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Avion 1977-05-18

Embry-Riddle Aeronautical University

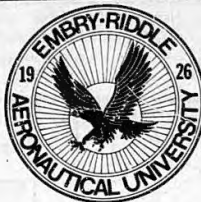
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US-USSR Aviation Research Detailed During Meet At Embry - Riddle



The Avion

WEDNESDAY, MAY 18, 1977
Volume 26, Issue 1

Regional Airport
Daytona Beach, Florida 32014



OBSERVING U.S. TECHNIQUES—Ivan Vasin (left foreground) and other soviet and U.S. delegation members join E-RAU officials on a tour of the University's flight simulator laboratory. (Photo by Costanzo)

DAYTONA BEACH, FLA. — Closely coordinated research efforts planned to lead to increased safety and efficiency in eight areas of civil aviation are expected to result from the latest meeting of U.S. and Soviet aviation officials.

The sessions in the U.S. and the Soviet Union are conducted under the 1973 Cooperation in Transportation agreement between the two countries. Chester Davenport, assistant secretary of transportation, is U.S. chairman for the accord.

The eight specific areas were spelled out during a "mini symposium" April 7-11 here. A delegation headed by Mervin K. Strickler, FAA Aviation Education Programs Division chief, represented the U.S. while Alexander I. Nazarov led the Soviet contingent. Accompanying the USSR Civil Aviation Ministry Education and Training chief were Ivan F. Vasin, director of the Leningrad Civil Aviation Academy and Sergei Manichev, general director of staff for personnel. Galina Davayeva of Aerofoil Airlines and Walter Steblez representing the U.S. State Department served as interpreters.

The six day event began April 6 with a series of preliminary presentations at FAA headquarters in Washington. Nazarov and group members were briefed on topics ranging from the U.S. system for Air Traffic Control specialist training to a proposed aviation facility exchange program.

Main discussions were pursued at ERAU's Daytona campus where the Soviets saw the university's operations at first hand. Following a welcome by President Jack Hunt, the U.S.-Soviet committee toured campus and the Regional Airport FAA control tower.

In talks over the next two days, the two sides agreed to conduct intensive joint investigation and research into aviation study areas including:

- Development of improved methods for flight crewmember selection, training and proficiency upgrading.
- Program development for maintaining flight skills during breaks in flying.
- Technical aids for pilot evaluation
- Flight crewmember response under stress.
- ATC specialist training
- Physiological selection of aircrew members
- Airline management and managerial training
- Improved methods of primary flight training

Also, the joint committee heard reports from aviation educators including Dr. William Hagin of Arizona State University and Dr. Robert Heuston, a director of the American Airlines Flight Academy.

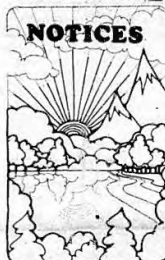
Discussing flight training research at his institution, Dr. J. H. Grosslight of Florida State University told the group that an average of 60 percent of all new flight students don't complete their instruction. "The flight training facility you see here is top of the line. But the majority of flight training in the U.S. occurs at small operations with a few airplanes and a few instructors who have satisfied the FAA that they can teach flying."

Speculating on reasons for the 60 percent dropout figure, Grosslight declared: "What could be a poorer classroom than a noisy aircraft cabin, an uncertain and perhaps tense student and an overly verbal instructor telling the student what to do at a sound level close to the pain threshold?"

A major revision to the joint committee's latest protocol memorandum was presented by E-RAU President Hunt and included in the final document. In a brief talk, Hunt called for international cooperation in developing a prototype integrated flight training system. Such a system would include flight trainers, simulators and similar modern hardware, the president said.

"We (educators) need help," he told the combined representatives. "During this conference, we have talked about integrated training systems. Ever since I can remember, we have talked about integrated training systems." Rarely has he seen such systems used properly, Hunt said. He suggested that one possible reason for that was people. "We have people who design and build simulators and people who teach students. Unfortunately, it's seldom that the teacher designs the hardware."

International Civil Aviation Organization member nations and other countries stand to profit from the continuing conferences, said the FAA's Strickler. "It's my belief that what we are doing with the Soviet Union can contribute to the safety and efficiency of aviation on a worldwide basis," he commented. "Thus, if we can save a life and reduce costs at the same time, everyone benefits."



NOTICES

Heard! Heard!

NOTICE—The SGA Traffic Court will be held Wednesday at 12 p.m. in the Conference Room of the University Center. The Court is instituted for the purpose of passing rulings on Traffic tickets given to the E-RAU community.

The Holly Hill Police Department is conducting a special five evening seminar for women on the use and safety of handling hand guns.

Conducted by Sgt. William Walker, the classes will begin May 24 from 7-9 p.m. Women from throughout the area are invited and there is no age limit to those who attend.

To attend, women should fill out an application form before the 24th. Registration fee is \$3.00.

Ownership of a hand gun is not necessary.

BE AWARE — A. James Aggett, associate dean of students wants E-RAU students to be on the look-out for phoney \$20 bills.

The bogus bucks are floating around the Daytona Beach area as tourists continue to swarm to the sunny beaches and famous raceway in this city.

The counterfeit money is identifiable by the different paper used. Mr. Aggett said that he has already come across two such phoney bills.

ERAU Announces VPs, New Operation



RICHARD J. QUEENAN
Vice-President of Marketing and Development at ERAU

Two new vice presidents have been named to head the marketing and student activities at Embry-Riddle Aeronautical University.

Richard J. Queenan has been appointed vice president of the Florida based university's newly created Marketing and Development office. Jeffrey H. Ledewitz has been selected as vice president of student affairs. The dual appointments were announced recently by ERAU's President Jack Hunt, following the University Board of Trustees annual meeting.

Queenan, a long-time aviation manager and executive, was Overseas Marketing vice president for Hughes Aircraft before coming to Embry-Riddle. In that position, he was responsible for the air carrier's marketing and promotional ef-

forts at all locations outside the U.S.

Earlier, Queenan was Special Projects vice president for Hughes Aircraft, bringing to that post 22 years of aviation administrative, consultant and executive experience. Before joining Hughes, he represented R. Dixon Speas Associates aviation consultants, where he was a member of the board of director.

Prior to that, Queenan worked for Pan American World Airways for 17 years including the position of director of operational control systems. In this capacity, he was responsible for the control and commitment of 150 jet aircraft.

The 55 year old Salem, Mass. native studied business at New York's Hofstra University and completed the Harvard University Graduate School of Business Administration advanced management program.

In his new position, Queenan will organize and institute a wide range of marketing programs directed at future growth and expansion. These programs may involve cooperative education and training efforts with airlines, aviation industry affiliates, foreign governments and other agencies interested in ERAU's capabilities in the aviation education and training program field. Such ventures would be tailored to the customer's specific requirements and could be presented either on or off campus, including overseas.

Ledewitz, 30, is the youngest person ever appointed as an Embry-Riddle vice president.

The New Haven, Conn. native joined E-RAU in 1972 as director of Counseling and Gui-

dance. In August, 1974, he was promoted to associate dean of Students, a post he held until January, 1976.

Recognizing Ledewitz' outstanding leadership and executive abilities, the University appointed him dean of Student Affairs. In that position, he was responsible for all activities governing or in other ways affecting students welfare and campus life.

Ledewitz' new post provides an even greater degree of administrative and executive responsibility. In the future, his office also will guide and direct student activities at Embry-Riddle consortia and residence centers throughout the country and overseas.

He is a graduate of Stetson and George Washington Universities. He holds a doctoral degree in education from Oklahoma State University.



DR. JEFFREY H. LEDEWITZ
Vice-President of Student Affairs

Randi-Conjurer And Iconoclast!



By Jean Snyder Staff Secretary

For many years, it was not popular to denounce the existence of ghosts, demons, psychics or extra-terrestrial "visitors". But Randi, Embry-Riddle's latest guest performer and speaker is breaking many myths concerning these purported phenomena. He is doing this through facts, not theories.

Describing himself as a "conjurer, an iconoclast", Randi is in fact all of the before mentioned and more. Born in Toronto, Canada, he was a child prodigy (in math and science), and for many years didn't attend formal schools.

By the age of 12, Randi became intrigued with the art of magic. Later, he developed skills in mental telepathy trickery.

While still a teenager he ran away and joined a carnival and began developing his magic skills.

Since this canvas topped start, he has played before audiences on stages and on TV across the country. During this time, his mental tricks were seen by some as real psychic abilities, and many came to him asking for psychic help. It was then he stopped his "psychic" tricks realizing their impact on innocent people.

Now, Randi still performs feats of magic to college audiences throughout the country. But his real reason for visiting campuses and other organizations is to refute those people who talk of ghosts, psychics and unearthly visitors is constantly bombarding that TV tube with "true statements, and factual evidence" to their existence.

"Many people say I have a negative attitude, but for the last four or five years I have been an iconoclast to these people who are in my profession and are bringing disgrace to that profession. They are taking audiences down the garden path." "I have never seen anything that can genuinely be called supernatural. There might be such things but I have not seen any. I have the facts to back up my statements. Those people who claim to have facts on supernatural occurrences are called scientists. And if we can't trust scientists who can we trust?"

Randi is co-founder and member of the Committee for Scientific Investigation of Claims of the Paranormal. Members in this committee include Dr. Carl Sagan, world renowned astronomer, Isaac Asimov, a top science fiction writer of the U.S., and B.F. Skinner, who is an internationally known psychologist. This committee was founded to investigate and try to prove the reality or fakery involved in psychic occurrences. Randi is also the author of "The Magic of Uri Geller."

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OPINIONS

THE OPINIONS EXPRESSED IN THIS PAPER ARE NOT NECESSARILY THOSE OF THE UNIVERSITY OR ALL MEMBERS OF THE STUDENT BODY. LETTERS APPEARING IN THE AVION DO NOT NECESSARILY REFLECT THE OPINIONS OF THIS NEWSPAPER OR ITS STAFF. ALL LETTERS SUBMITTED WILL BE PRINTED PROVIDED THEY ARE NOT LEWD, OBSCENE, OR LIBELOUS, AT THE DISCRETION OF THE EDITOR, AND ARE ACCOMPANIED BY THE SIGNATURE OF THE WRITER. NAMES WILL BE WITHHELD FROM PRINT IF REQUESTED.

LETTERS TO THE EDITOR

PRESIDENT'S CORNER

By John O'Neal



EDITORIAL

Welcome to Summer! Beach time, sailing, flying, swimming- anything but studying, right? Right! I couldn't agree more. If you don't see me on campus, I'll be in DeLand swimming in the lake in front of my apartment. With all this free time you've got to get involved. So, now you're going to tell me that you've got too much studying to do. Which is all the more reason to get involved. Fraternities, clubs, the SGA, (or even the Avion) sure can help to make your summer more fun. But more importantly, there is inevitably somebody who has taken that course that's giving you trouble, and he or she can help you over the rough spots.

So, anytime you hear one of your friends say that there's nothing to do at ERAU, you tell him to poke his head out of his shell, and get involved.

Let me close by giving you a publishing schedule for the summer. Copy is due the Thursday at 3:00 prior to publishing date; for articles covering weekend events, the deadline is Monday morning at 9:00.

Summer A	Publishing Date
Issue 1	Wednesday, May 18, 1977
2	June 1
3	June 15
Summer B	Publishing Date
Issue 4	Wednesday, July 18, 1977
5	July 24
6	August 10

Ray D. Katz

I can't help but feel a twinge of pity for the author of April 6 article, (Airlines and Airlines-Ed. Note) in which he described the departure of those aircraft utilized by Daytona's airlines as a "bore". If he, (still a student) finds any aspect of Modern aviation boring, it would be to his ultimate advantage to seek a career in another field.

I am writing on the supposition that I can define myself as the "average" Riddle student. I've been flying for four years and have amassed about 200 hours. The novelty of the miracle of flight has worn off, being replaced by a deeper feeling, one of awe and wonder. As many times as I've seen it before, I find it necessary to watch those DC-9's, 727's and yes, even our own chicken hawks with my own eyes to convince myself that anything so ponderous and ungainly could fly. I'm not overwhelmed by the roar of the engine, nor do I flush with the excitement of novelty that I once did (and most freshmen do). Instead, I sense a subtle miracle in the fact that all those thousands of parts, the intangible laws of physics, the efficient comrod-

ore of the crew could combine with the precision of a swiss watch and produce the near meta-physical miracle of flight.

I'm not alone- I've seen others stopping during the between-class-rush to watch a "routine" DC-9 depart, or even (like myself) to watch a lone C-172 wobble out of the pattern.

Call it a bore if you must, but to some of us it is art, poetry, black magic and science rolled into one fleeting once-in-a-lifetime experience.

Name withheld upon request.

EDITOR'S NOTE!
You have a point, any flying machine will stir the blood of a true aviator (pilot, mechanic, or just plain passenger). But I believe the point Mr. Groeneveld was trying to make was that in comparison to someplace like Miami International, Daytona can be a bit boring if you're looking for something different in the way of birds. Regardless, of his opinion of Daytona, you must give him the credit for his interest and expertise.

FEEDBACK

QUESTION: Why not show FAA films in addition to the normal films shown on Frisbie Swims. This would be interesting as well as having an educational benefit for all ERAU students. RVA

ANSWER: No reason. We will look into it immediately. Sam W. Stack

QUESTION: Many comments have been aired in previous issues of the AVION on the subject of pedestrian safety on campus. The drivers have traditionally been the brunt of the criticism, although pedestrians must also recognize their responsibilities. Persons who insist upon walking abreast along the access

lanes while cars try to squeeze by are inviting disaster. As both a driver and a pedestrian, I have seen the problem from both sides.

It is not too great a sacrifice to keep close to the parked cars while walking and to try to keep below Mach 1 while driving. Common courtesy exercised by all parties will keep a stroll through our parking lot from being a terrifying, health endangering experience.

ANSWER: What can we say! You said it all.

QUESTION: What is the "proper dress" for students?

I want to welcome everyone back to school. We will be having a Senate meeting Tuesday and I hope to be able to hire someone for the office so we can have it open. There is no other news so I will close.

John O'Neal
SGA President

VP THOUGHTS

We have started off the trimester with a big bang, the Amazing Randi was indeed amazing. I simply couldn't believe my eyes and for those who missed the show, it was their loss.

Aaron was an exceptional band also. This trimester will be the best Summer trimester yet. I hope a majority of the students take advantage of it.

This week is the last chance to get involved with fraternities for the summer, don't let it slip by-you'll find it there.

An evaluation of the Summer Senate will be in next week's article. We will have had our first meeting by then.

ANSWER: This is a rather open question, so we will answer it in the same manner. "Proper dress" we think, would be best denoted by good taste. Good taste includes shoes, shirts, and pants. Men or women on campus without shoes or clothes that leave "little to the imagination" do not fall into the category of good taste.

On the other hand, if it is the weekend and you are returning from the beach and want a coke, a dash into the U.C. in your bathing suit would not be a no-no. USE COMMON SENSE.

Sam W. Stack, Director of Student Activities.



"IT WAS SELF-DEFENSE."

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Written On Sunday

By Ignacio Falco, Jr.



Playhouse 77-78 Season Announced

The Daytona Playhouse Board of Directors recently selected the plays for the 1977-78 season. Exact performance dates will be set during May.

Opening the season will be the rousing musical "THE UNSINKABLE MOLLY GOBOWN" by Meredith Wilson. The summer production will run weekends only this July and August.

The Terence Frisby comedy, "A GIRL IN MY SOUP", will be scheduled sometime in March. Gig Young starred in the original Broadway production. A small cast of adults is needed.

A second drama, "NIGHT OF THE IGUANA" by Tennessee Williams will follow in late April. Many will remember the movie version which starred Richard Burton, Ava Gardner and Deborah Kerr.

Closing the 1977-78 season will be a fun musical by Fred Ebb, Norman L. Martin and John Kander. The theme is what happens when a group of Senior Citizens decides to supplement their Social Security. The play is "70, GIRLS, 70" and should be fun for performers and audience.

If you are interested auditioning for any of the plays watch this paper for audition dates and information.

Here I Come With...

By Felix A. Garcia

Beautiful morning, like the others during this season. Clean flying suit, polished flying boots, good breakfast and ready to fly again as usual but something was wrong for me to break my almost daily routine.

The aircraft: the little but exciting T-34 Mentor, the student pilot was a young man, 19 years old, with flight experience of about 35 hours. OK, pre-flight, start, taxi to runway, take-off, everything fine. First traffic pattern OK, second one very good, third one the same thing and taking off again for a fourth one.

Eighty knots and landing gear up, 2400 RPM, 100 knots climb speed. Three-hundred feet above the planet, the runway behind us and what: the engine started to cough really rough and of course, we started to lose speed and then started going down for an emergency landing!

Let's see what we had for a clean belly landing: houses and more houses, a base-field to our right and a beautiful highway just in front of our three noses (including the Mentor's nose) at about one-half a mile (I really thought it was at about two miles).

In a few seconds I checked the instruments and saw the fuel pressure indicator telling me bad things, the same thing happened with the RPM and the manifold pressure.

I immediately tried to change the fuel valve from the right fuel tank position to the left tank position without seeing it, but my experience (about 600 hours in this bird) made me feel that the fuel valve was not either on the left or right position at that moment, so I saw that the young man in the front seat was trying to change the valve from the right to the left tank position but so slowly that the intermediate position of the valve originated a lack or a blockage of the fuel flow from the tanks to the carburetor.

Well, I positioned the valve to the left, then the full booster pump ON and in a few seconds the engine was trying to run again. With the irregular power available we just made it: a good and lucky landing on the highway with a lot of braking to avoid hitting a big truck on its back. Then, a lot of cars and people! A few minutes later the police and national guard cleared the area, I checked the engine, and then we took off safely and returned to the base where they were waiting for me to fly my two other assigned training missions of that almost routine morning!

It was then like "nothing had happened here." This was a good "break" from my routine and provides another experience of my life as an instructor pilot.

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Robert L. Bast, the pastor of Garfield Park Reformed Church, Grand Rapids, Mich., said "I confess my sin." Mr. Bast was one of 22 men arrested two weeks ago on charges of attempting to solicit women police officers posing as prostitutes. Among those arrested were prominent businessmen and the principal of a school. The minister got a standing ovation after his confession in church Sunday. God bless you, Bob! You confessed, but were you sorry?

According to a recent issue of Alcohol Information Digest, American laws are lenient with drunken drivers compared with those of other countries. The article says that in Turkey, for example, drunk drivers are taken by police 20 miles from town and forced to walk back.

In Australia, the motorist's name is printed in the local newspaper under the heading, "He is Drunk and in Jail."

In Malaya, the drunk driver is clapped in the calaboose. If he happens to be married, his wife is locked up too.

And in South Africa, the penalty for driving while intoxicated is one year in prison, a fine of \$10,000, or both.

Last February, a prisoner escaped from the city jail in North Worth, Texas, by picking up a broom and sweeping his way out of the building. In other words, it was a clean get-away!

Makers of some of America's most popular products as Ken-

tucky Fried Chicken, Coca-Cola and McDonald's hamburgers go to amazing lengths to keep their trade secrets from falling into the hands of their fast-food competitors.

Only five people know the identity of 11 herbs and spices which are blended with the batter for Col. Harland Sanders' Kentucky Fried Chicken, said Ray Calender, a spokesman for the Sanders Corporation to Don Horine a newsmen for The Enquirer.

The formula for the syrup used in amking Coca-Cola has been zealously guarded since it was created in 1886. William C. Kurtz, historian for the company in Atlanta, Ga., said that less than 10 employees know the formula and that "the company discourages any two or more of them traveling together in the same plane."

A spokesman for McDonald's declared that any information concerning their spices is considered confidential.

Education Minister Rene Haby (France) said that school students will not be given Saturdays off in his country. Haby said that scientific studies have shown that long weekends "often have a disastrous effect on schooling." French youngsters like doctors get Wednesday afternoons off.

Raquel Welch: "Sex is not a question of the body or measurements or curves. It is in the mind." She also has a good mind!

So long!

ALUMNI NEWS

Embry-Riddle's graduate program is growing and achieving recognition envisioned by its initiators some three years ago. As this fiscal year ends, an average of 55 students per term will have accumulated approximately 400 course enrollments per year in either the Master's in Aviation Management or Aeronautical Science degree programs. More than 25 individuals have graduated and have found gainful employment in aviation or closely related fields including airport consulting, aircraft manufacturing, airlines and air freight operations.

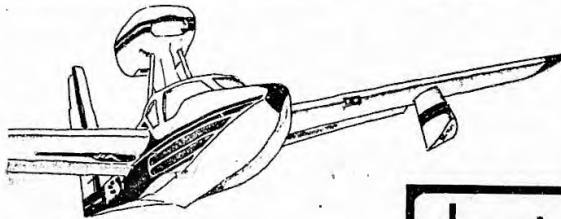
The purpose of the graduate programs is to produce future leaders, directors, managers, and supervisors with a high degree of competence who have meaningful learning experiences under the finest and most competent guidance available. In the past, ERAU graduate students were personnel who had already established themselves in aviation careers; however, many of our campus

graduates are continuing their education pursuits in the graduate program in Miami.

We have received numerous inquiries from military sources and the civil and general aviation communities as well as the home campus for expanding our graduate program. We are studying the feasibility of implementing new programs in response to these inquiries. Inasmuch as our primary concern is offering the highest quality program possible, we will make every effort to insure that all elements necessary for the maintenance of a viable quality program are present and can be maintained before we initiate or expand any of our aviation programs.

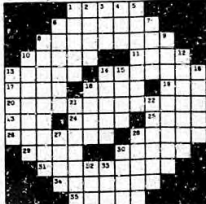
The following list gives some idea of the employment positions found by the graduates from the Master's programs. As can be seen the jobs are diverse in scope, and international in location. The graduate program might be something to consider.

- | | | |
|---|--|---|
| Ralph Blanchard
Viper Island, Fla. | B.S. Aviation Management
Embry-Riddle Aero. Univ. | Revenue Analyst
Director of Budgeting, V.I. |
| Michael A. Bergagnini
Hialeah, Florida | B.B.A.
University of Miami | Supv.-Payroll Accounting
National Airlines |
| Steven R. Bray
New York, N.Y. | B.S. Air Commerce
F.T. Institute of Technology | Airport Operations Supv.
Trainer-Fort of M.V. S.S. |
| Larry W. Carr
Miami, Florida | B.S. Business Administration
Fla. Atlantic University | Customer Services
Rep., Delta Airlines |
| Rimsey C. Clarke
Baraboo, W.I. | B.S. Aviation Management
Embry-Riddle Aero. Univ. | Deputy Administrator for
Civil Aviation-W.I. |
| Michael J. Donovan
Groesbeville, Texas | B.S. Psychology
University of Wisconsin | Asst. Mgr. Operations Dallas
Fl. Worth Int'l. Airport |
| Clifford Fitzgerald
Miami, Florida | B.S. Business Administration
Boston University | First Officer-Delta Air Lines |
| Oliver F. Gagne, Jr.
Cincinnati, Ohio | B.S. Aviation Management
Embry-Riddle Aero. Univ. | Management Trainee-Landrum
& Brown Airport Consultants |
| Philip W. Hamilton
Kingston, Jamaica | B.S. Aviation Management
Embry-Riddle Aero. Univ. | Management Trainee
Trac-Jamaican Airlines |
| Thomas Krenz
Miami, Florida | B.S. Accounting
San Jose University | First Officer
Delta Airlines |
| Charles C. Lyons
Toila, Oklahoma | B.B.A. Marketing Management
Southern Methodist Univ. | Second Lieutenant-U.S.A.F. |
| Wayne Mills
Houston, Texas | B.A. Psychology
Nicholls State Univ., Louisiana | Cesna Pilot Center Rep.
Cessna Aircraft Co. |
| Vivek Pawar
Richmond, Va. | B.S. Mechanical Engineering
Bombay Univ., India | Air Pollution Control
State of Virginia |
| Joel Rusk
New York, N.Y. | B.A. Economics, LaFayette
College, Easton, Pa. | Airport Manager-Pan Am
Westchester City Airport, N.Y. |
| Ned H. Sarks
Miami, Florida | B.S. Business Administration
New York University | Senior Manager Planner
Eastern Air Lines |
| Barry Smith
Miami, Florida | B.A. Economics
University of Massachusetts | Sales Representative
Piper Aircraft Co. |



CROSS WORDS

- ACROSS**
1. Practice discipline
 2. Get away quickly; 3 wds.
 3. Weapon at Balkans
 4. Increased
 5. Legal claim
 6. Truck
 7. Krieg or guerre
 8. Very slowly; 4 wds.
 9. Thuring
 10. Pipe fittings
 11. Architectural job
 12. Ugees on
 13. Of low intensity and reduced volume
 14. Brought action against
 15. Deceased
 16. Shown live or on tape
 17. He "rings it up"
 18. Iron expert
 19. Get affairs
 20. — — — — —, a great deal more; 5 wds.
- DOWN**
1. Family
 2. Windup
 3. Religious talks
 4. Painter of "The Descent from the Cross"
 5. Underlined; 2 wds.
 6. Would-be grocer
 7. Responded to assailant
 8. — — — — —, become more strict with
 9. Rubbles up and repairs
 10. Blade with big eye
 11. Flat-topped arch way
 12. Austerity; impudence
 13. Healed
 14. Position person
 15. Equal
 16. He led the Israelites from Egypt
 17. Eight fortings
 18. Zee Zee's sister
 19. Ex-GI



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Kennedy Space Center Awards Grant To Kentucky State University

KENNEDY SPACE CENTER, Fla.-NASA's John F. Kennedy Space Center has awarded a \$39,812 grant to Kentucky State University, Frankfort, Ky., to continue research on the effects of prolonged exposure of experimental animals to moderate deviations from the normal atmospheric level of oxygen.

Much study has been conducted on the effects of short-time exposures to 100 per cent oxygen for man and some experimental animals. But little is known about prolonged exposures to oxygen at low to moderate concentrations. Kentucky State was awarded an original grant in March 1974, to initiate a study.

Since that time, Kentucky State has made significant discoveries that may be useful to NASA in planning atmospheres for future manned space missions; particularly with the prospects of long-term missions aboard the Space Shuttle Orbiter, and more distant possibilities such as space colonies.

Using vinegar flies as subjects for the experiments, research has thus far shown that higher levels of oxygen have drastically shortened the life span of the flies, while lower levels have greatly reduced their reproductive capabilities.

Genetic research with the vinegar flies suggests it may someday be possible to identify individuals who are better adapted genetically to



The Veterans Association of Embry-Riddle is proud to announce the formulation of its women's auxiliary. This elite group is being organized under the auspices of the Vets Club, and is founded to maintain a kindred spirit within both memberships.

This charter group is temporarily nameless, for the Vets Club respects the right of its female auxiliary to institute their own logo. Also, the membership is not to be restricted in any form or fashion. This is indeed an open and liberated outlook in accordance with Vets Club policies.

Invitation is initiated by this letter, with the desire for your acceptance as the ultimate outcome. Please consider the esprit, personal gratification, and down to earth fun you will receive by joining.

survive in abnormal oxygen environments.

Study under the new grant will investigate the secondary gas effect—the ability of nitrogen to prevent damage to the breathing passage cells by supporting them after the oxygen has been absorbed—and the damage to brain and lung tissue by high oxygen concentrations which may be an accelerated rate of normal aging effects.

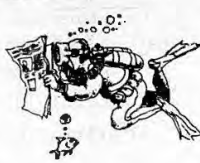
The \$39,812 award brings the total amount of KSC's grants for Kentucky State's study to \$138,752.



All inquiries should be addressed to the Vets Club, via the Used Bookstore. We eagerly await your correspondence.

AUXILIARY FORMING WITH VETS CLUB

Sincerely yours,
Robert Allen
President



The E-RAU Sports Scuba Diving Club will hold their first meeting of the Tri for new members today at 6 p.m. in the Common Purpose Room, University Center. There will be a movie on Scuba Diving and refreshments.

This is a good opportunity to meet the active members and sign up for your share of the great diving that Florida has to offer. For more info, contact Jess, Box 5043 or Greg at Box 1074.



By Capt. "Backseat"

We are sure everyone enjoyed their semester break; however, all good things must come to an end.

Last weekend the "WADERS" had a very successful picnic at Sun Glow pier. All participants were able to eat to their hearts' content. Some people even ate a side order of crow.

Rumor has it the chapter is planning a gala event, at Ponce Inlet to cheer on C.J. "Streak" Stevens in the upcoming Spanish Armada seadog race. Since Commander "Streak" finished 12th of 13 racers in his last outing, we feel he will need all of our support to get that 1st place trophy.

Jan Steward has not been fishing lately because she only had a reel and a short line. However, she was seen over the weekend with her "ROD"ney in hand heading for the beach.

Next week's article will feature such notables as "Crash" Curtain and "Hop-a-Long" Tubbs.

The author was asked to stand in for Jan Steward, our publicity chairwoman, until she loses her Rod again.



Pre-Can Course Offered

The Pre-Can Course for young Catholic couples planning to be married will be held on Tuesday and Wednesday, May 24 and 25, at 7:30 - 10 p.m., at St. Paul's Church Rectory, 260 North Ridgewood Avenue, Daytona Beach. Persons who are not Catholic are also welcome to attend.

The two sessions will cover areas such as human sexuality, economics, and skills of communication. Should any couples be separated geographically, the one in this area should come and later share with the partner whatever insights were gained.

The sessions will be informal, so come to ask questions and discuss.



The Art Of Self Briefing

Part 1 By Raymond M. Kelly

One of the biggest causes in today's general aviation accidents is weather, so doesn't it seem logical to emphasize weather strongly in the present flight training curriculum? It sure does, but most of the time it is up to the pilot to find out all he can about this dynamic subject.

The single most important asset any pilot can have is a positive awareness of the weather, so that if things change, an alert pilot will have a plan already set up. Having an alternate plan of action to any weather problem will eliminate the stress and tension that could possibly lead to a bad decision and thus give the pilot the confidence he needs to make the decisions for a safe and complete flight. When a decision dealing with weather, or any decision on a flight for that matter, is made by indecision, then the pilot has backed himself up against the wall where the only way out may be the wrong way. Since I believe the root of the problems dealing with weather start at the beginning, or lack of a beginning, let's examine this beginning—the weather briefing.

Checking weather for a flight should be the same either VFR or IFR with the only difference being in emphasis. VFR, a pilot is concerned with ceiling and visibility totally.

If the ceiling and visibility are good he goes, if not, he stays. As he progresses in his flight the VFR pilot wants to know if his weather conditions will stay VFR and if not, what he can do and where can he go.

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he go for VFR. A lot of VFR pilots have bought the farm trying VFR flight in adverse or IFR weather. The system of priorities change when flying in actual weather and a VFR pilot is NOT able to cope with the change. Read some of accident reports and you'll find a lot of IFR pilots not able to cope with system change either.

What to do about it? Make sure during your briefing that there is VFR weather along the route, if not, make an alternate plan of action so that you fly around the weather or be on the ground when beacon comes on. The important thing in your briefing though, is awareness of the IFR weather and plans for it's avoidance.

IFR, a pilot is not too concerned about ceiling and visibility; he is only concerned at a few selected stations but is more interested in a basic cross-section of his route and whether or not his big nemises exist, thunderstorms, ice and fog.

Obtaining a cross-section of the weather is easily accomplished when studying three basic charts - the surface analysis, radar summary, and weather depiction chart. From these charts, the IFR pilot can tell what is causing the weather, and whether or not his three weather problems exist in relation to his proposed route of flight.

This concludes the first in a seven part series dealing with weather briefings. In the next and subsequent articles we will deal more specifically on briefings taking hypothetical flights in actual it.

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"It marks a big step in a man's development when he comes to realize that other men can be called in to help him do a better job than he can do alone." Andrew Carnegie—

"Man's mind stretched by a new idea never goes back to its original dimensions." Oliver Wendell Holmes—

Solution

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Maintenance News

- Question 1:** How often should fuel injector nozzles be cleaned?
Answer: At each 100 hour inspection, or whenever nozzles become plugged; (indicated by high fuel flow on the gage, and/or rough engine).
- Question 2:** How could a plugged fuel injector nozzle cause an oil fouled cylinder?
Answer: The lack of fuel and no combustion pressure allow the oil to bypass piston rings, thereby giving a fine impression of ring problems.
- Question 3:** What is the average expected life of a fuel injector nozzle?
Answer: At least overhaul life of the engine.
- Question 4:** What would indicate a shorted shower of sparks vibrator?
Answer: It would cause it to stay in the retarded position with the left magneto showing a high drop because of a slowed RPM.
- Question 5:** Can oil temperature be manually adjusted?
Answer: No
- Question 6:** Should anti-seize compound be used on spark plug installations?
Answer: Use only a small amount and don't put it on the first thread because it could be possible for it to run down over the electrode end of the plug thereby bridging the electrodes and shorting out the plugs.

- Question 7:** What is the procedure for removing broken exhaust studs?
Answer: Use penetrating oil, drill center of stud and remove with E-Z Out.
- Question 8:** If it is necessary to remove a cylinder with low time (less than 50 hours) must the rings be replaced?
Answer: Not unless cylinders were removed for an oil consumption problem. When reinstalling cylinders, make sure rings gaps are staggered.
- Question 9:** At what number of hours should piston rings be changed when a cylinder is prematurely removed?
Answer: We have used a rule of thumb over the years of anything in excess of 100 hours, the rings should be replaced.
- Question 10:** Should I use oil additives in my engine?
Answer: Any FAA approved aviation oil has all of the necessary ingredients to properly lubricate our engines. Do not use oil additives.
- Question 11:** If my crankcase oil appears dark and dirty on the dipstick, does that mean it's time for a change?
Answer: The appearance of the oil is not the answer when to change. Today's highly dispersant oils tend to become dark soon after they are put into an engine because they keep in suspension the particles that would otherwise form deposits. Time since your last change is the most reliable criterion.
- Question 12:** If dispersant oils keep particles in suspension, so these particles act as abrasives and do more harm than good?
Answer: Most are soft silt and minute carbon particles. Typical metal and dirt particles large enough to do significant abrasive damage are trapped by the filter.

(PERMISSION TO REPRINT: Permission to reprint material from the Avco Lycoming "Flyer" is granted, so long as the context of information remains intact and appropriate credit is given.)

Flight Schedule System

By Greg Nelli

As the number of airplanes, instructors, and flight students increase, the problems involved with flight scheduling have become very complex. The basic trick is to make sure that each student gets scheduled for the correct flight activity at the correct time, on the correct day. In addition to this, the utilization of aircraft, instructors, and ground trainers must be kept at the maximum possible to keep the training costs to the student as low as possible.

The system has evolved over the years from a system of manual, individual instructor scheduling to a manual master scheduled system. With the small number of instructors and students involved, the communication logistics of who is scheduled when, were not too difficult to handle. However, as the work load increased, the logistic problems of the manual system became too great to cope with. In 1975, computer-prepared scheduling was introduced with limited success. The major drawback of the first attempt at computer scheduling was the long-time span between preparation of schedule request data by flight instructors and the execution of the scheduled activity. The system was prone to generating human error, causing a schedule with limited execution.

The system was orientated at high utilization of aircraft with little regard for student progress or training considerations. Priority problems became so acute that a manual input screening system had to be put into place to insure a fair distribution of resources. The overall effectiveness was limited to following standardized procedures with very little room for special situations requiring a priority for one reason or another.

With increased computer capability and administrative visibility on scheduling problems, a task force was commissioned to review all conceivable scheduling problems, solve them, and develop and implement a new system to handle all possible scheduling situations to insure proper student pacing while keeping a high resource utilization.

This system is in the midst of development now and will continue through to completion during the summer. You will no doubt be hearing more about this system as it develops and is put into place.

Manpower To Employ More Than 25,000

Manpower, Inc., the world's largest temporary help firm, expects to have jobs for more than 25,000 students with office work skills throughout the country this summer, a substantial increase over last summer, a substantial increase over last summer, according to Mitchell S. Fromstein, President of Manpower.

"Every year students add an important dimension to our workforce. This year they'll play an even bigger role because of the optimistic job forecast Manpower has received from businessmen," Fromstein said.

A recent survey of 5,000 businessmen nationally conducted by Manpower indicated business hiring is on the upswing with a growth projected for this spring and summer in the service and retail trade areas.

When students go looking for jobs, they swell a part-

time U.S. workforce that already includes some 16 million people. Ironically, students may not get a job because they overlook their competitive edge. Many of them have a marketable office skill and don't know it.

"Manpower offices are amazed at the number of students who come in, fill out their applications, and don't even mention that they can type, take shorthand or operate a business machine. These are good skills which we need," Fromstein said.

One of the reasons that students may overlook these skills is that they have their sights set on a more distant goal—a case of not being able to see the forest for the trees. Fromstein said that students who type term papers for themselves and their friends often have typing rates as high as a highly qualified typist.

The person who's a skilled typist or office machine operator can usually find a job with Manpower. There are also some

opportunities that don't require as much skill, such as inventory takers, maintenance workers, etc.

"If you can type a good paper for a stiff-grading instructor, the chances are you can work for Manpower," he said.

One University of Denver student, Mary Kay McNulty, uses her typing ability to travel the world with Manpower. Mary Kay lives in Milwaukee, Wisconsin and during the Christmas vacation she works in Manpower's Milwaukee office. One summer she decided she wanted to stay in San Francisco and worked in Manpower's office there.

Fromstein said, Mary Kay is just one example of the many students who take advantage of Manpower's Work Travel program. Under this program, a student who establishes a good work performance record in one city can transfer to another Manpower office in another city.

Reasons for entering Manpower's temporary workforce

are varied. Many are women who re-enter the workforce after their children are grown. Teachers and students work for Manpower because it offers them variety and they can work whenever their schedules permit. Other individuals work for Manpower because it offers a supplemental income.

Besides typists, secretaries, material handlers and some technicians, Manpower offers positions as systems analysts and keypunch operators. Students can find jobs as survey takers, interviewers, sample distributors, or they may help out at conventions, or work on assembly lines.

Fromstein said that office work opportunities vary from city to city but that most of Manpower's 400 offices in the U.S. can use most people with skills and some experience. He said all Manpower offices are equipped to test applicants and tell them quickly if their skills are promising for summer work.

Jet Flights Underway

KENNEDY SPACE CENTER, Fla.—A small jet transport out of NASA's Dryden Flight Research Center at Edwards, California, is flying in Florida to gain more information on the effect of insect impacts on the leading edges of aircraft wings.

The plane was being operated out of the Kennedy Space Center's aircraft facility at Patrick Air Force Base during the weeks of April 11-18. The flights were directed at seeking out bigger and more varied types of insects.

The program is being jointly conducted with NASA's Langley Research Center, Hampton, Virginia, and is part of the overall NASA Aircraft Energy Efficiency Program which is aimed at developing a 1985 trans-

port with a potential 20 to 40 per cent fuel savings.

The advanced, long range aircraft will probably utilize laminar flow control technology which is dependent upon smooth air flow over the wings. However, it has been found that impacted insects which stick to the leading edges of the wings can trip the air flow and cause the flow to become turbulent. This would cancel out the increased efficiency which would be possible with laminar flow.

The small jet transport, equipped with a modified wing, has been flying in the Southern California area over alfalfa fields and sewage ponds, etc., to impact a large number of insects. On a typical flight, the insect impacts on several specially coated panels on the wings are documented and measured.

The aircraft is then flown to a high altitude, high speed cruise condition where the effects of the impacts can be determined on the air flow.

It is hoped that by flying in the Kennedy Space Center area in Florida and possibly in June or July at the Johnson Space Center in Houston, Texas, a different type size or quantity of insects can be encountered.

More extensive testing can then be done on materials and methods which will prevent impacted insects from adhering to the leading edges of the wings.

American Airlines Places Orders For Nine Planes

NEW YORK, May 2 — American Airlines will place an order with the Boeing Co. for nine 727-223 airplanes for delivery in late 1978.

Albert V. Casey, the airline's chairman and president, said these and other new aircraft on order will replace older 707s that are less fuel-efficient and that fail to meet federal noise standards.

The order will bring to 30 the number of Boeing 727s scheduled for delivery to American in 1977 and 1978.

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1 MAY DAY			ORIENTATION & REGISTRATION	ORIENTATION & REGISTRATION	ORIENTATION & REGISTRATION MOVIE: The Gateway Trip "Servant of 2 Masters" Play. DMCC 8 p.m.	Upward Bound Sound Dance 7:30 UC Dining Room "Servant of 2 Masters" Play. DMCC 8 p.m.																																																																				
8 MAY 10-30 a.m. Postulant Services: 11:15 a.m.-U.C.-CPR "Servant of 2 Masters" DMCC 8:30 p.m. MOTHER'S DAY	9 Classes Begin Buddhism Mts. FSL 6 p.m.	10 A STUDY OF THE BOOK OF DANIEL 8 p.m. Fac/Staff Lounge AIAA Meeting 7 p.m. CPR	11 LAST DAY TO ADD TERM A COURSES AVION-Open Meetings 3 p.m. Scuba Club Meeting CPR-6 p.m. Ed. of Visitors Meeting CPR- 8 a.m.	12 Alpha Eta Rho Meeting CPR-8 p.m. CCO Meeting-CPR-3:30 Kappa Mtg. 6:30- Dorm Annex	13 Lecture on Parapsychology-3 p.m. U.C. Dining AMAZING RANDI U.C. Dining Area- 8 p.m.	14 Veta Club Welcome Party at Cypress Village 8 p.m. Lambda Chi Alpha meeting-7:30 p.m.																																																																				
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29 MAY 10-30 a.m. Postulant Services: 11:15 a.m.-U.C.-CPR	30 MEMORIAL DAY Unives Day Closed	31 A STUDY OF THE BOOK OF DANIEL 8 p.m. FSL	<table style="margin: auto;"> <tr> <td>April</td> <td>5</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td> <td>June</td> <td>5</td><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td> </tr> <tr> <td></td> <td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td> <td></td> <td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td> </tr> <tr> <td></td> <td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> <td></td> <td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td> </tr> <tr> <td></td> <td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td> <td></td> <td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td> </tr> </table>				April	5	M	T	W	T	F	S	June	5	S	M	T	W	T	F	S		3	4	5	6	7	8	9		5	6	7	8	9	10	11	12		10	11	12	13	14	15	16		12	13	14	15	16	17	18	19		17	18	19	20	21	22	23		20	21	22	23	24	25	26	27
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AIRLINES & AIRLINERS

By Bart Groeneveld

For my second round with the typewriter while writing for this column I thought it might be interesting to talk about a particular airliner. I'll throw some technical and historical stuff at you relating to my personally favorite airliner, the Douglas DC-9.

The DC-9 has always caught my eye, ever since it first went into service in the mid-sixties. It has a rather cute, cuddly look to it, always happily zipping down the taxiway, as if it were saying proudly, "Look at me, I'm a DC-9!" — well, that's the way I think about it anyway. Very different from the Boeing 727, which to me has a rather serious, nose to the grindstone, businesslike look to it.

It is now a full 12 years after the first flight of the Douglas DC-9 twinjet transport and it's still being built at a steady rate, the total number built to date fast approaching the 1,000 mark.

During that 12 years the -9 has been improved and changed according to the typical Douglas style. As a result, this spunky little jetliner has grown from just over 104 feet in length to a little over 134 feet. Any of the models with the exception of the first one can still be ordered from the factory in Long Beach, California. The airliner has been an accomplished success in every way, providing the backbone of a large number of airlines today.

The concept of the DC-9, its design, maintenance and operation have been kept in the simplest manner possible to ensure complete reliability and the lowest possible purchase and operational costs. Both pilots and thousands of passengers have been impressed by the DC-9.

The design study data on the Douglas Aircraft Company Model 2086, as it was known then, were released in 1962. Design work began that year. Manufacturing of parts was started in July, 1963 and assembly of the first airplane began on March 6, 1964. The DC-9 first flew on February 28, 1965, one full month ahead of schedule. Five DC-9's are flying by the end of June, and logged more than 1,300 hours in the flight development program. These aircraft were of the basic version now known as the DC-9 Series 10. It was certificated for commercial operations in November of 1965, and first entered service in December with Delta Air Lines.

It was specifically designed to operate from short runways and on short to medium range routes and brought jet speed, comfort and reliability to hundreds of communities previously served only by propeller-driven aircraft. Several additional models of the -9 provided a wide range of designs tailored for maximum efficiency under various combinations of traffic density, cargo volume and route distances covering less than 100 to more than 1,500 miles. The DC-9's are identified by their series numbers, the Series 10, 20, 30, 40, and 50. It can be easily identified visually by its low-to-the-ground look, clean and uncluttered wings, a tall "T"-shaped tail structure and two turbofan engines mounted on the rear part of the fuselage.

The very first version of the -9 (the Series 10 Model 11) was powered by two Pratt & Whitney JT8D-5 turbofans producing 12,500 pounds of thrust each. It is 104.4 feet long, has a wingspan of 89.5 feet, its tail reaching up to 27.6 feet. Underfloor baggage volume measures 600 cubic feet. The cabin can accommodate up to 90 passengers. This airframe was quickly improved by replacing the two JT8D-1's with 14,000 lbs. thrust JT8D-5's, increasing allowable gross weight to 91,800 lbs.

The DC-9-30 first flew in 1966, and is now the most common type of -9 to be found, by far. The major change over the Series 10 is a 15 foot fuselage extension, bringing the total length up to 119.3 feet. The aircraft could now accommodate up to 115 passengers. Cargo volume was increased by 295 cubic feet and the wingspan increased by four feet to 93.4 feet.

The basic wing was redesigned by addition of full span leading edge slats. This enables the Series 30 to have takeoff and landing performance at least as good as the smaller and lighter Series 10. Contributing to the added performance is the JT8D-7, producing 14,000 lbs. of thrust at all atmospheric temperatures up to 88 degrees Fahrenheit. The first delivery of the Series 30 was to Eastern in January of 1967.

A third and slightly larger model, the Series 40, was also developed. The principal difference between it and the -30 is length. Two 38 inch sections were added to the fuselage, one forward and one aft of the wing. Pax seating was up to 128, cargo volume up to 1,000 cubic feet. Fuel capacity and gross weight were also increased. Power was by two JT8D-9's, each putting out 14,500 lbs. of thrust. The -40 first flew in late 1967 and certified early 1968; first delivery was to the Scandinavian Air System (SAS).

Douglas also offers the Series 20, which is based on the Series 10 fuselage, yet retained the higher lift wing and high thrust engines of the -40. You can imagine, then, that the Series 20 has exceptionally good overall performance, its primary mission being to operate in and out of very short fields and at high altitudes and temperatures.

The very latest marketed version of the DC-9 is the Series 50. The fuselage was again stretched another six full feet, retaining the standard high lift wing, and fitted with yet again higher thrust P & W JT8D-17 turbofans, producing up to 16,000 pounds of thrust. Passenger capacity goes up to 140. At a glance, the -50 looks no longer than the smaller -30's, but a sure way to identify it is by a long aerodynamic strake on each side of the nose. However, Douglas found that the strakes improve certain handling qualities so much that it will be offering the strakes as a retrofit to older DC-9's. Soon we may see them appear on 40's, 30's and even the 10's. Just to name a few of the airlines that are or will be operating the -50: Allegheny, Hughes Air West, Swissair, Hawaiian Air, LAV of Venezuela, Eastern, and North Central.



NEH News

WASHINGTON, D.C.—The natural environment is attracting increased attention as man becomes more fully aware of the vital and perishable nature of his surroundings. The National Endowment for the Humanities* has a particular interest in the relationship between man and his environment and has made three recent awards to study environmental issues.

Recipients of these National Endowment for the Humanities awards are universities in California, Florida, and Oregon. A detailed description of each grant, arranged alphabetically by state, follows.

In CALIFORNIA:

The National Endowment for the Humanities has awarded an Education Pilot grant of \$47,348 to the University of San Francisco for a lecture-project course entitled, "Technological Culture and the Human Prospect." The course will be administered through the university's Natural Sciences Interdisciplinary Program, and will unite the humanities with science courses.

Six humanists and six scientists are to teach the course which will explore the environment and human culture in the 20th century. The course of the historical origins of current life patterns and a review of technological prospects for the future.

In FLORIDA:

The National Endowment for the Humanities has awarded a Higher Education grant of \$43,962 to the New College of the University of South Florida, Sarasota. The grant supports the development of two courses that will explore the ethical, philosophical and social dimensions of environmental issues.

In OREGON:

Ten of the 33 new humanities courses resulting from NEH grant at Oregon State University, Corvallis, are directly concerned with humanities and the environment. The Humanities Endowment grant of up to \$699,000 was awarded as a part of a comprehensive Education Development Program to Oregon State University and includes and Endowment offer to match, on a one-to-one basis, private gifts of up to \$100,000 which may be donated for this project.

Ten of the courses directly related to the environment and its impact on man include: Technology, Environment, and the Quality of Life; Values and Ocean Technology; The History of Conservation in the United States; Literature and the Sea; Maritime History; Development of Maritime Cultures; Marine Anthropology; Man and the Sea in Latin America; Marine and Maritime Studies; and Introduction to Oceanography. Each one of these scientific courses will view the environment from the perspective of the humanities.

OTHER ENVIRONMENTAL GRANTS:

These new awards are typical of the kind of grants made by the National Endowment for the Humanities in support of environmental projects.

A popular Humanities Endowment award went to the University of California, San Diego. Extension to support the development of "Oceans: Our Continuing Frontier" as a part of Courses by Newspapers which was offered in the fall of 1976 through 324 newspapers and 191 educational institutions throughout the country. This program was funded with a Humanities Endowment grant of \$377,092 in outright Federal funds and \$100,000 in gifts and matching funds.

Another recipient of a Humanities Endowment grant to encourage environmental studies was Northland College in Ashland, Wisconsin. The college received a \$30,000 Education Pilot Grant to develop four new courses to bring humanistic perspectives into its environmental and Indian Studies programs. Two of the new courses are entitled "Ethics and Environmental Matters," and "Technology, Man and History."

*The National Endowment for the Humanities is an independent agency of the Federal Government. It sponsors both public and scholarly programs which present exhibition, preserve perishable data, and support studies in such fields as: history, language, literature, human geography, and archaeology.

New Telephone System

KENNEDY SPACE CENTER, Fla.—NASA's John F. Kennedy Space Center has issued a request for proposals for the installation and operation of an administrative telephone system.

The automatic dial telephone system will include basic switching equipment, telephones, cabinets, switchboards and consoles, interior wire and cable, and any ancillary equipment necessary for proper operation of the system.

The existing system with more than 6,150 telephones now in use is owned by the Southern Bell System and was installed in 1963.

Competing firms must have substantial direct experience and currently be engaged in the design, development, production, installation and sustaining services of large-scale telephone systems with 5,000 lines or more.

The contract contemplated by the request for proposals would be for one year with nine one-year options. The contract would also include an option to purchase the system.

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Fr. Marty Keller, O.S.A.

Cessna Introduces The Model 152

WICHITA, KANSAS - Cessna Aircraft Company has introduced a new training airplane, with deliveries of the 1978 Model 152 scheduled to begin in May.

Heading the list of new features engineered into the Model 152 is a 100 octane-burning Lycoming O-235-L2C engine rated at 110 horsepower.

Other all-new features include:

*An exclusive McCauley "gull wing" propeller, with redesigned spinner.

*An easily removable and replaceable one-piece cowling, held in place by quarter-turn, quick-release fasteners, for easy access to the engine.

*A 28-volt electrical system that provides more starting power and allows more avionics options.

*Redesigned fuel tanks that reduce unusable fuel to only 1.5 gallons.

*An oil cooler as standard equipment.

The new Lycoming "Blue Streak" engine achieves its 110 horsepower at a low 2550 rpm. As a result, the derated powerplant reduces external and internal sound levels and puts the Model 152 five decibels below the allowable FAA and ICAO maximums that will go into effect in 1980.

The 152 takes off in 725 feet, climbs at 715 feet per minute and cruises at 107 knots 123 mph. Maximum range is 350 nautical miles at 75 percent power.

The maximum useful load of Cessna's new trainer is 589 pounds. With full fuel the 152 has 433 pounds of payload for people, baggage and/or accessories. Contributing to the impressive useful load is an unusable

fuel quantity of only 1.5 gallons.

The Lycoming engine delivers improved specific fuel consumption and allows 2000 hours of operation between overhauls. The high compression ratio powerplant and slower turning prop combine to provide significant fuel efficiency in flight training operations.

A dynafocal engine mount has been added to reduce vibration and engine noise and a new exhaust system with a single muffler reduces exhaust sound levels and contributes to engine efficiency. The new muffler uses a single exhaust on the right side of the lower cowl.

A new engine cooling system, paired with an oil cooler that is standard equipment, reduces engine operating temperatures in the hottest weather conditions.

The 28-volt electrical system produces more power for quicker cold starts and the frequent engine starts required in an active training environment. A heavy-duty voltage regulator and starter clutch are included in the system. The 152 will also accept 28-volt avionics and such items as bulbs, regulators and other parts will now be standard across the Cessna line.

Engine starting characteristics of the new model will also be enhanced by a cylinder-direct primer system that will inject fuel directly into three cylinders, assuring even distribution and reliable cold weather starts.

The upper cowl on the 152 is a new design, with engine baffling attached to the cowl instead of the engine for improved cooling and easier maintenance.

A one-piece upper cowl

skin attached with quarter-turn, quick removal fasteners is easily removed to place all engine components and accessories within easy reach.

The nacelle nose cap is a one-piece unit designed to accept a single or dual landing light installation.

Cessna's new, 69-inch fixed pitch propeller teams with the derated engine to produce more efficient climb and cruise performance at a reduced rpm, resulting in quieter operation. The new prop design also eliminates the need for an attached spacer between the propeller and engine.

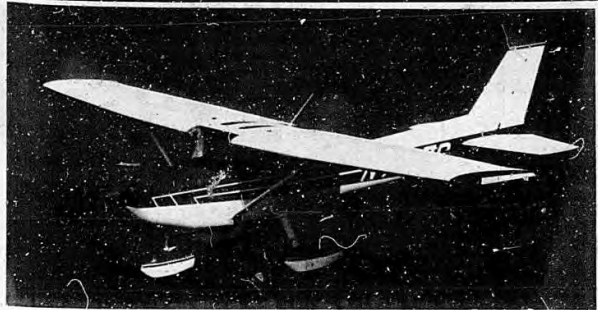
Electrically operated Para-Lift flaps with 30 degree extension on the 152 provide better performance during a balked landing. During go-around, with full 30 degree flap extension, the airplane will climb at 450 feet per minute.

In the cabin, a new, recessed window latch allows positive locking, tighter seal and increased shoulder room.

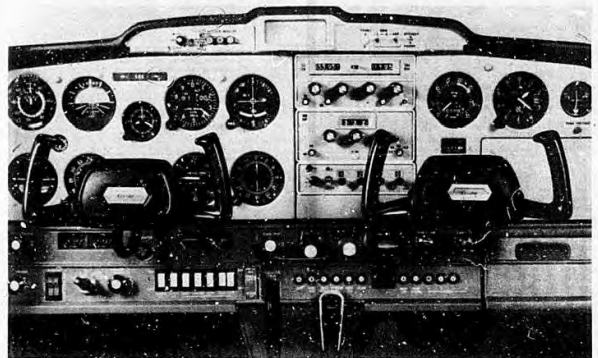
Options on the airplane include a padded headset with attached microphone that can be operated by pressing a button on the control wheel. Rudder pedal extensions for shorter pilots are also optional.

A 152 Aerobat will also be available. It meets requirements for aerobatic maneuvers of six g's positive and three g's negative load and is certified for barrel rolls, aileron rolls, snap rolls, spins, chandelles, lazy eights, Immelmans, vertical reversesments and Cuban eights.

The Model 152 will replace Cessna's venerable Model 150 in the company's product line, ending a 19-year production run of al-



SOARING HIGH - Shown in flight is the new 1978 Cessna Model 152 II.



MODERN CONSOLE - The 1978 Cessna 152 II has a clean, modern cockpit design.

most 24,000 that began in 1958. More 150's have been sold than all other two-place training airplanes combined.

"We feel the 152 is the airplane that will replace the world's training fleets with modern, up-to-date equipment designed and engineered for the training environ-

ment of the 1980's," said Sessna Senior Vice President Bob Lair.

"Operators of the 150 told us they wanted a training airplane that would burn 100 octane fuel, while producing lower sound levels inside and out, better fuel consumption and more payload,"

Lair said. "These performance features are all found in the 152." Suggested list prices of the 152 models, f.a.f. (fly away factory), Wichita, Kansas are: Model 152, \$14,500; Model 152 II, \$17,995; Model 152 with Nav Pac, \$20,635; and Model 152 Aerobat, \$19,500.

Summer Tourneys Offer College Students Chance To Earn Prize Money & ATP Points

NEW YORK, N.Y., May 3, 1977 - American Express is searching for talented young amateur and professional tennis players to participate in this summer's Challengers Circuit—a total of 14 tournaments, featuring more than \$200,000 in prize money, ATP points and entry into the U.S. Open at Forest Hills.

Players who wish to compete in this U.S. Tennis Association supported event should apply now.

The circuit is divided into Eastern and Western Divisions with seven weekly tournaments in each division running concurrently during July and August. Each week-long tournament will be held at fine re-

sorts and tennis clubs throughout the United States.

Prize money per tournament has been increased from \$10,000 to \$15,000 this year, allowing the sponsors to offer a wider spread of prize money among all competitors, while still boosting first prize for singles to \$2,400 per tournament, and \$900 for doubles.

Players interested in entering either the Eastern or the Western Division competitions must pay a \$25 entry fee per tournament. For additional information about the Challengers Circuit, official application forms, tournament locations, qualifications, conditions and regulations, write to the following tournament directors:

Eastern Division:

William Mott
13 Ann Street
Holden, MA 01520

Western Division

Darrel "Righty" Eden
200 First Avenue East
Seattle, WA 98119

For further information, please contact:

Sharon Watson
American Express Company
American Express Plaza
New York, N.Y. 10004
212-480-2442

Spaceport Hyperbaric Chamber Arriving At The University Of Florida

KENNEDY SPACE CENTER, Fla.—The Kennedy Space Center's hyperbaric chamber has been loaned to the College of Medicine at the University of Florida in Gainesville for hyperbaric medicine and research. Located in the Operations and Checkout Building in the KSC Industrial Area, the hyperbaric chamber was designed for treatment of astronauts if decompression sickness - "the bends" - should occur during their participation in manned altitude chamber tests of the Apollo spacecraft.

With completion of the Apollo Soyuz Test Project - a manned space mission with the

Soviet Union - in the summer of 1975, there was no operational requirement for the altitude and hyperbaric chambers and all chambers were deactivated.

The hyperbaric chamber was available to the public for treatment of decompression sickness from February, 1961, through August 15, 1975, and a total of 13 patients - all of them SCUBA divers - were treated at the Center during that period.

The loan agreement extends through December 31, 1979, unless extended by mutual agreement of KSC and the University of Florida. The original cost of the mo-

bile hyperbaric unit was in excess of \$80,000 and the University of Florida is responsible for the costs of maintaining the chamber and training its operation personnel as well as transportation of the unit to and from Gainesville.

In medical terms, a hyperbaric chamber is defined as "a specially equipped pressure vessel used in medicine and physiological research to administer oxygen at elevated pressures."

Since their deactivation, the altitude and hyperbaric chambers have been preserved so that they may be reactivated if required for Space Shuttle activities.

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FOR SALE-AUTO

FOR SALE: 1972 Chevy Nova. \$850. Excellent condition. Contact Larry at ERAU Box No. 1007.

FOR SALE: Almost new Goodyear tires with 14 inch Shelby Wheels, to fit Chrysler or similar models: \$145.00. Contact Bud at 252-2052.

1969 Ford Galaxy 500. Red with white interior; excellent condition. Contact Art Kelley: 767-4701.

4 DAYTONA MAG WHEELS (like new) and 2 B&O-13 Wide (belled) Tires. Fits Volkswagen Beetle and other similar cars. Contact Howard at 255-0190 or Box 3237.

1971 Buick Sportswagon, six, P/S, P/B, excellent condition. \$1100 255-6733.

1970 MG Convertible - Wire wheels, new Dunlop steel belted radials. Exceptionally nice. Contact Mr. Voshury at AMT Jet Lab or call 767-7305

1968 PONTIAC FIREBIRD - 4-Speed, 400 cu. in. engine, 800 cfm Holley, Appearance Mag wheels, Steel belted radials, Appearance Headers, Tape Player - Strack Stereo, Custom interior - \$1200.00. If interested call 255-9897 and ask for Bob.

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FOR SALE BIKES & SCOOTERS

FOR SALE: 1973 KAWASAKI 350. 5 speed, Disc brakes. Wind shield and Luggage Rack. Excellent condition. \$450. Contact Jim Thomas-Box 4202 or Phone 255-6338 after 6 p.m.

Fugetot 10 speed, lights, leather seat \$95 or trade. 2 sheep skin car seat covers \$20. Box 2092, 255-9886

1977 Yamaha XS-750. Shaft drive, mag wheels, luggage rack, and backrest. Three helmets included. Contact Mr. Voshury at AMT Jet Lab or phone 767-7305

For Sale: JAWA Moped. 7 months old \$300 call 255-1707

1974 Honda XL-250 2500 miles, good condition. An excellent light weight dirt machine. Extra accessories and parts included. \$700 Contact: Paul H. Miller Box 5401

FOR SALE: '73 Kaw 500 cc - \$350. Also. If interested contact Box 2567 or call 761-9782.

WANTED-MISC

ROOM-MATE WANTED: Ridgecrest Apartments- 2 miles from ERAU. Furnished Apt. & your own furnished room. \$78.00/month plus 1/3 of utilities. *Must stay until End of August. Call 255-8213 after 6:00 p.m.

FOR SALE-MISC

FOR SALE: Megavox Digital Clock Radio AM/FM-APC. Wake to alarm, wake to music, condition is like NEW. Originally \$60, will accept \$25 or best offer. Call Bud at 252-7963.

FOR SALE: Play pen-\$10. Baby Walker-\$4. BOTH in excellent condition. Contact Glenda at Ext. 423 or call her at home at 252-4230.

Hong Glider, Bill Bennett design. \$375 Contact Box 854

SCUBA TANKS, Dacor 71.2 cu. ft. steel tank w/R valve - \$40.00; US Divers, 71.2 cu. ft. steel tank w/J Valve - \$45.00; Telephoto Lens, 300 mm Pentax mount, f 5.5. Automatic - \$38.00. Contact Greg at box 2045.

Pioneer (2020) AM/FM stereo car radio and 2 APS speakers: \$100. Call 252-9113, ask for Kevin or leave note in ERAU Box 4153.

For Sale: Garrard 2860 turntable \$25 and Maytag apartment size washing machine, good condition, \$75. Box 1296

For Stereo System and Yamaha Guitar please call 255-0829 or contact through Box 1204.

Sofa and matching chair. Good condition \$65. 255-8733 or Box 5492

PIANO FOR SALE: Steinway Console, Louis 15th. Beautiful condition. \$2,500 - worth over \$4,000. Call 977-1560.

FOR SALE: Fold out Tent/Trailer Camper, 1974 model, good condition. EXTRAS. Call Sam. Stack on campus X 201. Off campus-Deland 904-734-0223.

FOR RENT MOBILE HOMES & HOUSES

HOUSE FOR RENT - Located in Holly Hill area. \$50 monthly plus 1/3 utilities. Need three NEAT people, to share rent. Contact Don McBride-Box 5377.

FOR RENT: 2 bedroom house, large family room and living room. \$225 per month includes utilities (except gas), \$100 deposit required plus 30 day advance notice. North Holly Hill area. 572-9384.

House for rent. To responsible students only. For the summer months (May thru August) 2 bedrooms, 1 bath. Fully furnished (including king-sized waterbed) \$175/month plus utilities. Fenced yard, back porch, double garage. In Holly Hill, 12 minutes from school. Call Howard. 255-0190 or Box 3237

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SECRETARY WANTED - For Student Government Association. Stop by the SGA office, or see Treva, secretary in Student Activities.

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