

8-10-1977

## Avion 1977-08-10

Embry-Riddle Aeronautical University

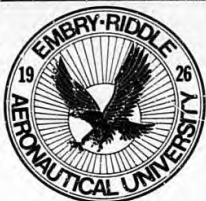
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# The Avion

WEDNESDAY, AUGUST 10, 1977  
Volume 26, Issue 6

Regional Airport  
Daytona Beach, Florida 32014



**NOTICE**

Students with a minimum 2.5 cumulative GPA who have completed HU 115 with a B or better are eligible for consideration. If you are interested in a job as a reading laboratory instructor this fall, see Mrs. Fogle in Humanities as soon as possible. (Hours 11:00 - 1:00 daily, office A-226, extension 375).



## SUMMER GRADS

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## NEW SERVICES IN UNIVERSITY CENTER

Construction continues on the new Bursar's Annex, located on the second floor of the University Center. According to Dick Pierce, treasurer-controller for E-RAU, the Bursar's Annex will provide a cashier's office more accessible to the students.

The construction is not for the University Center Manager's office, so that he can have a place to sit and spy on the students below. This new Bursar's Office Annex will duplicate the functions of the present Bursar's Office which is located in the Administration Building.

These duplications include being able to pay University bills, cash personal and payroll checks. This new service will eliminate check cashing in the Bookstore, but the Bookstore will still accept check for the amount of purchase. This change will relieve the congestion in the Book-

store, allowing the store to improve its operation.

A new accounting system will be used in the Annex Bursar's Office and Annex making these offices more computerized. The accounts will be updated daily, and each office will be provided a duplicate copy of accounts so no communications gap will exist.

Longer operating hours will provide students with another added convenience, as the new Bursar's Annex will stay open until 4:30 weekdays. This is an extension of the operating hours of the main office, which closes at 3 p.m.

All of this is based on a new accounting system. Because the

University is growing, it has outgrown the old system. And with this change added convenience to you the student.



PHOTO BY PAUL HANSEN

## ERAU's SUN Seminar a Solid Success

Eighteen of them soled. All 20 would have, but FAA regulations said that they were just too young by government standards. Even if the remaining two and their instructors disagreed, that was the way it had to be.

The 20 youths were participants in Embry-Riddle Aeronautical University's (E-RAU) first Sun Seminar. The Sun Seminar program is designed to introduce the sons and daughters of professional aviators to career opportunities in aviation.

The Sun Seminar students came from as far away as Hawaii to participate in the program, which featured 35 hours of classroom and lecture instruction, two hours of flight simulator time, and 13 hours of flight training.

The flight training, as part of the Florida based University's Sun Seminar program, paralleled the lectures, classroom work and other university activity aimed at presenting the participants with a first hand view of today's aviation world. A tour of the Kennedy Space Center and other nearby attractions were also part of the program.

Naturally, with the "World's Most Famous Beach" located only minutes from here, any July activity would make logging some sand and surf time nearly mandatory.

For the students, the flight training was one of the highlights of the Sun Seminar, and it is a big credit to them and their instructors that so much was accomplished in the time allotted.

Few of the fledglings had previous hands-on flight experience when they arrived on campus for the 13 day special

program.

According to Christine Daniel of Jonesboro, Ga., the Sun Seminar was a well planned mix of hard work and resultant satisfaction. "The entire program was impressive. For me, it was a whole new world. I had to study at night to keep up with the day activity. It was worth it, though," said Christine, the daughter of an Eastern Air Lines pilot.

Her flight instructor, E-RAU Check Pilot Tom Kirtan, echoed her sentiments. "Midnight oil all around. All the students and instructors gave it their best shot."

Scott Vogttritter, of Palatine, Ill., and son of a United Air Lines Captain comments, "It was all just great. The schoolwork was presented so that new guys like me could get into it. The homework assigned by my flight instructor and the others kept me going, but it really came through and helped a lot."

Bob Smith, Scott's flight instructor added, "The extra efforts by the faculty and the students made the program more than worthwhile. You have to remember that the Seminar was in addition to an already more than full time program at the University."

Instructor Ray Belcher summed it up with, "The enthusiasm and talent were obvious. It was up to us to meet the challenges of tight scheduling and getting the most out of every minute."

According to Bob Whempner, E-RAU's director of Special Programs, planning is already underway for next July's Sun Seminar. "Sun Seminar '77 was the best ever. We intend to surpass it, though, next summer with Sun Seminar '78."



TRADITIONAL CEREMONY FOR YOUNG INITIATE - Flight Instructor Ray Belcher (R), snips Sun Seminar student Louise Laboda's shirttail after her first solo. (ERAU Photo by Bob Costanzo)

## OSHKOSH '77

OSHKOSH, Wisc. -- Excitement and curiosity and swelling of the normal population twice its size is the result of the 25th International Convention and Sport Aviation Exhibition of the Experimental Aircraft Association.

The curiosity of the Oshkosh locals is due to hundreds of odd-looking objects which have been hovering over this northeastern Western city this past week. The odd objects are a combination of the restored remnants of past eras in aviation, mixed with some of the classics of the aviation age and more than 400 planes that have been made in living rooms, basements, kitchens and garages all over the nation.

A quarter of a million people are expected to pass through the acres of planes anchored here for this week-long celebration and watch air exhibitions in the afternoon. Places have been provided for the thousands of campers who will be at the show. Those who fly in on their own aircraft find a welcome mat rolled out at Wittman Field.

There have been some 4,000 plane movements each day, according to the local ATC, since this event began.

Paul H. Poberey, president and founder of the Experimental Aircraft Association said, "There are many people who want to enjoy the fun of this vast ocean above us." Poberey, who started flying in 1936, is a retired Air National Guard Colonel who owns seven planes, including a P51 he flew here from his home in Milwaukee. He has built 12 planes from scratch.

Many of the "golden agers," people who know much about the roots of aviation because they have played some part in making its history.

Blanche Noyes of Washington, known as the dean of women in 1928 still holds her commercial license. She recalled that in 1930 she took John D. Rockefeller Sr. for his first and only airplane ride. Rockefeller was over 90 years old at the time.

Another golden age is Clifford Henderson who managed the National Air Race from 1928 to 1939, a period in which Charles A. Lindbergh was a participant.

Pilots from all over the U.S. are at the event. These include flyers from Flushing, N.Y. to Belmont, California.

One individual, Bernard Gross, whose plane bears the name "The Deaf Duck," named his aircraft that name because Gross is indeed deaf. He took two days to get to Oshkosh, stopping overnight along the way. To make his flights, he must follow another plane along the way.

One custom-built plane owner/builder is Bill Waugh, from Idaho. He said, "You've got to have an understanding wife." His plane is a polished glowing champion blue and goldenrod yellow Pitts Special, a one-seater completed last May 3. Waugh said that it had taken him six years and three days to build this plane at a cost of \$13,000.

\*\*\*\*\*

## PASSENGERS REVOLT AGAINST BOAC

Forty-year-old Patrick Robinson, a passenger on a thoroughly well delayed TriStar jet flight from Majorca, said of a passenger revolt which was performed was done because, "British Airways behaved so badly we thought we had to do something."

Airline layovers are a worldwide frustration, as seen in the following news release. A plane load of Britons, convinced that 19 hours for a two-hour flight carried the tradition of long-

suffering too far, stiffened their upper lips Sunday and refused to budge until they were promised half their money back.

According to an AP release, police were called to the TriStar jet but the 290 passengers sat their ground, refusing to leave the jet until a senior British Airways officer promised to refund half the fare—about \$61 each, after 15 minutes of argument.

Most of the passengers were British vacationers, and they

told reporters they were scheduled to fly from Majorca London on Saturday evening, but found no plane waiting at Palma Airport, Majorca.

Eight and one half hours behind schedule, the airline flew a TriStar from London to pick up the stranded passengers.

A relief crew had to be picked up from Paris, because the cabin staff refused to work overtime and insisted the plane land in Paris. The passengers

had to wait hours in a transit lounge at Charles de Gaulle airport for the new cabin staff to arrive from London.

An airline spokesman said British Airways apologized and confirmed the refunds would be paid. The reasoning for the delays were, he said to some technical trouble of the fleet which resulted in a shortage of planes and the cabin attendants on the flight from Palma were "feeling tired and wanted a rest."

# 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.

## EDITORIAL

By Ray D. Katz  
AVION Editor

### END OF SUMMER! IS NEW TRI ANY BETTER?

With the last issue of the Summer I'd like to extend my congratulations to those graduating this term. Good Luck out there in the great wide world. As you start your new careers, consider for a moment the point of it all. Where are you going? What do you hope to accomplish? What do you really want out of life? It seems to me that a little reflection now, could save years of effort and anguish, to achieve a goal that you really care for.

I'd like to extend these same sentiments and questions to those of you returning in the Fall. For a more specific application consider the S.G.A. as organized under the new S.G.A. constitution. The question has been asked, what do we need or want a student governing organization for? It's the same as asking, where are we going, or what do we really hope to accomplish.

I've heard several different answers, such as: it's the organization that represents the students' interests to the Administration, or it controls how the \$11 S.G.A. fee is spent, or runs the Student Court; but I'm curious to know what your opinions are on the subject. I'd like to have as much response on the subject as I can get, so that I can do an indepth report of student opinion. If you want your letter printed in "Letters to the Editor", let me know and I will print it so that everyone can read it. I'll print all letters unless specifically requested not to.

*Ray D. Katz*

## LETTERS TO THE

### EDITOR

Dear Editor,

It's rarely that I take offense to what is written in the AVION but the article "WERU Saved by Security" went one step too far. I believe the student body will agree with me; that being labeled "stupid" is nothing to rejoice about. The passage I'm referring to goes as follows, "I haven't received a traffic citation since I started obeying the campus regulations. If you have, then you're stupid." End of quote.

The article implies that the author deliberately disobeyed campus regulations and as result received traffic citations. If that's not "stupid" then I don't know what is. I never knew, until now, a person who solicited traffic citations.

I feel it's unfortunate for WERU that its spokesman is so outspoken. It's hardly what a radio station in need of student support needs to bolster its popularity.

Sincerely,  
Edward H. Coleman

Dear Editor,

In response to your editorial, S.G.A. Senate meetings are normally held on the first and third Tuesday of each month, the time being decided by the President to allow maximum attendance. However, for the sake of convenience during the summer, meetings have generally been convened on Saturdays or on an as-needed basis. Times and dates of Senate meetings could easily be found by a quick glance at the S.G.A. bulletin Board.

As provided in our constitution, senate meetings are open to attendance by any interested student. And judging by the nature of your recent editorial YOU would do well to attend a few, since it would surely result in more accuracy in the AVION.

James A. Smith  
Senator

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## SPACEPORT TRESHAPED FOR SHUTTLE

KENNEDY SPACE CENTER, Fla. - It will soon be two years since the Kennedy Space Center's Launch Complex 39 last reverberated with the sound and fury of a rocket catapulting men into space.

And it will be nearly two years more before the Space Shuttle claws its way into the sky on its first orbital flight.

But many of its sprawling and massive facilities - built for Apollo journeys to the Moon - have already been reshaped for their new roles in the Space Shuttle era.

KSC was selected as the primary launch and landing site for the Space Shuttle in 1972 and construction has been aimed at preparing to receive the first shuttle flight hardware in 1978 and to support the first manned orbital flight in 1979. Among the factors which led to KSC's designation as the prime shuttle site was the existence of Complex 39, with structures readily adaptable to shuttle launch and servicing requirements. To keep costs down,

planners were directed to take advantage of existing buildings that could be modified, with new facilities to be built only when a unique requirement existed.

The Space Shuttle is a new breed of space machine which is launched like a rocket, maneuvers like a spacecraft and lands like an airplane.

But KSC's existing physical plant was so adaptable that only two major new facilities were required. These were: -The Orbiter Landing Facility on which the Shuttle Orbiter will land on its return to Earth is one of the largest runways in the world.

This concrete runway is located to the northwest of the Vehicle Assembly Building and is roughly twice as long and twice as wide as the average commercial landing strip. It is 4.5 kilometers long, 91 meters wide and has a 300-meter safety overrun at each end.\*

Its equipment includes a Microwave Scanning Beam Landing System which will guide the

Orbiter to an automatic landing on its return from a mission in space.

The orbiter Processing Facility is located in the heart of Complex 36 and connected with the landing facility by a 3.2 kilometer towway.\*\* The OPF is essentially an aircraft "hangar" with two high bays in which Orbiters will undergo rafter and servicing immediately after landing.

It is here, in a "clean room" environment, that ordnance and residual fuels will be rendered safe, flight and landing systems refurbished and payloads removed and installed.

A technological "face-lift" has been undertaken to prepare existing facilities for new roles.

The Vehicle Assembly Building, site of assembly for the Saturn V/B rockets used in the Apollo, Skylab and Apollo/Soyuz programs, is being modified for the assembly of the Space Shuttle in two of its four high bays. The remaining two high bays will be used for processing and staging the Shuttle's Solid Rocket Boosters and External Tank.

The Launch Control Center, "brain" of the complex, is being fitted out with the highly automated Launch Processing System (LPS) developed for Shuttle checkout and launch. Two of the LCC's four firing rooms are being equipped with LPS consoles and associated equipment.

So sophisticated is the new system that only about one-tenth of the manpower required

for Apollo will be needed in the Firing Room to checkout and launch the Space Shuttle - 45 as compared to 450.

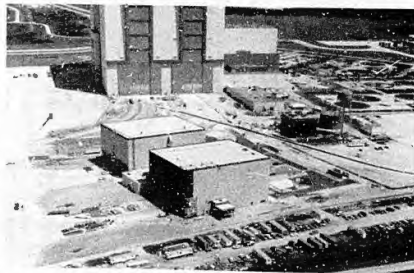
And the final countdown for the Space Shuttle is expected to take only two and one-half hours as compared to the 28 hours needed for the final countdown for an Apollo/Saturn V.

Launch Pads 39 A and B are undergoing major changes. With the exception of the six fixed pedestals which support the Mobile Launcher Platform, all of the structures on the surfaces of these two pads originally built for Saturn launches will be removed or relocated.

The upper portions of the umbilical towers from the Mobile Launcher Platforms are being removed and installed at each pad to serve as fixed Shuttle Service and Access Towers. With the exception of SpaceLab - a large space laboratory being built by the European Space Agency - many payloads may be loaded into the Shuttle Orbiter at the launch pad from the Payload Change-out Room.

The Payload Change-out Room (PCR) is a "white room" structure mounted on a semi-trailer truck extending from the Shuttle Service and Access Tower. The PCR is retracted along its track to its park site prior to launch.

The Saturn Mobile Launchers are undergoing major changes to adapt them for the Space Shuttle. The most striking visual changes involve removal of



KENNEDY SPACE CENTER' Fla. - The Orbiter Processing Facility near completion as KSC's Launch Complex 39 undergoes modifications preparing it for Space Shuttle missions. It is in the Orbiter Processing Facility that the Orbiter will be safely serviced after landing at Orbiter Landing Facility to the northwest of the Vehicle Assembly Building. (Photo Credit - NASA)

the launch towers and their cranes from the platform. The need for these have been eliminated on the Mobile Launcher Platforms by installation of the permanent launch towers on the pads.

The single opening in the center of the Mobile Launcher Platform is being replaced by three openings to permit exhaust gases from the Orbiter's main engines and two solid rocket boosters to escape during liftoff.

The ponderous transporters bearing massive loads on a back the size of a baseball diamond will be used to move Mobile Launcher Platforms with the assembled Space Shuttle between the VAB and Complex 39's two launch pads.

These twin giants were originally adapted from strip mining machinery to carry Saturn V/Apollo flight hardware

around Complex 39 and both have amassed odometer readings in excess of 800 kilometers.\*\*\*

The transporters are expected to remain capable of performing their load-carrying chores through the life of the Space Shuttle program.

Much of the construction and modification work has already been completed and the eventual cost of the entire project will approximate \$240 million, less than one fourth of the cost of building the Spaceport for Project Apollo in the 1960s.

\* In English measurements, the landing facility is 15,000 feet long, 300 feet wide and each overrun is 1,000 feet long.

\*\* The towway is 2 miles long. \*\*\* Odometer readings for both crawlers exceed 500 miles.

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## Resident Advisor Training

Last weekend seven continuing and 11 new Resident Advisors, Mrs. Ruth Wood, Desk clerk supervisor, and members of the Student Affairs division participated in a three day training seminar at the University Inn, in Deland. The seminar was sponsored by the Housing Department. Special thanks goes to Dr. Jeffrey Ledewitz, Vice President of Student Affairs; Dean Bob Rockett, Dean of Students; George Smith, Director of Housing; Nena Frost, Director of Student Activities; Kelly Meller and Debi Sugarman-Counseling Center; and Coach Wurzbach, Athletic director, for their time and effort in planning and conducting the Seminar.

The training topics dealt with activities, duties and responsibilities of the R.A.'s and goals to be accomplished this fall. The R.A.'s got to know each other and the Student Affairs staff whom they will be working with in the Fall. This is the beginning of a continuing Resident Advisor training program which should enhance Dormitory life in the future.

## NEW R.A.'s SELECTED

By Ken Keene  
and  
Steve Page

Recently the housing office in conjunction with the present Dormitory advisors and the staff of the Counseling Center selected eleven new Resident Advisors to fill vacancies that will be created in the Fall trimester. We would like to congratulate the following students:

Jerome Diehl  
Timothy Duffy  
Bazile Norris

Frankon Weise  
Raymond Wolowicz  
David Scott  
Steven Rice

We would also like to announce the hiring of Mike Gearling as Resident Director. Mike has served for the past year and a half as resident advisor as well as Senator in the S.G.A. and as President of the Riddle Packers, and Representative on the Pool Committee. Much appreciation to Mark Sternat who has served the students and staff in the position of Resident Director for the past year.

Mike and the dormitory staff should prove to be an asset to the dorm residents and administrative staff.

## GRADUATION



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## Was It Really A Safe Flight?

(The following Safe Flight article was taken from the Florida Department of Transportation-Fla. Aviation Information Manual-May, 77.)

\*\*\*\*\*

Arriving at your destination safely is no accident, therefore, it was a safe flight. Wrong! Successful completion of a flight does not make it safe.

After a particularly bad month of accidents in Florida, mostly with pilots listed as the primary causal factor, I asked an aviator friend, Dick Show of Quincy, Florida, "How do you cure a severe case of Delta Seirra (DS)". Dick's reply, "Bob, you can't, but don't give up trying because occasionally you can relieve the symptoms". Dick went on to relate one of his experiences when he agreed to help a friend fly an airplane from New York to Florida.

They had waited two days for the weather to improve and it was still very hazy with visibility less than a mile but there were no thunderstorms. Dick asked his friend if the Bonanza was instrument equipped. His friend replied that it was. There were two radios, two VOR's, ADF, auto pilot, "all of the latest equipment". Dick looked at the panel and was satisfied, so they filed IFR.

Taxiing out, they requested their IFR clearance and received instructions to squawk, a four-digit code on the transponder. Discovery (1), no transponder. They got clearance to take off and departed without incident. Climbing through 700 feet on radar vectors and in the clouds, Discovery (2), the directional gyro tumbled; it was spinning like a top. No sweat, Dick went up to the wet compass, Discovery (3), but it was listing port and appeared frozen. The aircraft owner advised Dick that if you hold it and pull down on it will indicate properly. Dick immediately told him to pull down on it.

On departure, they were told to go direct to a VOR which Dick had presumed, Discovery (4), no indication. The owner said that the off flag did not work but the needles did. Then Dick proceeded to tune in the other VOR and the aircraft owner interrupted to

advise Dick, Discovery (5), that the off flag worked but the needles didn't on the No. 2 VOR.

Dick managed to fly the machine out of the New York complex to where the weather was VFR about 30 miles south then cancelled their instrument flight plan. They had a 3,500 foot ceiling with occasional breaks in the overcast. After 15 minutes of flight, the owner asked to fly the airplane, so Dick let him. Another five minutes had lapsed and Dick observed the power being added and a climb commenced. Dick asked the owner what he was doing and he replied that he was going up through that hole to get "on top". Dick advised him that that was not the only hole and that dark area was a cloud. The owner persisted, and ended up in the soup again. When he found he couldn't handle it, he asked Dick to take control. Dick declined. After 30 seconds of milling around, Dick told him to slow the aircraft down, lower the landing gear, get to maneuvering speed and start a steady rate of descent to get back down where it was VFR. Two or three more anxious minutes passed and they finally broke out. The rest of the flight was uneventful.

Dick went further to explain that the man still owns the Bonanza, all the instruments and radios have been reworked and he is now strictly a "VFR" pilot.

The above incident terminated safely but it was by no means a safe flight. A severe case of "Delta Seirra" was treated and the unsafe flight was never recorded as an accident statistic. Only five percent of the unsafe flights are ever documented; unfortunately, they are documented by accidents.

We must constantly educate ourselves to recognize when a flight is entering the unsafe regime, then take positive action to put all factors of flight in our favor.

Projecting probable consequences of action based on the best information available is the beginning of a safe flight. It is decision making based on judgement. It's taking charge and being "Pilot in Command".

## MEDIA CENTER

### COLLEGE CATALOGS!!!

The Media Center has just received the National Microfilm Library College Catalog Collection. This collection which is on microfiche is indexed by state and name of the college or university. Besides indexing the United States, it also has a section for foreign schools as well as special schools. It will be available for your use in the periodical room next to the microfiche reader.

### NEW BOOKS!!!

WILDERNESS CANOEING AND CAMPING, by Cliff Jacobson—a complete book of and guide for the wilderness enthusiast!

THE WORLD ENCYCLOPEDIA OF COMICS—2 volumes by Maurice Horn — the first book to cover the entire field of comic art in all of its aspects - artistic, cultural, sociological and commercial.

THE CLASSIC MOTORCYCLES by Harry Louis and Bob Currie - covers the motorcycle from yesterday and today.

PROPAGANDA: THE ART OF PERSUASION - WORLD WAR II, by Anthony Rhodes - covers the multiplicity of the various uses and mediums of propaganda during WWII; highly illustrated with reprints of posters, comic strips and advertisements.

THE GREAT AMERICAN

BLOW-UP: PUFFERY IN ADVERTISING and Selling by Ivan L. Preston, deals with the advertising world presented to the consumers.

HANG GLIDING: RAPTURE OF THE HEIGHTS, is a look at the beginning of manned flight and the return to today's most enchanting new sport. Superb photography.

THE AIR FORCE MUSEUM by Lt. Col. Nick P. Apple, is a pictorial tribute to the ingenuity, technology and courage that lifted man to the skies and then on to space.

FOR YOUR INFORMATION: A suggestion box has been placed inside the glass doors to the main room of the Media Center. We appreciate and value your comments and hope to be able to accommodate as many as possible.

Among the suggestions made for our Media Center were the addition of individual STUDY CARRELS. Although we are very interested in this type of setting, it requires more space than we can afford right now.

Plans for a new facility will include study carrels, lounge seating, study tables as well as small, sound-proof conference rooms.

LATER HOURS will be considered this fall if increased use of the Media Center warrants keeping it open until 11 p.m.

## CO-OP!

## EXPERIENCE

By Steven A. Clough

(Steven was employed by Baltimore Airways, Baltimore, Md. in the Position of Line Pilot)

When starting my second Co-op term in September 1976 I looked back at the previous summer's experiences. I knew my job wasn't going to be the same, although the objective was the same. I had to obtain this objective in a different manner. Ahead of me was flying through the winter that was forecast to be one of the worst; many years. It wasn't going to be easy to maintain a schedule with everything going against me.

During the first half of September I was still assigned to flying Senator John Heinz of Pennsylvania, we would be gone from two hours to two weeks, nobody ever knew until it happened. Looking back into my management classes I couldn't see how a politician could be so erratic with plans, and so indecisive about the next event. Everyday I would check back with the main office in Baltimore to keep them up to date on where we were at the time and what the plans were for the next couple of hours. My co-pilot was also a traveling accountant keeping track of all expenses so the customer could be charged accordingly. On weekends I would sit down and verify the expenses with him and then forward them to the office in Baltimore.

Although we didn't have any problems with winter weather at this time, the tail-tale signs were everywhere. Upper air winds were increasing with velocity, thunderstorms were becoming less frequent as the air temperature gradually decreased. We also developed a slight problem due to unexpected weather. Senator Heinz lived near a small airport just barely capable of handling the aircraft we were using at the time. Over the summer months surface winds weren't a factor being on the average 15-20 MPH maximum continuous. As winter approached these winds were increasing to an average 20 MPH up to 50 MPH. Due to the limited runway length many times were unable to land and had to divert to a bigger airport. If I had been more observant of future conditions we would have been able to notify the Senator ahead of time so as not to inconvenience him. This is where better planning would have helped.

Of course after the elections we lost the contract and I was assigned to yet a different type of flying. October 18, 1976 I was moved to Boston, Massachusetts. I was to be based at Logan International as a field office representative for Baltimore Airways. My main purpose was to fly a contract freight run for Purulor Courier Corporation from Boston-Pittsburgh-Columbus, Ohio New York-Hartford, Conn. - Boston five nights a week. I was left in charge of having the maintenance performed on the aircraft so that it would be available every night. There were quite a few management related decisions to be made. Being very costly you didn't want to do it unless necessary. On the other hand if the airplane was grounded at some time during the night you would lose \$3,500.00 plus the added cost of maintenance away from home. There were many nights that an item would break on the first leg of the flight and a decision had to be made whether to continue or stop, with safety of the flight being of the utmost importance. Although sometimes necessary we weren't allowed to forget that the company had to soak up to \$600.00 if it were necessary for a standby aircraft to be

sent up from Baltimore. It took a minimum of three hours advanced notice to get an aircraft to Boston. This price did not reflect the price for the pilot and the fact that it ties up a revenue developing machine. These were just a few of the management related decisions I was required to make as a pilot.

Fortunately my aircraft seemed to be relatively maintenance free. I was able to focus my attention on getting the freight delivered on time as easy as it may sound like my word, "it wasn't". With winter well on its way schedules became very difficult to maintain. With a scheduled departure of 9 P.M. at Boston I had two hours, 30 minutes to get the freight to Pittsburgh. It didn't matter if I had 100 KT headwinds or 100 KT tailwinds I still had to have the freight there by 11:45 P.M. Being more rule than exception I had a minimum of 30 KT direct headwind every night. The ever decreasing groundspeed coupled with the ever increasing departure delays made life difficult. As you can well see I was late every night, the only thing that saved me was that the time frame at Pittsburgh was not critical. My next stop, Columbus, Ohio was the critical stop. This is where I met sixteen other aircraft coming in from all over the east and Midwest to exchange freight. I knew over had to be made up and quick. A combination of extremely quick turnarounds and ground hugging legs to stay out of the upper winds was just the combination. I was able to average a 92% on time completion rate into Columbus. Due to the PIT-CMH leg being flat terrain was the reason for making up the time. Boston-Pittsburgh was across a mountain range with 6,000' - 8,000' altitude restrictions; right up in the strong upper air winds.

The return legs were a giveaway, now heading with the wind I would climb out of Columbus on course to New York. Many a night 18,000' - 20,000' was an ideal altitude, although uncomfortable due to an oxygen mask, it was well worth it to experience 70-100 KT tailwinds arriving in New York ahead of schedule. This proved to be very important because the next stop wasn't the best.

After landing at Teterboro Airport (serving New York) I would have plenty of time to check on Hartford, Conn. Being a small airport without facilities I had to be sure everything was just right. Many a night I was faced with landing a grossed out airplane on a marginal runway with six inches of fresh snow on top of solid ice. Although we were able to operate out of Hartford all winter it was only attributable to extensive planning, always leaving a way out.

From Hartford to Boston was one half hour and no consistent problems were encountered. I flew this freight contract up until January 1977 completing the second term. Although I was not continuing in the Co-op program I remained with the company until June 1977. Throughout this year of work I was better able to see and understand the industry I wanted to develop a career in. I gained first hand experience while learning the ins and outs of flying. I wouldn't trade this last year for anything. It has not only been a year of learning but it has enabled me to become experienced so that I have no worries about getting a job upon graduation from school. I give my full support to the program and hope that other people are able to use it to such an advantage as I was.

## 2% FARE INCREASE

WASHINGTON, D.C. (August 3) - The Civil Aeronautics Board today allowed U.S. airlines to raise all domestic air fares 1.5 to two percent above the level of fares in effect in mid-July, effective on various dates between August 7-22.

The Board acted by dismissing a complaint filed by the National Passenger Traffic Association (NPTA), which claimed that the mid-July 0.7 percent increase precluded any valid basis for another increase so soon.

The Board said that the NPTA had failed to set forth sufficient facts to support its claim.

The Board found that under current fares the industry's rate of return on investment (ROI) would be 10.2 percent, well below the 12 percent standard. The 1.5 percent increase would raise the ROI to 11.6 percent, still within the 12 percent benchmark. The Board noted that a two percent increase would raise ROI to 12.07 percent, but since some major competing airlines have not filed to match the full two percent increase, it probably would not be implemented before September, by which time the ROI would fall below 12 percent.

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## UNIVERSITY

Where?	Common Purpose Room
When?	Aug. 17 9:00 - 11:00 2:00 - 4:00
	Aug. 18 9:00 - 10:00 2:30 - 4:00
	Aug. 19 9:00 - 11:00

Books will be purchased at 50% of their current list price.

Only books in good condition will be purchased. We cannot accept books if problems have been solved.

## BOOKS BOUGHT BACK

McConn.	Economics Text
Fitz.	Basic Electrical Engineering
Dagher	Writing: A Practical Guide
Sherman	Modern Tech. Writing
Keady	Intro. Algebra
Wash.	Basic Tech. Math w/Cal.
Freund	College Math w/Bus. Apps.
Barnett	College Algebra w/Trig.
Heinemann	Plane Trig. w/Trig.
Nauman	Understanding Statistics
Leithold	Calculus w/Analytical Geometry
Speigel	Applied Differential Equations
Sokolov	Math of Physics and Mod. Eng.
Johnson	Principles of Accounting
Hodgetts	Mgmt. Theory Proc. & Prac.
McCarthy	Basic Marketing
Beach	Personnel: Mgmt. of People
O'Brien	Computers in Bus. Mgmt.
Lusk	Business Law
Summer	Managerial Mind
Bourne	Psychology
Smith	Personality Development
Hein	Foundations of College Chem.
Beiser	Modern Technical Physics
Masterson	Chemical Principles Text
Halliday	Fundamentals of Physics
Houghton	Aero. for Eng. Stud.
Perry	Aircraft Structures
Pope	Low Speed Wind Tunnel Testing
Rivello	Theory and Anal. of Flt. Strut.
Leavell	Stand. Aircraft Handbook
Ferrera	Aviation Electronics
Marateck	Basic
Cooper	Standard Fortran
Khalilany	Cobol for Small and Med. Comp.
Bright	RPG I and RPG II
Zbar	Basic Electronics
Zhar	Basic Electricity
Shames	Eg. Mech. Vol I Stat.
Baker	Intr. to Solid Mechanics
Samelson	Phase One: Let's Converse
Samelson	Phase Two: Let's Read
Perrine	Story and Structure
Scott	Studies in the Short Story
Monroe	Principles of Speech Comm.
Smith	The Religions of Man
Awad	Issues in Bus. Data Proc.

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STUDENT STORE BOOK BUY BACK



Kudos are in order for our championship softball team as once again the Big Blue mowed its way to number one in intermural play. Doug Baldauf, our player-coach, armed with the talents of Mark Hansen, Wally Shumate, Jim Borden, Bob Allen, Steve Curran, Mike Drake, Kenny Houser, Kenny Holgard, Carl Duncan, John Richards, Mel Wynn, and Tim Phillips overwhelmed the competition not only in our own league but moved off campus to take on new victims for the team. Joe Golinski traded in his umpire's whisk broom for a first baseman's mitt to also join the team in meeting a challenge from the Buena Vista Apartments Softball team. The game played last Friday gave our team an opportunity to demonstrate its prowess against some new and stiffer competition as the Vets came through with a 7 to 4 victory. Another Challenge has been offered by Hawaiian Tropic's Team for a contest to be held soon.

The Club has also submitted two teams for the volleyball season which began last Monday. The Vets faced the Black Sheep Teams in the opening contests. Games will be held each Monday for the remainder of the term on the tennis courts behind the Used Bookstore.

The final business meeting for the term was held Wednesday, August 3, but due to some ambiguity in the Flyer, the Attendance was very light. The meeting was held not only to discuss the Italian Dinner but also to discuss some new business. Most noteworthy was the installation of Mike Drake as the newly appointed Vice President of the club. Also of interest was the adoption of a club banner with a design very similar to the club emblem but incorporating a motto across the bottom. I believe suggestions for a suitable motto are still being sought by the board. Also being sought are volunteers to man the registration line for the Fall Tri-Mester, volunteers will be granted the opportunity to register early. It has also been requested that the membership pass the word about the Used Bookstore's new inventory of pilot supplies, word of mouth seems to be the best source of advertisement open to us at Present. The bookstore now offers a complete line of pilot supplies at the lowest price on the airport, and is offering the students a choice in not only price but in manufacturers as well. Also discussed was the possibility of opening up some of our events such as

The Bee Dec Jive



the road rallies to challenge other campus organizations. The poor turnout at the last few events by the membership has been costing the club a disproportionate amount of money and possibly the spirit of competition may bring about a better attendance. It has also been noted that there may have been too many events for the already hectic summer trimester with four events each term, and suggested that there be only two events planned per term. Some further input from the membership may be helpful to the executive board for making recommendations to future office holders. Dean Aggett has presented the club with a letter of commendation for its services in making the Pie Throw a reasonable event, hopefully we may look forward to another such event in the Fall with greater university participation.

We may look forward to another such event in the Fall with greater university participation.

If you did not attend the Italian Dinner last Saturday night, not only did you deprive those in attendance of your valued company, but you also deprived yourself of a really fine meal and a very pleasant club gathering. The assortment of food was as diverse as it was delicious, representing a wide range of Italian cuisine. The evening also offered an opportunity for relaxed conversation seldom attainable at our hyperactive outdoor social events.

The Ichetucknee Springs trip has been postponed in favor of the dinner, undoubtedly to the delight of everyone who was able to stuff themselves with such fabulous food. Judging from the amount of time left in the term this may have been the last social event, possibly one of the best in the end.

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## Contract Launched

for 2nd

## Launch Platform

KENNEDY SPACE CENTER, Fla. - NASA's John P. Kennedy Space Center has awarded a contract for \$7,325,000 to Algemon Blair Industrial Contractors Inc., Norcross, Georgia.

The fixed price contract is for the conversion of a Saturn/Apollo mobile launcher to a mobile launcher platform for operational use in the Space Shuttle program.

The conversion work involves removal of the launcher's 400-foot tall umbilical tower and jib crane. A permanent launch tower is being installed at each of KSC's two shuttle pads at Complex 39, eliminating the need for towers on the mobile launcher platforms.

Also entailed in the conversion is replacement of the single exhaust opening in the platform with the three required by the Space Shuttle's main engines and twin solid boosters.

The conversion of one of KSC's three mobile launchers to a mobile launcher platform is nearing completion and the new contract marks the beginning of modification work on the second.

Completion of the conversion process on the second mobile launcher is scheduled in 13 months.

KSC has designated the prime launch and recovery site for the reusable Space Shuttle, scheduled for launch on its first manned orbital mission in the spring of 1979.

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## 1st ILS

## Unit

## Delivered

LOS ANGELES - July 25 - Northrop Corporation's Wilcox Electric, Inc., subsidiary has delivered to the U.S. Air Force - ahead of schedule and within cost and performance - the first new AN/GRN-29 Category II Instrument Landing System (ILS) in a contract to improve reliability and reduce operating costs at USAF bases throughout the world.

The GRN-29 contract is one of the largest ever awarded for ILS equipment and also includes options for 38 more systems. The Category II units are "second generation" systems, employing the latest state-of-the-art digital electronics.

In addition to the Air Force contract, work is currently underway on two other major Northrop-Wilcox programs awarded by the U.S. Federal Aviation Administration. One is the first production contract in the U.S. for Category III ILS systems, the most advanced yet devised which allow for all-weather operations at major airports.

These systems initially will be installed at eight airports in the U.S. - Los Angeles, New York-Kennedy, Chicago-O'Hare, Houston, Detroit-Metropolitan, Seattle-Tacoma, Portland and Kansas City, with the first system scheduled for installation at Kansas City sometime next year. Another system will be installed at the FAA's academy in Oklahoma City for training purposes.

Under another contract, Northrop-Wilcox will be supplying the FAA with 57 complete and 65 partial systems for smaller airports. The company just completed installation of advanced ILS systems improving flight safety and reliability at 16 airports in 27 states from the Arctic Circle to the Virgin Islands, under the largest contract ever awarded by the FAA up to that point.

Northrop-Wilcox is a world leader in development, production and installation of ILS systems, and also produces ground-based airport and airways navigation equipment, including very high frequency omnirange (VOR) ground stations, distance measuring equipment (DME), and air-to-ground communications equipment.

The company's systems are currently operating throughout the U.S. and in more than 100 foreign countries.

## CT7 ENGINE CERTIFIED

LYNN, Mass. - The Federal Aviation Administration has awarded a Type Certificate for General Electric's new CT7 turboshaft engine. This new engine is a commercial version of the military T700 and will benefit from the experience gained from GE's other highly successful T58, CT58, and T64 turboshaft engines.

In making the announcement, P.A. Adinolfi, General Manager of GE's General Aviation Engine Department stated, "We believe that the CT7 is the most advanced commercial helicopter powerplant available in the world today; it offers outstanding performance, new levels of reliability, and low cost of ownership." He noted that CT7 performance and operational data have been furnished to domestic and overseas helicopter manufacturers.

Program management, development, marketing, production and product support of the DT7 is the responsibility of GE's General Aviation Engine Department headquartered in Lynn, Massachusetts.



I can assume that most of us that are interested and involved in aviation also have a tendency to like travel. Specifically, most of us probably like to travel by air, and when we don't fly ourselves we are content to ride as passengers in today's safe, fast and reliable airliners. I always like to look forward to an airline trip as some kind of an adventure, especially on new routes and on new airlines and different aircraft. I prefer flights with a maximum number of stops (unless I have to get somewhere fast) since the most interesting and exciting portions of a flight are the takeoffs and landings. Nuts to cruising - read a book, study the stew or go to sleep. Those of us who have frequently traveled as passengers have by now probably picked out the "favorite" airlines to ride in. Some prefer the good old "narrow-bodies" (the Boeing 707, 727, 737 and Douglas DC-8 and DC-9). Others find it more pleasurable to ride in the newer "wide-bodies" (Douglas DC-10, Lockheed L-1011 and the big Boeing 747). We may have more trust in the smaller, more solid seeming narrow-bodies, or we may like the sheer size and majesty of the big widebodies.

A trip on an airliner is only as fun and interesting as you make it. For us pilots, we can just imagine - sometimes more accurately than you would think - what goes on up front in the cockpit; once the aircraft starts we can play "second-guess the captain." I do!

Here we are: aboard a load-laden DC-9 (hitch, there I go on my 'Douglas kick' again) belonging to one of the "hop-scotch" regional carriers. We're backtracking down to the beginning of the

# BEING A PASSENGER CAN BE FUN TOO!

By Bart Groeneveld

5,000 ft. runway (no parallel taxiway) and in your mind's eye you see the crew checking off the last pre-takeoff items on the list and calling for go-clearance. We sway gingerly as the captain veers off the center of the runway and then sharply cuts into a turn to align the sleek craft for takeoff; the cabin seems to be moving directly sideways as the fragile nosewheels are sharply deflected. Halfway through the turn the captain is already advancing the thrust-levers controlling the twinjet's powerful turbofans and you hear them slowly spool up to a mounting whine/buzz. Your seat insistently presses solidly against your back as the jet accelerates smoothly down the runway, bouncing and bobbing over irregularities - the excitement mounts. You look out at the wing as it gently flaps and flexes, noticing an increasing upward deflection as the rumble from the front gear stops and the nose pitches positively up - you're really moving, now! We continue rolling along on the main and then - "Thump-thump" as the tires leave the ground and the shock-struts extend fully; we're off! The silence of jet flight engulfs you. Below, you feel and hear the main gear doors open with a rush, followed by bumping sounds - well, the gear's up, you think to yourself. You look out just in time to catch the leading edge slats retracting, finishing off with their traditional mournful growl - startling some of your fellow passengers.

I've been on a few flights on which the captain likes to leave the cockpit door open from the time the aircraft starts to move until during the climbout. I think this is pretty neat, since it affords the passengers - those with enough vision to look - with a splendid view of what is going on. In this case, it's nice to have an aisle seat. On these same

flights, the door was also open for the approach and landing. It makes it more interesting for the passengers - a good diversion and confidence builder.

When it comes to an approach and landing, I find it most interesting to watch a Boeing wing make a spectacle of itself by coming as close as possible to falling apart without actually doing so. On a short flight aboard a B-727-200 with the 'man-in-the-sun' airline, (fly them anytime for a thrill), we were making an approach into TPA. Either as a result of late clearance or the old 'keep-it-on-high policy', we were a bit high and close. The engines spooled down to flight-idle followed shortly by full extension of the spoilers. Needless to say, we began sinking like a lead-coated brick, watching the clouds pass by in an alarmingly upward direction; I must compliment the engineer for his pressurization management, since no undue ear-popping occurred. This continued all the way down to around 1,500 feet while the crew turned and banked the jet to align with the runway, heading north now. We must still have been uncomfortably high-and-close for the captain's taste, for without further ado the spoilers retracted, followed immediately by the extension of the 727's absolutely marvelous array of drag (and, thank goodness, lift) producing items. The big multiple-slatted flaps began their journey aft, riding their screw-jack actuators and then progressively down to about half-flaps; the outboard slats and inboard Kruger flaps on the leading edge of the wing also began extending with a roar of protesting air. An additional rush of air started under the cabin floor as the main gear doors folded out of the way of the big twin-wheel bogies dropping into the airstream - "Thump-thump", goes the gear: down and locked. The overall deceleration is quite noticeable, Hydraulic motors whine and

squel as the flaps go down the rest of the way. The nose is really down now - then the engines urgently spool up to approach power, effectively overcoming the tremendous increase in drag as the nose passes back up through the horizontal and settles in a slight nose-high attitude. Tampa Bay rushes slowly up to meet us as the big jet literally rams its way through the air, engines working hard. Flash! The threshold slips under us - still high; rate of descent suddenly increases and is stopped in the last remaining feet by a burst of power - enough to make the turbofans start to buzz. Whoomp... skp... rumble - we're down. Spoilers come up as the engines spool down; the reverser clamshells slam shut and the engines are spooled up again. Bump! There's the nose gear; the engines are howling and we're hanging on by our seatbelts as the plane shakes and bobs - what's the rush? Did we have to leave the restful quiet of flight so soon? We slow to a crawl and turn off the runway; spoilers plop down and flaps slide nearly back into place. That was fun - let's do it again!

When riding on the wide-bodies it is especially interesting to observe and experience the ridiculously steep deck-angles during climbout, which seem a good 20-30 degrees nose up! Also, sitting in the very back of some jetliners, particularly 747's and DC-8-63's, you will actually go down a number of feet before going up! It's an eerie feeling as you see the ground rush up during rotation, and no doubt you'd think that contact with terra-firma is rather inevitable. Not usually though...

Of course, the best place yet to ride in an airliner is the jumpseat in the cockpit. A

ride in the jumpseat should provide almost anyone with an unforgettable experience. The trick is getting into it, though. Unless you have a VERY friendly and sympathetic captain, most of our paranoiac-ridden US carriers won't even let you near the flight deck. There are exceptions, I'm sure, but chances are you may as well not even bother. If you want to go through channels, though, you may just be able to ride jumpseat. Specifically, the Federal Aviation Regulations state, under Part 121.547, subparagraph (a) (4): "No person may admit any person to the flight deck of an aircraft unless the person being admitted is - a person who has the permission of the pilot in command and is specifically authorized by the certificate holder (air-carrier) management and by the Administrator." If I am interpreting this right, that means that if you are a pilot certified by the FAA (that should take care of the Administrator portion) and have permission - preferably in writing - from the management of the airline plus have the OK from the captain - you're all set. I must admit that I've never tried it this way nor do I know of anyone having gone through channels like that. I have ridden jumpseat many times on foreign airlines on international routes; all you have to do is ask, and the captain - on the average - is more than happy to have you up front, for part or all of the trip, including takeoff and landing. It is very exciting and interesting - and quite a learning experience.

Flying an aircraft yourself is a most satisfying experience, to be sure; but being a passenger can be fun also. Just get yourself into the right frame of mind and... GO!

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SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY																																																																																																		
1 Riddle Skiing Mtg. 7:30-8 p.m.	2 AJAA Meeting CFR-7 p.m. Middle Packers Mtg. 5 p.m. CFR	3 Scuba Club Meeting CFR-6 p.m.	4 CCO Meeting CFR-3:30 p.m. Alpha Eta Rho Meeting CFR-8 p.m. Bowling at Halls Lanes 8:30 p.m.	5 Movie: FURNY LADY	6 Lambda Chi Meeting 7:30 p.m.																																																																																																			
7 MASS 10:30 a.m. Protestant Services 11:15 a.m.-UC-CFR	8 Shooting Club Meeting CFR-6 p.m. Riddle Skiing Mtg. 7:30-8 p.m.	9 AJAA Meeting CFR-7 p.m. Middle Packers Mtg. 5 p.m. CFR	10 Scuba Club Meeting CFR-6 p.m. Pick up an AVION!	11 Alpha Eta Rho Meeting 8 p.m. CFR Bowling at Halls Lanes 8:30 p.m.	12 DEADLINE FOR GRADUATION REQUIREMENTS	13 Vet's Club-1st Annual Open Invitational-noon Lambda Chi Meeting 7:30 p.m.																																																																																																		
14 MASS 10:30 a.m. Protestant Services 11:15 a.m.-UC-CFR	15	16 Riddle Packers Mtg. 5 p.m. CFR	17 FINAL EXAMS Scuba Club Meeting CFR-6 p.m. Book Buy Back CFR 9-11 a.m. & 2-4 p.m.	18 TGIO FINAL EXAMS LAST DAY OF CLASSES Book Buy Back CFR 9-11 a.m. & 2-4 p.m.	19 FINAL GRADUATION CHECK Book Buy Back CFR 9-11 a.m.	20 GRADUATION-A.M. END OF SUMMER TRI BCN VOYAGE!																																																																																																		
21 SUMMER BREAK	22 ready to go	23	24	25	26 SUMMER BREAK	27																																																																																																		
28 SGA-EXT. 400 STUDENT ACTIVITIES EXT. 501 SUMMER BREAK	29 ORIENTATION BEGINNS	30 ORIENTATION	31 ORIENTATION REGISTRATION (Ext. 2) Movie: MIDWAY	<table border="1"> <thead> <tr> <th colspan="7">July 1977</th> <th colspan="7">September 1977</th> </tr> <tr> <th>S</th><th>M</th><th>T</th><th>W</th><th>T</th><th>F</th><th>S</th> <th>S</th><th>M</th><th>T</th><th>W</th><th>T</th><th>F</th><th>S</th> </tr> </thead> <tbody> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td> </tr> <tr> <td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td> <td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td> </tr> <tr> <td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td> <td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td> </tr> <tr> <td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td> <td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td> </tr> <tr> <td>29</td><td>30</td><td>31</td><td></td><td></td><td></td><td></td> <td>29</td><td>30</td><td>31</td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>			July 1977							September 1977							S	M	T	W	T	F	S	S	M	T	W	T	F	S	1	2	3	4	5	6	7	1	2	3	4	5	6	7	8	9	10	11	12	13	14	8	9	10	11	12	13	14	15	16	17	18	19	20	21	15	16	17	18	19	20	21	22	23	24	25	26	27	28	22	23	24	25	26	27	28	29	30	31					29	30	31				
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FOR SALE: 15 ft. Boat-50 HP motor & Trailer with top, life jackets, anchor, 2 gas tanks engine. Needs work. \$500 or best offer. 244 14th St. Helly Hill, Florida (east of Ridgewood).

## FOR SALE-MISC



FOR SALE: Juliette Cassette tape recorder. Excellent for classes. Dkt cheap. Contact Steve W. at 252-2277 or Box 4322.

FOR SALE: Living Room Furniture: Couch, Chair, Coffee Table, End Table. All for \$150. Water bed, \$100. 14 Foot Hobie Cat (with instruction) \$1,200. Contact Lawren at Box No. 1054, 252-8717.

FOR SALE - Automatic Seiko Chronograph. Day, Date, 30 minute and 12 Hour Timers. Hardlex. Crystal, Water-resistant. Like new. Best Offer. Contact Steve W. at 252-2277 or Box 4322.

FOR SALE: Must sacrifice. \$1500 Sunbeam surfboard. Excellent design for East Coast. Good condition. Best offer, contact Steve W. at 252-2277 or Box 4322.

FOR SALE: Smith-Corona Comaromatic 2100 electric, portable typewriter. All power plus cartridge ribbons. Great condition! \$175 - best offer. 2 Exposure 11 loudspeakers. 7" woofers and 1" tweeters. Fantastic sound! \$220. Asking \$165. Call ext. 438 for Rent or stop by Dorm Room 262.

YEARBOOKS FOR SALE: 4 1971 books for \$2 each. 2 1972 for \$2 each. 196 1973 books for \$1 each. 11 1974 for \$1 each. 26 1975 books for \$1.50 each. IF INTERESTED IN PURCHASING A PREVIOUS YEARBOOK CALL Ext. 214 or visit the Phoenix/Avion office.

FOR SALE: 1 Sharp Calculator, 1 adapter, batteries, still in package, never used. \$23 value mail for \$15. Contact Fred De Silva at ERAU Box 2225.

ON CAMPUS - tune-up. Brake work Mike. Very Reliable work. Very Reasonable prices. Contact Fred De Silva at ERAU Box 2225.

## WANTED-MISC



Need responsible roommate for Fall Tr. If interested call Mark Lyons at 305-824-0186 before 2 pm or write to 368 1001 Explandade Way, Casaberry, Fla. 32107.

ROOMMATE NEEDED: Need a responsible roommate to share apartment during Fall Semester. Contact Mark at 305-824-0186 before 2 pm.

WANTED: A 1976 PHOENIX Yearbook. If you have one you don't want and want to sell or give, contact the Phoenix office at Ext. 214.

WANTED: Roommate to help share expenses for month of August. If interested get in contact with Misty or Annette at River Run Apt. 252-4329 anytime.

## EMPLOYMENT HELP WANTED



NEED EXTRA MONEY? GENTLEMAN NEEDED TO BE MODEL FOR PERSON TAKING STATE EXAMINATION TO BECOME APPRENTICE BARBER. REQUIREMENTS: MUST HAVE FULL HEAD OF HAIR FOR A REGULAR TAPER HAIRCUT AND BE ABLE TO HAVE A SHAVE. IF INTERESTED CALL 677-2875.

SECRETARY - Flight Technology, at new location with responsibilities for all Flight Technology clerical support. Organization and excellent typing skills required. BURSAR - for position available January, 1978. Would like plenty of time to train. Accounting degree preferred. Management experience desirable. Please contact the Personnel Office if you would like to be considered for either of the above positions.

R.N.'s NEEDED: For 11 pm - 7 am shift. Leadership Positions. Competitive salaries and excellent fringe benefits. Apply Memorial Hospital, 875 Sternhaus Avenue, Ormond Beach. Phone 677-6800.

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