEMIC YEAR AND BI-WEEKLY THROUGHOUT THE SUMMER AND DISTRIBUTED BY THE AVION, EMBURY-MIDDLE AERONAUTICAL UNIVERSITY, DAYTONA BEACH, REGIONAL AIRPORT, DAYTONA BEACH, FLA. 32114. PHONE 321-4441 EXT. 312.

Safety Questions raised by NTSB report

Questions — From Page 1

tually No. 2. Good luck on developing your own non-standard approach.

12) WHAT'S THE BACKGROUND OF PEOPLE WHO HAVE BEEN HIRED?

More "military only" pilots were hired in the latter time period (May '78 through October '78) possibly because such pilots were able to join airlines soon after separating and they didn't need a civil flying job in the interim.

NOTE: Background (civil, military, etc.) (lines 21-23); New hires with "civil only" experience accounted for a slightly smaller percentage of new hires in this survey period than in the last. This difference may be a result of the increase in number of military pilots mentioned earlier.

13) HOW DO I LOG TIME

WHEN FLYING FOR PLEASURE?

Simply log PIC or First Pilot Time in that particular aircraft.

14) WHAT IS FAPA?

Future Airline Pilots of America (FAPA) provides pilots with counseling (just like these questions and answers) by letter or telephone. We also provide an information packet with the addresses, minimum qualifications, domiciles and job search information which will help you compete. In addition we publish a monthly newsletter with the latest info on airline jobs and hiring trends.

The following fees are charged:

Full service: Counseling, 1-
Packet, Newsletter - \$2
Newsletter only - \$18/year
Information-Packet only - \$10.

A National Transportation Safety Board study of more than 17,000 general aviation accidents has raised safety questions for which the aviation industry should seek answers through research and analysis, the Board said today.

In adopting its study, the Board emphasized that it is not "evidence that any of the aircraft are unsafe or that certain of these manufacturers build aircraft that are not safe." The Board said further data which are not yet available must be considered before conclusions can be drawn from the study findings.

The study, which covered accidents involving single-engine, propeller-driven, fixed-wing general aviation (non-air) aircraft, found that:

—The aircraft of one manufacturer, had a mean (average) fatal accident rate that was "significantly lower" than the rates of aircraft built by five other manufacturers.

—Three aircraft types of as many manufacturers accounted for one-third of all in-flight airframe failures, and all three had average airframe failure rates "significantly higher" than the average rate of all aircraft studied.

—Two aircraft types accounted for almost half of the in-flight collisions.

—Tailwheel aircraft had a total accident rate more than double that of tricycle-gear planes, and older aircraft models appeared to be associated with high rates of fatal and nonfatal accidents.

The Board said that such findings reflect numerous factors. But "additional research is required by the appropriate governmental agencies and the aircraft manufacturers," the Board said, to determine the influence of the pilot, type of aircraft usage, manner of aircraft operation, and aircraft engineering design and fabrication methods.

The Board was unable to fully analyze pilot factors in the accidents studied because the Federal Aviation Administration does not have comprehensive data on all pilots with

which to compare them. The Board said, however, that the pilot was cited as a cause or factor in 86% of the total accidents and 90% of the fatal accidents which were studied.

The airframe was cited in less than 1 percent of all accidents and in 2 percent of fatal accidents.

Noting both the lack of data and the fact that all of the study aircraft meet FAA certification standards for safety, the Board said: "In light of this and the unknown effects of the roles of the pilot, of the weather and terrain, of the operation, maintenance, design and manufacture of these aircraft, the Board does not view this report as establishing any manufacturer's liability."

That these findings should not be construed as evidence that any of the aircraft are unsafe or that certain manufacturers build aircraft that are not safe.

To obtain the needed pilot data, the Board recommended that the FAA make a "stratified" sampling of general aviation pilots which would provide data on individual flights, including pilot age, occupation, type of license, medical waivers, and both total time and time in type of aircraft.

The Safety Board studied 17,312 accidents, of which 3,517 were fatal accidents causing 6,941 fatalities. Analysis by type of aircraft was limited to the 33 makes and models which numbered 500 or more active aircraft in the 1976 general aviation fleet. Planes designed for crop-dusting were excluded. The analysis nevertheless covered 80% of the 17,312 total accidents.

The study showed that Cessna-built aircraft had an average rate of 1.65 fatal accidents per 100,000 hours. The rates of other manufacturers' aircraft were Piper, 2.48; Mooney, 2.50; Beech, 2.54; Grumman 4.13; and Bellanca, 4.84.

"Differences in the pilot groups flying the aircraft manufactured by the Piper Aircraft Corporation and the Cessna Aircraft Company could possibly account for a part or

even all of the differences in the fatal accident rates of these two groups of aircraft," the Board said. "Obviously, it would be desirable to learn what unique factors or characteristics associated with the Cessna aircraft, their pilot population, or the operation and usage of the aircraft, including the environment, contribute to the lower Cessna mean fatal accident rate."

In-flight failure of the airframes of the Bellanca 14-19, Beech Bonanza Model 35 (V-tail), and the Piper PA-24 accounted for about one-third of the 185 such accidents studied. The Bellanca rate of 149 airframe failures in every 100,000 hours was eight times the average rate of all 33 aircraft; the Beech rate of 0.58 was three times the overall average; the Piper rate of 0.42 was more than twice the all-aircraft average.

The Board cited "structural problems", weather, and operation of the aircraft beyond its capabilities as possible causes and factors involved in the in-flight airframe failure findings. Without exposure data, pilot factors could not be assessed, and study of detailed cause/factor tables "provided no immediate answers," the Board said.

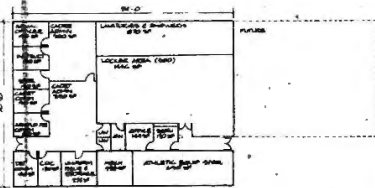
In the 196 in-flight collisions studied, the Board found that 97 involved either a Cessna 150 or a Piper PA-28. The Board noted that both types are "flown significantly" as trainers, and thus often are in high-density traffic areas. The Board said there was no "strong association with a particular landing gear or wing configuration."

The special study, "Single Engine, Fixed-Wing General Aviation Accidents, 1972-1976," may be obtained without charge by writing to the Publications Branch, National Transportation Safety Board, Washington, D.C. 20594. Multiple copies may be purchased by mail from the National Technical Information Service, Springfield Virginia 22151.

Changes — From Page 1

academic complex. There is nothing short-sighted about the planners of the growing E-RAU campus. They have charted its growth from

sandlot beginnings to world prominence, and it seems obvious that this growth will continue for many years to come.



Architects preliminary drawing of FIELD HOUSE.

Architects preliminary drawing of FIELD HOUSE.

Klyde Morris



we/ de/ zork/!

ERAU's International Role ---

Mid-Eastern Students Have Special Needs in this University

For Different Cultures Come Together at ERAU

By Stephen R. Whitmer
Residence Hall Director

As a new arrival to the ERAU community, I have in the last few days had the opportunity to meet and talk with many dedicated individuals from both the administrative and student ranks. From these discussions and some personal observations, ERAU is similar to many universities and colleges across the country in that there exists here some firmly implanted misconceptions concerning the international student population - particularly with regard to students from Middle-Eastern countries. In most all cases, these misconceptions are not premeditated and are innocent in that they are the result of our observation-based conclusions which are in turn drawn from our own socio-cultural background. Thus, to see they appear fair and impartial, and hence are viewed as actual fact and not misconceptions at all. In actuality, however, these observation-based conclusions are invalid in that they fail to consider any other cultural perspective but our own.

I do not propose here that it is reasonable nor fair for

us as domestics to bear the burden of being fully aware of all the various cultures that arrive in our community. The burden of adaptation to our society must fall upon the international student. However, it is to our own benefit to attempt to make this adaptation as easy as possible for the international student. Toward this end, we as domestics must educate ourselves about the nature of the international students who are a part of our community, and use this education to assist the international students in their adjustment to our society. To do otherwise is to blindly defer to our own ignorance, and fail to accept the challenge of taking responsibility for the development of our community as a whole.

Listed below are some important characteristics and needs of students from Middle Eastern countries. They have been summarized from Cultural Clings by Bobin D. Parker, American Friends of the Middle East, Inc. 1976.

CHARACTERISTICS

- (1) Mid-Eastern students are adaptable and can adjust to American standards in a short period of time.
- (2) Social morality prevails over

personal morality for Mid-Easterners; this concept of right and wrong, or sin and shame, derive not from an internal determination of right and wrong but from what is determined to be right and wrong in the world around the individual. For behavior guidelines, the individual looks to his environment.

(3) Mid-Eastern students come from a culture in which formality pervades social customs and daily routines. These patterns help keep people at a distance until one really knows them. He does not expect to be 'told off' - especially if that person does not really know him.

(4) A Mid-Easterner will give his 'kora' (a letter of recommendation). Our willingness to be frank and go on record regarding the faults of another is to him immoral.

(5) Hostility and suspicion may well be characteristics of the Mid-Eastern student when he first arrives. Distrust of the foreigner runs deep from the student from the Mid-East.

(6) Most students arrive in the U.S. with great self-con-

fidence. It is a shock when they do not encounter among their new American acquaintances any great awareness of their part of the world and its significance.

(7) It is surprising for a Mid-East student to find himself considered outside the Judeo-Christian tradition. Within the Islamic faith, Christians and Jews are held in reverence as worshippers of the same God and sharers in the same early religious heritage. Muslims consider their religion to be the final culmination of a religious developmental process from Judaism to Christianity to Islam. Prophets of the Old Testament and Christ are considered prophets of Islam.

(8) Personal relationships are important to the Mid-Easterners. For them the important thing in life is people. They observe our rush to experience everything and to acquire everything as laying waste to the truly important matters in life.

(9) Relationships between men and women in the Mid-East are surrounded with restrictions. Our more free and easy rela-

tionships between young men and young women often lead the newly arrived Mid-East student to unfortunate misinterpretations.

(10) To talk, to listen, to share words, is important to the Mid-Eastern student.

(11) The Mid-East view of human nature dictates that no person is supposed to be able to maintain incessant, uninterrupted control of himself. This results in frequent, quick changes in temperament in Arab students from quiet self-control to uncontrollable outburst of temper - which eventually subside. Thus to an Arab, outburst of temper is a normal consequence of behavior.

A MID-EAST STUDENT'S NEEDS DURING HIS EDUCATION IN THE U.S.

- (1) He needs respect - for himself, his people, his country and his religion.
- (2) He needs a close personal relationship or friendship.
- (3) He needs relaxed social relationships.
- (4) He needs conversation. I.e.

opportunities to use English outside the classroom as well as to hear his own language and share conversation with other Arab students.

- (5) He needs a paternal relationship - he expects to look up to his advisers and professors and receive guidance and control from them initially.
- (6) He needs to have his good deeds repaid and to have an opportunity to repay you for your good deeds to him.

LOOKING IN

By Nate Kidder
A simple turn of darts
If you stop and think about it,
As world events spin and dance
Around you,
Lightly pivotate...
Shimmering a flash
Of your own reflection.
Too fast to see clearly.
Now resting, now rising,
The show must go on.

NEW FEMININE ABSOLUTE SOARING ALTITUDE

RECORD SET

Colorado Springs - A new Feminine Absolute Altitude record for sailplanes has been set by Colorado resident Sabrina Jackintell.

Ms. Jackintell, mother of two teenagers, has just been notified by the Federation Aeronautique Internationale (FAI) that her flight of February 14, 1979, has been accepted as a new world feminine altitude record for single place sailplanes.

The flight broke a 24-year-old record by flying to an altitude of 41,460 feet in a motorless aircraft. The flight originated from Black Forest Gliderport near Colorado Springs and only a short walk from Jackintell's home. The 3-hour 18-minute flight which resulted in new world and national records was flown in temperatures that were more than 100 degrees below zero at maximum altitude.

The new record holder had been attempting to break B.W. Prouditt's long-standing record for nearly three years. Jackintell has nearly 500 hours of flying time in sailplanes and gets in the air almost daily.

A type of lift known as mountain wave is used to accomplish these high altitude flights. Wave lift is formed by strong winds, at least 25 miles per hour, blowing perpendicular to a mountain, in this case Pikes Peak. The wind flows over the top of the mountain and down the opposite side, where it bounces off a layer of stable air near the ground and is deflected upward many thousands of feet where it hits another layer of stable air and is deflected downward again. This wave action continues several miles on the downwind side of the mountain.

"From 32,000 feet on up it was a very slow climb," Jackintell said.

"It was a beautiful experience," only wished at the time that I could have shared it with the world," the new record holder said.

A large amount of documentation is needed to secure new world records. Traces made on barographs, an instrument which records altitude changes and time lapse, were sent to the

Soaring Society of America for homologation. The SSA then sent the traces and supporting documentation to the National Aeronautic Association who pronounced the flight a new national record. The NAA then sent the documentation to the FAI which has just declared the flight a world record.

Ms. Jackintell has had several flights over 37,000 feet in attempts to capture the unusual record. In addition to the record Ms. Jackintell will receive a Triple-Lennie Pin signifying that she has flown to an altitude over 40,000 feet in a sailplane. Jackintell is the first woman to accomplish this feat and only about one dozen men have ever accomplished this remarkable flying job.

The Lennie Pin, named after the cloud formed at the top of wave crests, was instituted in the late 1940's by pioneer wave pilot Robert F. Symons.

TEST PILOTS TALK OF SABRELINER 65 FLIGHT

"It's a joy to fly," was the comment which repeatedly came up when Perryville test pilots spoke during briefings. Although normally sedate when commenting about aircraft during test flights, each pilot sounded enthusiastic about the 65, adding "its new Garrett-fanjet engines make it much more quiet... it's very docile, easy to fly, yet very responsive - a joy to fly." Pilot and co-pilot on the first two flights were Joe Benn and Dave Waller, respectively. On its third flight, it was piloted by Bill Wescott, and again Dave Waller as co-pilot. Incidentally, this made Bill Wescott the pilot to have flown all three of the 65s now in the Flight Test program. At press time, test pilots from Sabreliner's El Segundo facility were in the Mojave Desert in California conducting a series of test flights.



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Wilbers' Rights and Wrongs



Every pilot has encountered the term "ground effect." As a term, it is frequently tossed loosely about in most every "hangar session." Although the term is widely used, its effects on airplane performance is but dimly understood.

Quite a number of accidents in general aviation are traceable to a lack in understanding ground effect. A pattern in these type accidents is clearly visible. The field is short and rough, or it is covered with snow, mud, or tall grass. The plane is heavily loaded or its engine's horses have become old grey mares. After a sluggish run the pilot horses the plane off the ground, barely clears the fence at the end of the runway and

then, seemingly clear of the ground, falls disastrously back to earth. WHY?

The total drag of an airplane is divided into two components, parasitic drag and induced drag. The two are always present though in varying degrees. Parasitic drag is caused by the skin friction and turbulence of the air flowing past the various parts of the airplane. Induced drag is a term tossed about casually by engineers but only dimly understood by most pilots is a result of the wing's work of sustaining the airplane. The wing lifts the airplane simply by accelerating a mass of air downward. It is perfectly true that reduced pressure on top of an airfoil is essential to lift, but still that is but one of

the things that contribute to the overall effect of pushing an air mass downward. The more downwash there is, the harder the wing is pushing the mass of air down. At high angles of attack, induced drag is high. As this corresponds to lower air speeds in actual flight, it can be said that induced drag predominates at low speeds and parasitic drag is greater at high speeds.

Ground effect works on wing downwash and wingtip vortices. It tends to reduce the angle of downwash and diminish the effect of wing tip vortices. This results in a reduction of the airplane's induced drag when very near the ground. At the moment of lift-off there is about a 48% reduction in the induced drag as

compared to flight altitude. Induced drag increases rapidly as the plane climbs. At 18 ft. altitude there is only about an 8% reduction in induced drag, due to ground effect. A pilot in trying a take-off from a poor field uses full power and holds the plane in a nose-high position. Ground effect reduces induced drag so the airplane is able to reach a speed where it can be "horsed" off. But, as altitude is gained induced drag increases as the effect of the ground effect diminishes. Twenty to thirty feet up, ground effect vanishes, the wing encounters full effect of induced drag and the struggling plane which got off the ground on the ragged edge of a stall becomes fully stalled and drops to earth.

A mixture of short runways, rough ground, grass and snow, high airport altitude, high air temperature, a weak engine and a heavy load, in any of many combinations, is the danger signal. When you do find yourself in a marginal take-off situation, know your plane's take-off speed for the conditions prevailing, the distance required to accelerate to that speed, and then allow a generous margin of safety by picking up as much speed as possible just off the ground before trying to climb. If the plane is still dragging, its wheels when it should be airborne, abort the take-off while you can for you're heading into a stall a dozen or fifty feet up.

Ground effect works when landing also. In the common case of an airplane coming in with excessive speed, it flies down from free air into ground effect and the reduction of induced drag as it nears the runway comes into effect to make the airplane float. This leads to the classic type of overshoot. On short fields, approach as slowly as is consistent with safety, and the effect of the ground is minimized. When you do overshoot and the far end of the runway is fast approaching, recognize that ground effect is reducing your induced drag and helping the plane to float on and on and on — so give it the gun and go around as soon as you realize you have come in fast and are skating on ground effect.

Liquid Crystal Display

Introduced to Improve Cockpit

WILMINGTON, Ma. — The Aircraft Equipment Division of General Electric Company, (U.S.A.), is introducing liquid crystal displays (LCD) to cockpit instruments in a wide range of applications for the next generation of commercial aircraft. Not only is this the first use of LCD's in a cockpit, but it is also the introduction of a white-on-black readout, another "first" in LCD technology — one which is four to five times brighter than other systems. It is the only solid state technology in which the

color of the reflected light can be controlled to produce this white-on-black display.

The dichroic liquid crystal system is being shown as a part of the GE exhibit at the recent Salon International de l'Aeronautique et de l'Espace from June 9-17 at Le Bourget Airport outside of Paris.

The General Electric (U.S.A.) dichroic liquid crystal operates without the need for polarizers, thus providing a much brighter display. A small amount of dye is absorbed within the host material. Dyes are selected for two properties:

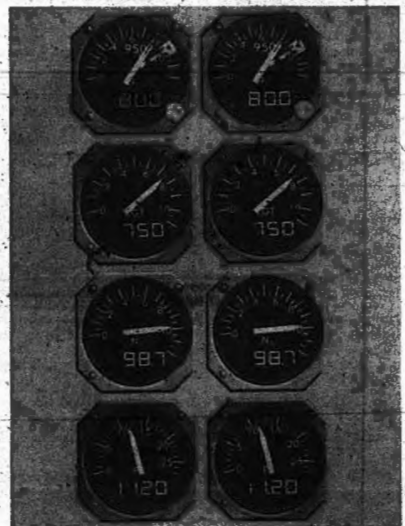
color and molecular structure. Black is achieved by a dye mixture. The preferred molecule is long and thin which when dissolved tends to line up with the long thin liquid crystal host molecules. Thus, when the crystal is de-energized the molecules present their long side to the viewer, and appear dark. When a voltage is supplied across the liquid crystal cell, the molecules are rotated and the viewer sees through the activated areas to the white display surface. When the voltage is removed the crystal mole-

cules assume the original orientation.

Dichroic liquid crystals were designed for aircraft equipment at the GE (USA) Research and Development Center in Schenectady, N.Y. GE (USA) demonstrated better than a nine to one contrast ratio with dichroic liquid crystal with a white-on-black appearance equivalent to painted numerals. Because the liquid crystal is an electrical field effect component, it requires far less power to operate than either the presently used magnetic wheel or mechanical counters; microwatts are required in the place of one or two watts. This lower power results in overall weight and power savings in the cockpit, plus a less complicated thermal management design.

The liquid crystal system is highly reliable because it is without moving parts and operates on very little power. Test data on liquid crystals indicate a failure rate of one or two failures per million hours. Processes involved in the fabrication of liquid crystals are not complicated, and the control of chemical formulation is similar to that required for synthesizing common paints. The frit sealing process for the glass cell enclosure of the liquid crystal is an established manufacturing process.

Although designed for specific user's requirements, the new liquid crystal display can be used in a wide variety of cockpit displays.



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Vets Used Bookstore Going Out of Business

To the Account Holders of the Embry-Riddle Vets Used Bookstore:

The Embry-Riddle Veterans Association regrets to inform you that the Vets Club Used Bookstore will permanently close on June 30, 1979. The bookstore, located in the Dorm Annex, will be open from 3:00 - 4:00 p.m. Monday through Friday beginning June 1 until June 30 to assist you in closing your account. Also, a Vets Club representative will be available in the University Center from 12:00 - 1:00 p.m. Monday through Friday beginning June 1 until June 30 to answer any questions you may have concerning the closing of the bookstore.

As of July 1, 1979, all unclaimed property will become the property of the Embry-Riddle Veterans Association, and absolutely no further transactions will take place.

Sometime in the month of July the bookstore will have a going out of business sale and everything must go.

Reel Entertainment

THIS WEEK'S MOVIE!



By J.T. Shelton
Entertainment Reviewer

"MANHATTAN"

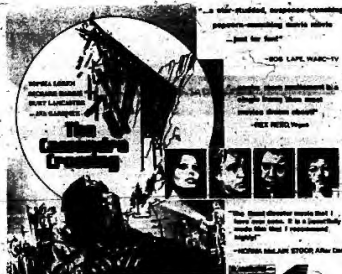
The plot line of "Manhattan" is simple: The mishaps (try the love life of an average New Yorker (Woody Allen) living in Manhattan. Generally, this movie could be boring but the excellent photography in black and white and the fine music of George Gershwin are artistically blended with Woody Allen's human sense of humor to make it a touching film to say the least. No doubt it's one of this country's better cinematographic attempts in recent years. Obviously all Woody Allen fans will immediately flock to see this film but for any non-fan I recommend it on the basis of the quality, found less and less these days, which the viewer will readily note upon seeing.

"Manhattan" is currently playing at the Daytona Six Theatre, Daytona Mall, located on Nova and Volusia.

Upcoming movies at the University Center are "The Cassandra Crossing," Friday June 15, 8:00 p.m., and "Lucky Lady," Friday, June 22, 8:00 p.m.

"The Cassandra Crossing" stars Sophia Loren, Richard Harris, and Martin Sheen. This is an action packed adventure about a luxury liner express train in Europe with a twist: the 1,000 people on board have a highly contagious viral disease. Will our good guys save the train, escape the train's fate? Come to the movie and see.

The other upcoming movie at the U.C., "Lucky Lady," is a wackadoodie, fast paced comedy starring Burt Reynolds, Liza Minnelli, Gene Hackman, and Robby Benson. In this film Burt Reynolds and Gene Hackman are two lovable hustlers who form a partnership both romantically and financially, with Liza Minnelli to run the booze from Mexico to California. This would be easy if the coast guard and syndicate were not around which all adds up to a movie with lots of insanity and some pretty good chase scenes. Well worth seeing.



THE BAGMAN'S FINAL WISH

By Nate Kidder

Light beam streams
Through the eyes
And old man's dreams.
To pick out thoughts,
And will, and schemes
Of cash and carry
And other things...
But suffer an old geezer
This one last laugh...
Ha, Ha,
Ha, Ha,
Ha.

New Movie - Cloud Dancer

Projects Spectacular Aviation Footage

[THE ARTICLE BELOW IS REPRINTED FROM AOPA NEWSLETTER and submitted by Bob Olson for your information].

"CLOUD DANCER," a new movie that's due out later this year, has some of the most spectacular aviation footage ever filmed. We can't give away the plot as we were treated only to previews of the aerial sequences flown by Tom Poberzyn, Charlie Hillard and

Jimmy Leeward, but it involves a world aerobatic championship, a dogfight between a P-51 and a Piper Arrow and a confrontation between a Pitts and an 18-wheeler. Producer-director Barry Brown is a pilot and an aeronautical engineer. Stars David Caradine and Joseph Bottoms learned to fly for the filming for added authenticity. "You look at those people, and you know they're actually flying," says Brown.

Museum of Arts and Science

Offer Unique Opportunities

Works of special interest by French artist Jean Dubuffet will be exhibited in the Main Exhibition Hall at the Museum through Sunday, July 15 in the Museum of Arts and Sciences here in Daytona Beach.

"Jean Dubuffet: Materielog-

ies and Texturalologies from the Milton D. Ratner Family Collection" represents a nine-year period (1953-1962) during which the artist was profoundly involved with the world of nature. Dubuffet is fascinated by the materials of which the earth is made, and by the textures of its surface. This collection is a celebration of nature: Soil, water and air. Stony Earth is homage to inorganic matter; Flowering is the organic. As the viewer contemplates these works, he rediscovers the subtleties, mystery, and beauty of the natural world. In Dubuffet's hands, nature take on mythic dimensions.

Many of the 55 works in this exhibition are on paper and are intimate in size. They vary widely in execution; many

are lithographs, some a direct application of oil or Chinese ink by assemblages transformed into print. Many are black and white, a number in color of the earth.

This exhibition comes to Daytona Beach through the cooperation of the Ringling Museums.

On June 30th Doris Meager of the Florida Audubon Society will bring her Bald Eagle, Red-Tailed Hawk, and Great Horned Owl as ambassadors of Florida's beleaguered Birds of Prey. She will speak on the plight of the raptors in our fast-growing State.

This is a part of the series of demonstrations with live animals together with natural history lectures which is taking place at the Museum grounds on Saturday mornings.

Guided tours of Tusavilla Park's Nature trails will be available after the program. The program will last from approximately 10:30 a.m. until 12:00 noon.

In early June the Planetarium at the Museum will feature a new program, "Footsteps," dealing with an in-depth study of the moon in relation to man. As before, regular Planetarium shows will be available to the public on Wednesday evenings at 7:30 and on Saturday afternoons at 2:30. Admission is free to Museum members and \$1.00 for non-members. Students' membership in the Museum is \$5.00 for an entire year. And the cost is only \$15.00 for a nonstudent, single-membership.

It should also be noted that the Giant Sloth exhibit is now open for inspection. The Sloth is totally reassembled to show all his prehistoric size and power. Come and see.

The Museum of Arts and Sciences is a non-profit educational institution with collections and research in Cuban and Florida art, American decorative arts, European paintings, pre-Columbian artifacts, Pleistocene fossils, and regional natural history. It is accredited by the American Association

of Museums and is open from 9:00 a.m. - 5:00 p.m. Tuesday through Friday; Saturday 12:00 noon - 5:00 p.m.; Sunday 1:00 - 5:00 p.m.; closed Mondays. The Museum houses a Cuban Museum, Planetarium, library, changing art exhibitions, science gallery, and maintains two interpretive nature trails. The one fifth mile museum trail and the seven tenth mile Elkum Trail in the Tusavilla are featured in the Park. Lectures, classes and Museum trips (foreign and domestic) highlight the educational programs. Admission is free to members, non-members - \$5.00 per person, \$1.00 family.

The Museum is located on Museum Boulevard which is the turn right at the Barnett Bank on Volusia Avenue just east of DBCC. Take the boulevard as far as it goes, at the T-turn left and the Museum is just to the left.

Or take the turnoff on Nova Road, just south of Bellevue Road, veer right and road runs right in front of the Museum. Enjoy this special aspect of Daytona Beach.

Fiber Optic May Soon Provide Flight Control

Advanced flight control technologies for the proposed Army Advanced Scout Helicopter (ASH) are being evaluated by Sperry Flight Systems for Bell Helicopter/Textron. The U.S. Army selected Bell and Boeing Vertol for preliminary design studies on more

survivable flight and rotor control systems for the ASH, for which a number of existing and future helicopter airframe types are being considered.

Sperry engineers are analyzing fly-by-wire and fiber optic transmission of electronic flight control commands. Sperry says

fiber optic devices could minimize susceptibility of electronic control data to radio noise and lightning strikes.

ASH is the first Army helicopter program with production potential to consider fiber-optic (fly-by-light) con-

cepts for primary flight control.

Sperry is coordinating flight control work with development of Bell's "Star" fly-by-wire light system, a new concept of failure-tolerant helicopter rotor control.

Rio Airways

Now Using

Sweiringen Metros

SAN ANTONIO, Texas, May 31, 1979 - Rio Airways, headquartered in Killean, Texas, currently ranked as the fourth largest U.S. commuter airline, is now operating Metro 11-19 passenger, turbo-prop airliners built by the Sweiringen Aviation Corporation here.

Rio flies hundreds of thousands of passengers annually into Dallas/Fort Worth Regional Airport, Houston Intercontinental Airport and Memphis International Airport from various cities in Texas and Arkansas.

The airline received its first Metro factory delivery in October 1978 and now has three Metros in operation. Rio will receive two more Metros in 1979 and has requirements for two additional aircraft in 1981.

"Metros were selected for addition to our fleet because their speed and pressurized comfort are best suited to our long stage-length flights in Texas and Arkansas," said Mark Connell, Rio President. "The Metros now in use are being scheduled 250 hours per month and are fulfilling the need we anticipated. Their passenger appeal has been a positive traffic factor."

"Metros are being added to our fleet of Beech 99 and Twin Otter aircraft, which are serving our shorter stage-length operations," Connell said.

Sweiringen Aviation Corporation is a subsidiary of Fairchild Industries, a diversified aerospace and communications company which builds military and civilian aircraft, manufactures spacecraft and aircraft subsystems, industrial and electronic products and operates a domestic satellite communications system.

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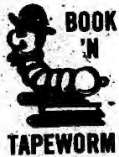
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ONION RINGS, MEDIUM SOFT DRINK AND OUR **Super Taco**

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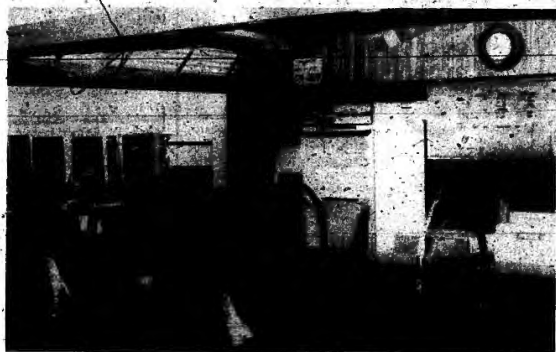
Our Jumbo beef patty on a large sesame bun with fresh sliced tomatoes, pickles, shredded lettuce, rings of fresh onion and a special sauce. With a regular order of French fries and a medium size soft drink.

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Blooper of the Week



Can You Identify the BLOOPER in this Picture???

Cessna Expects Conquest Propjet Return

WICHITA, KANSAS - Cessna Aircraft Company has initiated a program which is expected to return its Conquest propjet to service, within 60 days, according to Chairman and President Russ Meyer.

Following a malfunction in the trim tab actuator of a dealer's demonstrator aircraft in California, May 22, the company informed all Conquest owners that the aircraft should be grounded except for a ferry flight back to the base of operations. There was no accident, and failure of the tab actuator jackscrews was discovered after the airplane landed.

"We have coordinated the evaluation of this incident with the Federal Aviation Administration," Meyer said, "and we agreed to temporarily ground about 100 Conquests until a modification could be thoroughly tested. We have begun fabrication of a new actuator assembly which will be substantially larger and stronger, and which will eliminate any possibility of failure. This actuator will be extensively tested before the airworthiness certificates are reinstated."

Cessna's Senior Vice President of Marketing, Bob Lair, said the company is doing everything possible to assist all Conquest owners. "We regret the inconvenience to our customers caused by this necessary modification," Lair said, "and we have initiated a program to help satisfy their air transportation requirement by providing other Cessna aircraft during this interim period."

Cessna also announced that during the downtime, several additional improvements will be incorporated in the Conquest. "The trim tab actuator replacement and other improvements will be accomplished in the field by Cessna's factory-trained dealer service organization," according to Lair. "It will not be necessary to return the airplanes to the factory, which will allow downtime to be held to a minimum."

Lair said that the delivery schedule for new aircraft is

being revised and customers will be informed of the new dates in the near future. "Our number one objective is to return our existing Conquest customers to a fully operational status," he said, "and they will be given first priority in the installation of the required modifications. The Conquest fleet has begun compiling an excellent performance record and several customers have more than 1,200 flight hours on their aircraft in just the first year of operation."

Sabreliner 65

Progress Report

FIRST FLIGHT - Sunday, April 8, was a milestone date as a new Sabreliner 65 took off on its maiden flight on its schedule. It was a special day at Berryville since this aircraft was the first production 65 to be assembled at this Sabreliner facility, located about 90 miles south of St. Louis. Because of bad weather the flight lasted only 21 minutes, but on its second flight it flew for two hours, reaching altitudes of 33,000 ft. On its third flight, on Thursday, April 19, it flew another two hours, reaching altitudes of 45,000 ft., and completing what is called a Process Specification for a Production Test Flight, an FAA requirement.

SIGMA CHI

By Greg Stratford

Five weeks down and only two weeks to go till finals! Time sure flies during the summer (not necessarily when you're having fun). These past two weeks have been devoted primarily to study (!!) and fighting of the fly. Things began to look up for us last weekend, however, with the unexpected visit of several of our alumni. It's always good to see them again.

Looking ahead, we've got a pretty full agenda planned to finish up A-Term, with a road trip to Silver Springs scheduled next weekend for all the brothers and litter sisters of the chapter, and the re-scheduled faculty/staff Barbeque/Pool Party coming up Saturday, June 23.

Until next time, have a good one and good luck on finals.

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BOWLING

By Johnson & Francis

There are now four weeks down, as we rapidly approach mid-term (Yea!). This week's Bowler-of-the-Week goes to none other than our beloved President, Dave Ciblik. Dave rolled a current season high of 237, and fell short of high series by 22 pins, which is held by Rick Freeborn (632). Third High series currently belongs to Terry Shalan (601).

Since all of the guys mentioned in the preceding paragraph are on the same team (Win, Place, Show), they are the recipients of the "Modesty" Award. They wouldn't have won this award had they not kept reminding me of their accomplishments, again and again and again.

THE "H") RACE
Rick Freeborn, "Win, Place, Show" (5); Dave Ciblik, "Win,

Place, Show" (4); Terry Shalan, "Win, Place, Show" (3); Gary Francis, "Fore On Tap" (2); Ed Garcia, "Rajacana" (2); Rodolfo Guerrero, "Los Carjones" (2); Erv Funk, "Graduates" (1); Steve Funk, "Fore On Tap" (1); Rick Lassen, "Graduates" (1); John Keck, "Wins A-Go-Go" (1).

TOP TEN MEN*

1. Rick Freeborn.....192
1. Dave Ciblik.....189
3. Terry Shalan.....181
4. Ed Garcia.....177
5. Gary Francis.....171
6. Erv Funk.....170
7. John Keck.....169
8. Al Garcia.....168
9. Jaime Munoz.....166
10. Bruce Morrin.....164

TOP FIVE WOMEN*

1. Karen Ciblik.....142
2. Judy Morrin.....126
3. Stacey O'Toole.....124
4. Lee Morrin.....121
5. Pat Larsen.....119

THIS WEEK'S STANDINGS*

1. Win, Place, Show.....13-3
2. Los Carjones.....11-5
3. Fore On Tap.....11-5
4. Misfits.....10-6
5. Graduates.....10-6
6. Pins A-Go-Go.....10-6
7. Rajacana.....8-8
8. Skud.....7-9
9. Super Beetles.....7-9
10. One More Time.....3-13
11. The Unknown Team.....2-14

*Official



RIDDLE SKYDIVERS

By Kevin Keenan

The Avion that all of the Riddle Skydivers burned in at the end of the Spring Tri, is totally intricate. They are all avid and kicking, it is just that summer has a way of letting formal activities like club meetings and newspaper articles slip by the wayside. Many of the

members are away from Daytona for the summer, having gone home or to jobs, or to military training. Some have graduated or half-graduated and that leaves the club a little short-handed until September.

Now for the good news. Those club members who are still around for the summer will be jumping and training student jumpers as usual, only on a slightly smaller scale. The faithful Cosmos 185 will not be around this summer, but a nice 182 is being outfitted for skydiving and will be ready for use this weekend.

So, anyone who was really turned on by the skydiving movie shown last month, and would like to check it out in person is welcome to do so. The E-RATU Parachute Club jumps at Deland Airport every weekend when the weather is nice, from dawn to dusk. Come to the Courtesy Aviation hangar or follow the floating parachutes.



By KW Johnson

A week ago last Sunday, the Vets Club sponsored a softball tournament. Six teams entered in the competition. Each team played four others, and the two teams that ended up with the best record would play each other for the championship. Competition started at 9:30 and ended around 6:30.

The two teams that met in the final game were the "Graduates" and "Boncheros." The

Graduates jumped out roughly early 8 pt. end, but the Boncheros chipped in down to 2 runs (3-5). Late in the game, each team added another run, and that's how it ended. Graduates 9, Boncheros 7.

Rick Lassen, the Graduate captain, accepted the 1st place trophy, promising to give it to his wife. The Avion Sports Editor MVP Award goes to the "Graduates" left fielder, Allen Chee-Nice game. All!

The officiating was provided by the Vets Club, and must say, they did a very respectable job, with the POSSIBLE exception of Bob Allen behind the plate, who likes to call 'em high!

The Vets did such a fine job putting this tournament together, it makes me look forward to the next one they will sponsor, in 8 term. So get some guys together and come on out and have some fun!

★ DOWN 5 ★

By KW Johnson
Staff Reporter

Someday I'll design and build my own airplane. It will be a revolutionary new design, but won't really look like it'll fly. Oh, I know, everyone will make stupid remarks about it. Like "what a stupid-looking thing," and "it looks like the tail is on backwards!"

But the plane will handle like a charm, a sort of Corvette of the skies. It will perform well, and be one of the fastest, if not the fastest, single-engine civilian plane available.

My plane will be different from all the others thought, in a few respects. Like, for instance, I'll put in a trim system that is so difficult to use,

people will refer to it as the "gorilla-trim." And wings will just end, and look like someone sent them off. For the fuel selector, I'll put a left-off-right switch, instead of making it a simple dual feed system.

To top off everything, I'll leave out important information from the owners' manual. That way, people who are taking oral or written tests on my plane will get confused and have to guess at the answers. Oh yes, since I hate the metric system, and have no relation with the Armed Services, I'll keep everything in MPH!

I can go around to aeronautical schools and sell them my plane for training. If their students can't understand my plane, no one will I'll name this plane after the Moon!

Francis & Johnson

Our Men on the Baseball Diamond

By Francis & Johnson
JOHNSON

I think the American League, as a whole, is much more exciting, as well as powerful. However, the National League does have its share of fine players and clubs.

This year Montreal has gotten off to a surprisingly good start, and will most likely be a contender come October. I will definitely keep an eye on Pittsburgh this season. The way Philadelphia has been playing lately, they don't deserve to win, and probably won't. St. Louis is keeping pace right now, but I think they will slack off in September. And as far as I know the Cubs are still officially a baseball team.

In the west, I think the race this year will be between Houston and Los Angeles, although Cincinnati might pose a threat as the weeks roll on. San Diego and San Francisco have an outside chance but I wouldn't count on Atlanta.

Here are my picks for the West & East:

EAST

1. Pittsburgh
2. Montreal
3. Philadelphia
4. St. Louis
5. New York
6. Chicago

WEST

1. Houston
2. Los Angeles
3. Cincinnati
4. San Diego
5. San Francisco
6. Atlanta

FRANCIS

With the 1979 Baseball season one-third over no National League team has shown any real dominance. Although many of the teams are playing quite well, there is only one team playing .600 baseball.

Philadelphia, a team of all stars, got off to a great start this year. However, due to their weak bench a sudden onset of injuries has caused the club some serious problems: I feel that these problems will be taken care of and come October Philadelphia will be on top in the east. Montreal has shown some good stuff, but their inexperience will be their downfall in the second half of the season.

Over in the West is much harder to pick because the teams are even more evenly matched. Los Angeles, who lost Tom John in the free agent draft, seems to be just a mediocre team with him. On the other hand, Cincinnati who lost Pete Rose, is not doing too badly.

Here are my picks for the East and West Divisions:

EAST

1. Philadelphia
2. Montreal
3. St. Louis
4. Pittsburgh
5. Chicago
6. New York

WEST

1. Cincinnati
2. San Francisco
3. Los Angeles
4. Houston
5. San Diego
6. Atlanta

(The following poem is written by Paul Whittaker's Cousin, Paul is an Embry-Riddle Pilot Student - 1979. He lives in Dorm I, Room 216.

*The cousin is Jim Bender, a 15 year old Illinois teen)

PILOT'S 23RD PSALM

The Lord is my squadron leader.

I follow the best.
He makes me fly in good weather
and keeps me in good spirits
for His sake.

Even though I fly in stormy skies,
I fear nothing,
for He guides me.
His radar is so good it leads me on.

He even flies ahead of me,
preparing a place for me to land
before enemy lines.
Surely He will be with me
and lead me for the rest of my flying days.

And when the day comes for me to hand in my wings,
He will say, "Well done."
Then I will go to live with Him forever
in His beautiful airport.

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FOR SALE: 1976 Honda B2-C - excellent. 25,000 miles, loaded, very low for miles - see in excellent condition. Weekly call good for two years and \$7,000 - call 252-4581 or 252-4582 Ext. 499 ask for Don.

FOR SALE: 1967 Oldsmobile Convertible - Road Director, runs - 1800 or best offer. Contact Jerry Thibault at 252-5261 Ext. 436.

FOR SALE: Feb of 1974 Volvo first the new asking \$30,000. Call 741-7935.

MOTORCYCLE FOR SALE: 1974 Kawasaki 100 cc (100) cc with 100 cc. Also has 100 cc. Asking \$230.00. Also have 100 cc motorcycle. Asking \$250.00. In-creased deposit in Div. 6275 or see Jay in Room 232, Don I.

WANTED: Car or Honda in good condition or Opel for a good price. Abel Amiri, Box 2732.

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FOR RENT: 1 1/2 m. Military - Kitchener, 1/2 mile, 1/2 mile, 1/2 mile from airport. 4 bedrooms, 2 1/2 baths, 1/2 mile. Call 556-6274.

ROOMMATE NEEDED: For rent, own room in home. Furnished, \$750.00/mo., 1/2 mile walking distance to school. Must be neat and clean. Available June 1. For interview, contact Rich Arnold, Box 6173, 252-9289, or stop by Avion Office.

WANTED: Students interested in purchase toward school at ERAT? Main space a foreign language. Phone 677-1877.

ROOMMATE WANTED: \$50.00 per month + 1/2 utilities. 8 miles from school, located in Holly Hill. Small house fully furnished. Must have own transportation. Contact T. Vignetto - ERAT Box 2375.

NEEDED: 1 Roommate for summer. 3 m. West 3-bedroom in Deerfield - great room rates. Color TV & stereo \$92 rent + 1/2 utilities. Contact Dave Box 3196 or 252-9234.

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BRAND NEW motorcycle helmets! Blue, Large Mx. Asking \$18.00. Box 6667.

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FOR SALE: A pair of EES ART 18 head lamps. Less than a year old, and in excellent condition. Can be obtained in the Library, between 5:30 p.m. - Contact Sam McKinley, Box 4825.

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FREE - 2 Female kittens, 7 wk old, 1 female Siamese cat, 2 yrs old. Need good home. Call 741-4345 or note in Box 1095.

HOT AND STICKY! You'll have a hot deal for you - A window-mounted portable air conditioner will cool you off. \$300 BTU for those humid nights in tropical Florida. 115 watts of nothing power - fits right in your window. Call David at Ext. 280. Such a deal for \$145.

Lost & Found

TO PERSON WHO "BORROWED" case of mine from Fleet Line last Wednesday. We saw you take and hope witness. You have until the end of this week to return it or replacing cash of \$8.40. You may leave either at office or bank of U.C.

FOUND: Calculator found in Room A 214 5/21/79. Drop note in Box 5425 or call 252-7466 in intensity.



POLICEMAN JOE'S
SARAFETY TIP OF THE WEEK.
TIP NO. 2 - DON'T DIE!

STOL Aircraft Nears Completion



FORT WORTH, Texas - Another plateau was reached in Bell Helicopter Textron's tilt rotor research program on April 23 when the second XV-15 aircraft made its first flight in helicopter mode at the company's Arlington, Tex. Flight Research Center.

This aircraft is scheduled to make the full conversion of the airplane mode later this year, according to Tommy Thomason, manager of Tilt Rotor Programs at Bell.

During the 30-minute initial flight of Aircraft No. 2, the XV-15 made a series of takeoffs and landings and hovered at altitudes of up to 100 feet above ground level. It also flew forward at speeds up to 44 knots and attained 12 knots in sideward flight.

Flying the aircraft were XV-15 project pilots Ron Erhart

and Dorman Cannon. Erhart, who was at the controls, said the aircraft showed excellent flying qualities and was exceptionally stable.

Thomason said that the next phase of the program calls for 50 hours of flight tests, including the establishment of a safe operating envelope and evaluation of the aircraft's performance, dynamic stability and handling qualities.

"Conversion from helicopter to airplane mode will be accomplished during a series of flight tests in which the nacelles are tilted gradually," Thomason explained.

"During the proof of concept test program, we will demonstrate a 300 mph cruise speed," he added.

When the first in-flight XV-15 conversion from helicopter to airplane mode is accomplished it will mark a major milestone in Bell's program with NASA and the U.S. Army Research and Technology Laboratories (AVRADCOM). The contract designated Bell to design, manufacture and test two VTOL aircraft.

Prior to making its first hover flight, Aircraft No. 2 accumulated approximately 40 hours of ground run tests, including 15 hours of qualification runs.

Aircraft No. 1, which made its initial hover flight on May 3, 1977, completed six weeks of successful wind-tunnel tests in June 1978.

"Those tests defined the initial envelope for flight tests on the second XV-15," Thomason said.

The extensive wind tunnel tests were conducted at the NASA Ames Research Center, Moffett Field, Calif. One and a

half weeks were devoted to rotor tests which included operations as a helicopter to 123 knots and as an airplane to speeds of 180 knots.

"Conversions were readily accomplished at speeds from 100 to 170 knots," Thomason said. "Helicopter autorotation was checked at 80 knots and start ups and shut downs were performed in 60 knot winds."

The tilt rotor is expected to combine the best features of helicopters and conventional airplanes for fast point-to-point transportation.

Research on the tilt rotor concept began in 1953 when Bell received a joint Air Force/Army contract to build the XV-3 convertiplane. This early model proved feasibility of the concept and operated in both hover and forward flight modes with easy conversion.

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