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AERONAUTICA

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Dates for EAA Fly-In Convention at Oshkosh announced

By Bryan Gross Ammyssirica Editor

Plans for one of the world's premier aviation events are already well underway for the 41st annual Experimental Aircraft Association (EAA) Fly-In Convention, in Oshkosh, Wisconsin. The conven-

been announced, Convention aircraft and more, Chairman Tom Poberenzy stated that, "sport aviation has become a major focal point for new ideas in seen and appreciated for their nircraft design and construction." He indicated that more than 500 tion. educational forums, seminars and workshops will be offered during this week long event by the top names in aviation.

Aeronauties and Aviation Administration (FAA), the technology. National Transportation Safety

Board (NTSB), and the U.S. every age and interest - young and Customs Department, will display old, pilot and non-pilot alike," aircraft and conduct forums that cover the entire spectrum of aviation.

Daily air shows will showcase the talents of the world's top serobatic performers,

An 8,000 foot long flightline will tion will be held from July 29 to have a variety of aircraft ranging August 4 at Wittman Regional from homebuilts, antiques, classics and warbirds to light planes; Although a theme has not yet ultralights, rotorcraft, aerobatic

> Forums will also be offered for these aircraft so that they may be significant roles they play in avia-

evening programs is being coordinated for the Theater in the Woods.

At recent conventions, Poberezny Approximately 450 exhibitors, said he has observed the internationthat include the National allaviation community come togeth-Space or to unveil new ideas, innovative Administration (NASA), the Federal aircraft designs and cutting-edge

"There is something here for

believes Poberezny.

Attendance figures show that an increasing number of aviation enthusiasts are now arriving at Oshkosh earlier than the traditional Friday opening of the Convention. Because of this, EAA Oshkosh will open one day earlier. The Convention will continue through Wednesday, August 4;

The EAA Fly-in will conclude following the "State of the Association" address and presentation of the EAA Oshkosh Grand Champion awards at the Theater in the Woods.

We feel it appropriate to Also, an outstanding line-up of conclude the convention after the awards have been presented because represent significant achievements in aircraft design, construction, restoration and maintenance," Poberezny said.

Reservations for lodging or transis available in the local area.



Almost anything aviation-related can be found at Oshkosh. People from around the portation should be made in the next world come to see the many spectacles offered at the convention. The EAA Fly-in will couple months to ensure that space be held from July 29 to August 4 this upcoming summer.

McDonnell Douglas receives firm orders for its MD-11s

McDorwell Dougles Frees Fishness

LONG BEACH, Calif. -McDonnell Douglas announced that International Lease Finance Corporation has increased its firm orders for MD-IIs from five to six and its options from two to four as part of an agreement with World Airways to convert World's wide-body fleet of aircraft from DC-IOs to MD-Ils.

The long-range, wide-body MDlls are scheduled to be leased from International Lease Finance Corporation (ILFC) to World Airways, which has plans to fly three MD-lis in a passenger configuration, one as a freighter and six as convertible freighters.

Delivery of the first three MD-11 trijets into World's fleet is scheduled during 1993.

The MD-II freighter is scheduled IWO convertible freighters in 1995. The four convertible freighters under option are planned for delivery in 1995 and 1996,

T. Coleman Andrews, III,

president and chief executive officer. of WorldCorp, said, "We view this as an opportunity to modernize our fleet of long-range aircraft with a new, yet proven, airplane,

Andrews also said, "The effects of the recession in the aerospace sector, the lowest interest rates in 30 years, and the creativity of ILFC, McDonnell Douglas, and Pratt & Whitney have combined to give us the substantial economic and technological benefits of new Prattpowered MD-IIs at very attractive ownership costs.

Leslie L. Gonda, chairman of ILFC said,"The MD-II offers our leasing customers the efficiency, range, operating economics, passenger capacities and freighter variants they need to operate successfully."

Virginia, is an all-charter airline. It flies U.S. domestic and international routes to all continents.

for delivery in 1994, and the first since late 1990 with airlines throughout the world.

> 100 million statute miles and carried nearly five million passengers.



World, based at Washington The McDonnell Douglas MD-11, shown here in service with Delta Airlines, is scheduled Dulles International Airport in to replace the DC-10s in World Airways fleet of aircraft. This is to take place in 1993, when the first three jets are scheduled to arrive.

versions of the MD-11 offer customers one of the largest revenue The aircraft has flown more than cargo capacities of any aircraft flying today.

MD-11 convertible freighters can

aircraft to an all-freighter aircraft. Operators therefore can fly passenger routes on days when passenger volumes are highest and

cargo routes on other days.

The MD-II has been in service service with 14 airlines. Freighter overnight, from an all-passenger "combi" version, which provides for both passengers and cargo on the aircraft's main deck.

> It is designed for routes with generally lower passenger traffic

More than 60 MD-lts are in be re-configured quickly, often The MD-11 is also available in a expands ATC department staff to focus on

ACPA Press Holosope

ATLANTIC CITY, NJ - The Association has established a centralized Air Traffic Control Department within its Government and Technical Affairs Division because of heightened interest in ATC issues.

AOPA Government and

announced the action to the Air Traffic Control Association annual meeting in Atlantic City as "a new AOPA focus on air traffic operations Aircraft Owners and Pilots as the system begins to change for the 21st Century."

AOPA has been a leader in U.S. and international negotiations for accelerated implementation of satellite navigation services and ATC automation,

Leading the

president Steven J. Brown named AOPA vice president-Air administrative support, Traffic Control. Doug Helton, formerly director-Aviation Technical Services in AOPA's Membership Services Division, will join the consolidated ATC unit as

director-Air Traffic Control

Operations. AOPA statistician Don C. Johnson, director-Industry and Membership Analysis, will monitor ATC plans and programs for the group and Kim Johnson (no relation)

Marty Shuey has been directly responsible for action on AOPA airspace and air traffic AOPA senior vice president Brow "experience has covered avionics, charting, aviation standards, weather and frequency management."

AOPA president Phil Boyer described the association's renewed emphasis on air traffic control as adicative that the air traffic community is now approaching the key decision points on what

space-based, random access ATC system will result from new SATNAV and ATC automation technology, and how much added utility general aviation can realize compared today's constrained air navigation system."

AOPA's Brown addressed the association's position on these issues before the 37th annual meeting of the Air Traffic Control Association in a presentation entitled, "An ATC fighter. System for the 21st Century."

Lockheed to develop composites with Quadrax

Lock?road Phone Reference

MARIETTA, Ga. - Lockheed Aeronautical Systems Company (LASC) and Quadrax Corporation, a supplier of advanced thermoplastic composite materials, today announced a cooperative venture to develop a lower cost method of manufacturing a form of composite

Under the agreement, Quadrax will develop and fabricate composite materials, known as not shape preforms, by pultrusion at its Advanced Materials Systems facility in Portsmouth, R.L., using Lockheed equipment on loan to Quadrax.

We selected Quadrax because of its commitment to low cost processing technologies for preforms and thermoplastic composites, in addition to the experience gained during the six years we have worked together on C - 130 aireraft component development and on advanced aircraft programs," said Cecil W. Schneidert manager of LASC's Advanced Structures and Materials Division.

Quadrax will also use the equipment to pultrude its unidirectional and bi-directional Quadrax Biaxial Tape thermoplastic c o m p o s i t e products.

LASC is a division of Lockheed Corporation, one of the nation's top defense contractors.

The Marietta facility is responsible for developing and producing advanced aircraft for airlift and maritime patrol, and is the home of the F-22 advanced tactical

Technical Affairs senior vice department, Martin W. Shuey was will join the new team providing

Dombarler Press Paisson

Montreal, Quebec/Wichita, KS The Bombardier Acrospace Group, North America, today announced the integration of its Canadair Challenger and Learjet service center operations.

Announced jointly by Brian Barents, president and chief executive officer of Learjet Inc., and Bryan Moss, president of Bombardier's business aircraft division, this integration combines the strengths of both organizations to provide expanded service center capabilities to Challenger and Learjet aircraft operators.

Donald Grommesh, Learjet vice-president and general manager of product support, will be responsible for service center operations. Mr. Grommesh and Peter Ginocchio, Canadair's vice-president of product support, state that the new organization is designed to provide the most affective service and support in the

The expanded service capabilities will be available to all Challenger and Learjet customers at any of the previously

customer support functions including field service, service warranties, spare parts, technical support and technical publications are unaffected by this restructuring.

According to Moss and Barents, "We intend to become the most efficient aircraft service organization by offering our fleet of worldwide operators the highest level of service from a growing number of facilities. Together, we can provide our customers with the most comprehensive range of zervices available in the business aircraft industry."

Challenger service centers are presently located in Hartford, Conneticut; Tucson, Arizona; Montreal, Quebec and Munich, Germany. Learjet-owned full service facilities are based in Wichita, KS and in Tucson. Further expansion is planned in the U.S. within the next few years as the combined customer fleet continues to grow,

Today's announcement follows Rombardier's recent introduction of Learjet service capabilities at Canadair's flagship Challenger.

operated by either Learjet or successful relocation last year of its service center in Long Beach, All other Challenger and Learjet California to Tucson, where it combined Challenger service with Learjet capabilities for painting, interiors, refurbishment and completions.

> "Our customers have indicated a strong level of satisfaction with the service they are receiving in Tucson," remarked Mr. Moss. Learjet is providing excellent service in the areas of maintenance, painting, refurbishing and interior completions on Challengers,"

"Learjet also designed and built the new full-scale mock-up of Canadair's Global Express aircraft introduced at the recent NBM Convention in Dallas. It is now on an extended tour of major U.S. cities," he added.

Moss and Barents emphasized that the two service organizations share the same philosophies and mandates.

Both Canadair and Learjet are regularly recognized in independent surveys for providing excellent product support.

They added, "We're confident this new structure will further enhance service center in Hartford, and the Bombardier's reputation as the

industry leader in customer service." According to Grommesh and Ginocchio, the principal benefits to operators will be a much broader range of services available from a

greater number of facilities, They added however that customers will be working with the same personnel currently servicing their aircraft at the Challenger and Learjet facilities.

From the customer's standpoint, he will be working with the same people who have always taken core of his aircraft," says Mr. Ginocchio.

"This integration represents a progressive step towards supporting Bombardier's combined fleet of some 1,800 business aircraft," stated Mr. Barents. "We offer the industry's broadest product line of aircraft, and now we intend to offer the broadest and most comprehensive aircraft service program to compliment our growing fleet of satisfied aircraft owners."

Bombardier Inc., a Canadian corporation with 32,000 employees internationally, and annual sales in excess of \$3 billion (Cdn.), is engaged in the fields of aerospace, transportation equipment and motorized consumer products.

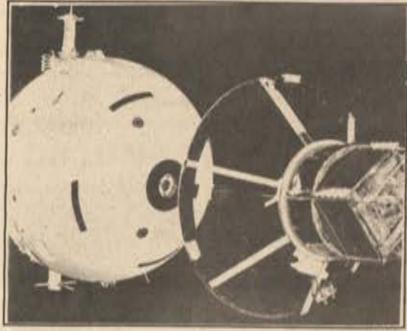
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Return this form to the Avion Office. A winner will be drawn from all correct entries received by 5:00 p.m. Friday. Two free passes to Pirate's Cove Adventure golf will be awarded to the winning contestant. The student publication staff and their families are

Last week's correct answer: Mudry Cap 10



The tethered satellite, shown shortly after its initial deployment, failed to produce results expected by scientists. The problem has been traced back to a small bolt.

Extra bolt ruined \$379 million tethered satellite experiment

By Brian Gamage Space Technology Reporter

WASHINGTON, D.C. - One small bolt installed in the wrong position doomed the \$379 million tethered satellite experiment on STS-46 last August, according to a recent NASA report.

The experiment was designed to extend a satellite on a 12-mile long shoelace-thin cord, but a bolt jammed the spool mechanism, and the satellite never got more than 850

feet from Space Shuttle Atlantis.
The 47 page NASA report examined five problems that occurred during the deployment effort and successfully identified causes for four of them. The report made recommendations for actions to be taken to prevent similar occurrences on future flights of the Tethered Satellite System.

Engineers investigating the problem found two major problems.

First, the tether-winding system,

consisting of a spool and motor, allowed too much slack cord to accumulate among the pulleys and the motor at the end of the 39-foottall tower extending from Atlantis' cargo bay.

The slack made the cord jam twice as the satellite was moved away from Atlantis.

The main problem though, was a bolt that protruded into the spool housing which prevented the system from unreeling all of the cord. The bolt was not a part of the original design parameters, but was added to the spool housing as a means of securing it to the orbiter's cargo bay after engineers determined that the original structure was not sufficient.

Terry Monrad, spokesman for Martin Marietta, the chief contractor for the \$129 million tether-handling system, said that the design change was not initiated by Martin engineers. Instead, a NASA safety review board concluded that adding

Report issued for future rescue flights
Higher prices are in store for satellite recovery efforts

Spinow Technology Eallow

WASHINGTON, D.C. - A task group, looking into issues concerning future satellite rescue and repair, says NASA should continue to perform such missions, but only when they "produce genuine benefits to U.S. interests in view of the inherent risks to the shuttle and its crew."

satellite rescue and repair should not be forfeited," said task force Chairman Dr. Eugene E. Covert. But these missions pose inherent risks to the shuttle and should be undertaken only when the benefits outweigh the risks." Covert added the authority to employ this capability should rest solely with the NASA administrator,

The NASA Advisory Council Group Task Force was established at direction of NASA Administrator Daniel Goldin, tomer for the mission. Goldin called for the study after reading an article in The Orlando Sentinel, in which it reported that the International Telecommunications Satellite Organization, Intelsat, negotiated the \$93 million price for the rescue of an INTEL-SAT satellite last May.

Chairman Covert is a professor of Aeronautics and Astronautics at Massachusetts Institute of Technology. Vice Chairman was former astronaut Lt. Gen. Thomas Stafford, USAF (ret).

The charter of the group was to recommend "a policy outlining the criteria, the design standards and the pricing model to guide NASA in assessing the responsibilities for government and non-government satellite rescue and repair missions." Summary and Recommendations

While pointing out that opportunities for performing unanticipated satellite rescue or repair missions in the future are likely to be rare, the report says the unique ability to accomplish such missions should rescue on the maiden voyage of the

We estimated that only one percent of the total satellites to be lion for the rescue, even though see Bolt, page B7 launched in the next few years will some observers though the price was

be candidates for rescue and repair," said Covert.

And while the trend for scientific satellites is for smaller satellites that do not require on-orbit maintenance, the group did say the shuttle should continue to support those science payloads designed to be serviced, such as the Hubble Space Telescope. "Flexible" approach to pricing

The report notes that if NASA "The unique ability to accomplish charged customers the full cost of a shuttle mission, the economic benefit to the manufacture, the owner or the insurer "would be greatly diminished."

> The report urges NASA to keep its satellite rescue pricing policy broad enough to accommodate U.S. government agencies and commercial enterprises as well as international government and commercial clients. Covert said the group recommends a pricing approach that would vary depending upon the cus-

> The task force recommends that non-NASA U.S. government customers pay marginal costs which NASA defines as the cost of adding or deleting a mission from the shut-

> Reimbursable customers (commercial and international) should pay the marginal cost for the mission as well as any costs up front which are unique to that mission.

"In addition to the marginal and unique costs, we recommend that if the mission is a success, NASA should receive a negotiated portion of the revenues until the full cost of the rescue is paid," Covert said. The government should not charge customers for shuttle replacement, NASA facilities or facilities amorti-

If the rescue provides significant benefit to NASA or the U.S. government, Covert said the task force recommended consideration be given to sharing costs with the customer,

Such is the case with the Intelant Space Shuttle Endeavour last May. Intelsat paid NASA only \$93 mil-



The Intelsat consortium paid \$93 million to NASA for the rescue of the Intelsat VI satellite. The satellite was successfully capture and repaired by the Space Shuttle Endeavour on May 13, 1992.

extremely cheap for the Washington continue to ensure that safety based consortium of public and private telecommunications company. Intelsat expects to earn about \$1 billion from the satellite during its 10 year life expectancy.

Safety remains top priority

The task force said NASA should

requirements are met for all satellite rescue and repair missions.

"We note in the report the Intelsat rescue mission did not have a mission manager," Covert said. "We recommend a mission manager be

see Intelsat, page B7



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V.FAST address modem's increased need for speed

standard to set high speed modem compati-

> By Joe Cambron Data Technology Editor

If you have a modem, chances are that it operates at 2,400 bits per secand transmission speed, Indeed it Enter V.FAST took years to bump up the average user's modem from 1,200 bits per second to the current entry level 2,400 bps.

For a little over \$200 (as opposed to pushed transfer speeds past reasonabout \$50 for a 2,400 bps) a modem can be purchased which will be capable of at least 9,600 bps and for a few dollars more-14,400 bps. Now ransmission rates.

The need for speed

Why there is such a need for speed, you may ask? For local phone calls, the speed difference is only a matter of convenience, but over long distance lines even the most expenlive modems pay for themselves in a

For file transfer, an average 2,400 bps modem generates a transfer speed of about 220 bytes per second, whereas a v.32 bis/v,42 bis 14,400 bps modern can pump out 1,700 bytes per second. Even during offpeak calling times, downloading a

same job in ten minutes and costs ty conditions. On a perfect line just \$1,20. Downloading just 30 megabytes of data (just five hours of use on a 14,400 bps modem) will pay for the difference in the purchase price between the two modems.

Now, the difference in price may seem more reasonable.

For years technicians from phone companies and hardware designers from modem manufacturers have complained that limits in the capa-Most people know, however, that bility of current phone lines have able limits, but now a new standard promises 28,800 bps for about

At that price, such a modem is new standard is likely to double would pay for itself versus a 14,400 bps modern in about 140 hours of use, versus a 2,400 bps modem in just two hours of downloading. Even better, prices will fall rapidly from \$1,000 to at most \$500 in the first 18 months after its introduction. Already US Robotics will offer a \$200 upgrade to its \$600 line of V.32 bis modems which will bring the modem up to the V.FAST standard.

past ones in at least one important cating moderns replace analog types. way. Its capabilities surpass the capacity of most existing phone lines. Using a complex diagnostic megabyte of data long distance costs scheme, V.FAST moderns will test about \$9.30 and requires 77 minutes. lines constantly while linked, adjust-

- Computer News: New A 14,400 bps modem can do the ing on-the-fly to changing line quali-3,400 bytes per second is possible, but most of the time this speed may be reduced by an average of 25%. Digital Communications

There is hope for full performance. Currently Digital communications networks are being established by phone companies. This upgrade will improve line quality dramatically. The fewer switches and digital/analog conversions that are necessary to complete a call, the faster the transmission speed will be.

Over the next few years, residential customers will have the option to upgrade their phone lines to digital by roughly doubling their monthly phone bill. All analog devices hooked up to the phone line will have to be replaced, however. This includes all existing FAX machines, phones, modems, answering machines, and so on. In return, customers will get the equivalent of two phone lines, full-motion video capability, and possibly such services as on-line movie rental.

All these things may seem futuristic. V.FAST is now being called 'V.LAST" because it may be the This standard does differ from final stop before digital communi-Wherever things end up, faster transmission speeds are in your future and it is definitely time to sell your 2,400 bps modem and upgrade to a 14,400 bps device.



Modems like this one are already outdated, but face another challenge to their market dominance by an all new super-fast standard.

on technology combines two products Affordable color presentati

- Software Review: NTSC and Powerpoint combine to add presenation power to IBM PCs.

> By Joe Cambron Date Technology Editor

Want to make the most unbelievable presentation possible? All you need is a couple of commonly available products. These two products are Microsoft's Powerpoint software and a product called an NTSC converter.

NTSC Power With an NTSC converter, a PC

owner may place a monitor image

on a television screen. From there it would be unnecessary anyway. may be videotaped and played back Protek Videomaster on any VCR. So what, you may say? This means you can have color pre-

If you have tried to get color overheads printed lately, then you know they can cost as much as \$20. For the cost of ten, an NTSC converter can be purchased. Limitations

However, NTSCs cannot take advantage of Super VGA resolutions. Televisions only have about 400 lines of resolution, so displaying anything above standard VGA is out standard television. Super VGA prone to interference from multi- available for backgrounds or an expensive and hard to get done.

The Protek Videomaster, though not at the technological top of the heap is inexpensive and easy to install. Priced at about \$175, this product does not require a card slot. Instead, it links into your monitor cable. Using simple software, a key combination will switch between television and monitor mode easily.

This product is lacking in several areas. It cannot display readable images both on the computer monitor and on the television simultaneously. It does not work reliably with high resolution modes. Finally, it is

sync monitors unless they are image may imported as a backswitched off.

Still, for less than \$200, the product is still a good value when compared to \$500 internal expansion

Microsoft Powerpoint

When coupled with Powerpoint, an NTSC card can make powerful presentations, Powerpoint for Windows allows users to combine images, color schemes, text, and templates to make professional quality overheads and slide shows.

Such presentation capabilities as fills, shading, shadowing and outlin-

ground. A uniform background may be applied to your entire presentation to establish a uniform appear-

Easy Color.

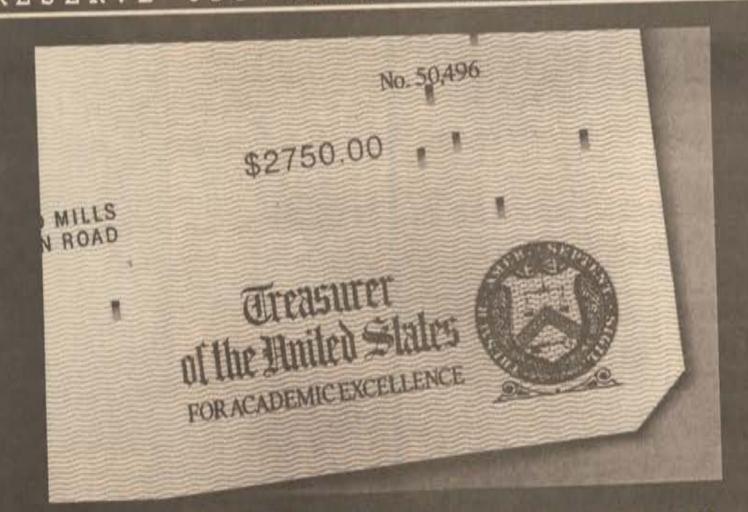
Its color overhead capability is useful, but printing good color overheads is at best expensive, if you can even find a print shop capable of accepting Powerpoint files. Using a laser printer, tiles can be printed for each color of a stide. Theoretically, these tiles can be converted to one color overheads and overlayed on top of one another to create a full are all possible for the cost of a ing are all available. Patterns are color slide. This process is both videotape after your initial invest-

With Powerpoint's slide show feature, slides can be arranged to play one after another in sequence with a variety of transition options, Using an NTSC, these slideshows can be captured to videotape. Conclusion

The result is a highly impressive video presentation that can easily have sound added as well. Television quality is not the best, but using enhanced Super VHS formats, the quality can be improved dramatically.

Color, sound and even aninmation

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R.E.M. takes up original acoustic style

By Boyd Kelly

Somewhere between departure and arrival lies R.E.M.'s Automatic For The People, I say it's in between because I'm not sure if they are expanding or just relaxing and taking life as it comes.

The first reaction I got while playing it in the Avion office was that it wasn't very upbeat and there were no shiny happy people. Does that mean that the only reason half the country has heard about R.E.M. is because of Shiny Happy People?

Well, that aside, this album is for the most part very acoustic and will be a welcome addition to the true R.E.M. fan, The album was recorded across the country in various studios during their recent travels, everywhere from Miami and Atlanta to Scattle. Of Seattle Mike Mills said, a great town, even if you don't like

"Automatic For The People," Bill Berry explains, "is the motto of a man named Dexter Weaver, who for the last 10 or 12 years has run the best soul food restaurant -my opinion- in the South, Weaver D.'s, on the banks of the mighty Oconee River, which runs through the warehouse district of Athens. That's his motto. Anything you ask for whether it be catering 5,000 or just another refill for your sweet tea -his answer is always, 'Automatic!'"

The album kicks off with my personal favorite song "Drive," which is about driving.



Mike Mills, Peter Buck, Michael Stipe and Bill Berry of R.E.M..

"The Sidewinder Sleeps Tonite," takes off on the theme from the original song "The Lion Sleeps Tonite." It just had a little bit of R.E.M. spicing thrown into it.

'Man On The Moon" and songs that tackle each other towards the end of side two. It is important to point out that the orchestration on the album was arranged by ex-Zeppelin John Paul Jones. The strings have been creeping into R.E.M. songs for a while now and are almost as surreal as their typical mandolin sound.

"Find The River" is the last song on side two and sort of makes the book end effect of countering

Naturally we couldn't have any R.E.M. and avoid politics. "Ignoreland" takes the political tone for the whole album.

"Everybody Hurts" is a nice piece. It takes on the very down to Earth style of R.E.M. and the way they

"Star Me Kitten" is difficult to "Nightswimming," are two great explain but it stands to reason, ventional "blue screen" and computbecause their titles and songs have always not quite matched.

Remember that each song was written for an individual feel and not as a complete album,

Needless to say the whole album does fit together extremely well with surprising symmetry. It is soothing and calm and seems to be over almost as soon as it starts. When you get done with it, there is a kind of yearning to hear some of the songs again, yet you would rather listen to the whole thing again.

Will you like it? Automatic!

Coppola's Dracula brings horror genre of '20s and '30s back to silver screen

By Boyd Kelly Diversions Editor

"The power of the vampire is that people do not believe he exists," says Dr. Abraham Van Helsing who, for those of you not up with your Dracula, is our savior of sorts.

In an advance screening, five members of the Avion staff saw Dracula presented as it was intended to be, the way Stoker wrote it.

Well, that is the opinion of Francis Ford Coppola and James V. Hart, who wrote the screenplay for Bram Stoker's Dracula opening Friday.

They have taken Bram Stoker's original story and followed it very closely and put together a movie that is more like Stoker's book than any other that has ever been done.

Another interesting fact is that Coppola used effects that were fostered in the '20s and '30s when Bela Lugosi was playing Dracula. There are effects using smoke, mirrors and trap doors instead of the more coner unimation,

Hart's screenplay opens in 1462, when the Romanian prince Vlad Dracula saves his country from the Turks but loses his great love, and swears an unholy oath to avenge her. Four centuries later, a young Englishman, Jonathan Harker, visits the Transylvanian castle of an old count- and the classic tale unfolds.

Bram Stoker's Dracula stars Gary Oldman as Dracula, Winona Ryder as Mina Murray, Anthony Hopkins as Professor Van Helsing, Keanu Reeves as Jonathan Harker, Sadie Frost as Lucy Westenra, Bill complete with undertones.



Scenes like this one depicting Vlad the Impaler dining among his victims bring historical background to Dracula. Campbell as Quincey Morris and

Tom Waits as Renfield. The star-studded east is an asset to the movie and in Coppola-style, is basically hand picked.

The sets are wonderfully gothic and follow Stoker's descriptions almost identically. The costumes, designed by Eiko Ishioka, are wonderful and fit Coppola's declaration

The cinematography is excellent and the color is wonderfully vivid,

that "The costumes will be the set,"

If you like the basic theory that Dracula really is a "true love" story, then you will probably enjoy this movie as much as I did. If you liked Stoker's original book, likewise, If for some reason, you think that Dracula should be done like The Lost Boys, then you will be out of

Go out and give yourself a triskadecophobic treat this Friday and see Dracula and I'll be back next week to give you a little more history and tell you about the books,

CLARKE'S CORNER:

Passenger 57 is stranded at gate

By George Clarke Diversions Movie Critic

In the world of Wesley Snipes, white men can't jump-and in his new film, they can't hijack a plane worth a darn, either,

Everybody's favorite celluloid coundball busiler, fresh from White Men Can't Jump and Jungle Fever, is back in the new flick Passenger 57. It's a kind of Die Hard at thirtythousand feet. Is it as good as it looks? You'll find out in a second. First, listen to my lengthy plot

Snipes plays a retired airline security agent named Jack Cutter. Why is he retired? Because his girlfriend was killed in a convenience store robbery awhile back. You see, she was at the register, he was in the potato chip aisle, and the thug was in between. Bad guy grabs girl, good guy pulls gun, bad guy grabs gun and points it at girl, good guy hesitates, bad guy blows good guy's girl's brains all over the magazine rack. Happens all the time. This really bothered Cutter, so he quit his job. Now he just stays in his apartment with the lights off and

works out on his Soloflex. All day. Anyway, Cutter's friend Sly (an airline executive and old coworker) convinces him to come back to work, partly because airline terrorism is supposedly on the rise, planes are blowing up, innocent civilians are dying, and Cutter is think mostly because Cutter needs a source of income to finance his

Flex-Fire weight-training aids.

Immediately upon re-entering the airline security business, Cutter is called to Los Angeles to deliver a dissertation to executives on the state of international terrorism and, I suppose, its relationship to Rich Gisparic, world champion body builder). But guess who's on the flight to L.A.? No, not Gisparic. Charles Rain, that's who-the most infamous, the most vile, the most wretched of all the airline terrorist guys. He's on his way to Los Angeles for a trial; he is being scorted by some FBI guys.

During the flight, he gets loose-with the aid of several of his Bad Guy friends. Cutter is caught with his pants down-he's in the bathroom when the terrorists take over-so be has to use his guys. The action takes place almost entirely on an L-1011.

of those old clichés we've come to expect in films of this type-for instance, the good guy has a ghostly problem from his past that he has to overcome (Cutter's screw-up at the 7-11); every word that falls out of Rains' mouth has been uttered by every manic-depressive psychotic insane crazy fruit not that ever appeared on film. And the story itself seems to have been lifted straight from Die Hard. Can you get away with something like that? The FBI guys who escorts Rain on the best man for the job-but I the plane must be pretty dumb too. I could spot the terrorist stowaways from miles away. Every one of purchases of Mega-Mass 2000 and them has that European look, with

those shifty, evil eyes and hair so slicked back, it looked as if they used 30-weight oil for mousse, Plus, whenever they walk by. sinister music would play. That's a dend giveaway.

If you're wondering how one man can avoid getting cornered in an airplane (after all, it's just a big bus with wings-I mean, where can you go?), the writers of Passenger 57 have gotten around that problem, too. Snipes crawls into these magic doors which apparently yield access to any part of the plane he wishes to go, I was surprised not to see his head pop out of the ladies room toilet ("Sorry ma'am, wrong turn...nice tattoo.")

But I can't sit here and slam on the picture that much. It was cute. Snipes has some good one-liners, cunning to somehow get these and the action is pretty good at times. There are a few minor characters that are almost endearing, The script is pretty lame. It's full tike the Louisiana sheriff and the little old lady who manages to convince everyone on the plane that Cutter is actually Arsenio Hall in disguise,

Yeah, the terrorist in the jetblack suit-who suffers the inevitable fall from the plane at thirty-thousand feet-looks humorously similar to Mary Poppins as he tumbles kicking and screaming to his death, but it sure is fun to watch him drop. Taken at face value, Passenger 57 isn't totally stupid. It's just mostly stupid. It's a good matinee; see it with someone you love.

See it with Rich Oisparic.

Young At Heart appeals to the kid in all of us, no matter how old you are

By Boyd Kelly **Observious Editor**

If you are a pops fan, or just enjoy children's music or really liked children's music while you were growing up, then this one is for you. Erich Kunzel and the Cincinnati Pops Orchestra have released a new album called, Young At Heart.

The disk runs over an hour and contains some of the greatest childhood memories from just about all of our lives, from the Muppets to Charlie Brown to Mother Goose.

The album starts off with "Sing (Sing A Song)/I Believe in Music followed by "I won't Grow Up" from Peter Pan. The chorus is provided by the Cincinnati School for Creative & Performing Arts.

"I'd Like To Teach the World To Sing" comes next and is an excellent bridge into the "Medley of Famous Cartoon Themes." These start off with the Looney Tunes Theme and includes the themes from Mighty Mouse, Felix the Cat, Popeye, Casper the Friendly Ghost, Rocky and Bullwinkle, Magilla Gorilla, The Flintstones, Yogi Bear, Woody Woodpecker, The Jetsons and The Simpsons, not to mention some wacky sound effects.

"The Doggie in the Window" and the "A-B-C Song" comes next,

From The Land Before Time we get, "If We Hold On Together." This is followed by one of the

most famous songs from Charlie Brown history, "Linus and Lucy" is an excerpt from A Charlie Brown Christmas.

The "Mother Goose Medley" mkes us back to the likes of "Itsy

Bitsy Spider," "Humpty Dumpty" finishes up the album and is sung by and "Mary Had a Little Lamb" to

The next three were Muppet songs and a big hit in the office. We have "The Muppet Shoe Theme," "Movin' Right Along" and "The Rainbow Connection.'

"People in Your Neighborhood" from Sesame Street adds to the Muppet influences and is sung by

Bob McGrath,

Night Court favorite Mel Torme, This is a great album for the kid

in you and a wonderful testimony to the great and short time we all spent

This is an album that will continue on into generations of children The songs we learned as children will always stay with us.

Besides, how many of you could forget Kermit sitting in a swamp and

"Young At Heart," the title track, singing "Rainbow Connection?"



Erich Kunzel and the Cincinnati Pops Orchestra take us back to the songs that made growing up fun.

AC/DC releases first live recording in 14 years

By Boyd Kelly Diversions Euleur

AC/DC have been at it a lot longer than I had realized, ACIDC Live is their fifteenth release and encompasses their 1990-1991 world tour that covered twenty-one countries and one hundred and fifty-three

Many of you who have been listening to the radio are already familiar with the first live cut that has been on the Top-ten lists, "Highway To Hell.

The rest of the album is just as good and is also a nice compilation of their great hits.

Side one is more of the newer stuff while side two takes you back to the older stuff and what you would expect to hear in an encore type environment.

The tape kicks into it with the power hiner "Thunderstruck," which

was the first release of their 7 million plus selling The Razors Edge.

With a full blown Angus stomp we jump into "Shoot To Thrill," everpopular "Back In Black" and Maximum Overdrive favorite "Who: Made Who,"

Next we blast into "Heatsecker." "The Jack" and "Moneytalks."

Side two is my personal favoritejust because it is straight forward

The all too familiar chiming of church bells brings in "Hells Bells" followed by *Dirty Deeds Done Dirt Cheap," "Whole Lotta Rosie," "You" Shook Me All Night Long. "Highway To Hell" and "T.N.T.."

Naturally the last song on the album and the epitome of encores is For Those About To Rock (We-Salute You)."

From the mid-70s they have been rocking the world and this is the short version. Grab it.

Megadeth and Suicidal Tendencies storm Lakeland

By Boyd Kelly Diversions Entor

Vic Rattlehead was well represented on November 1st at the akeland Civic Center for the Suicidal Tendencies and Megadeth

I was late and missed Suicidal but was just in time as Megadeth came out on stage, but first a few words sbout the venue.

One of the first things I noticed sbout the Lakeland Civic Center was that parking was free. The second hing I noticed was that there was a nuge area roped off on the floor for handicapped people. This was a really cool addition. Third, and most noted by fans, was the large cups of water they handed out at the front wall for all the hot fans. Many of hese fans had been at Lollapaloza his year where they barely threw mough water on you to get wet.

Well, like I said, I didn't get to see Suicidal Tendencies because I was late. I was late because I got off a plane from Chicago at 6 and into a car and headed for Lakeland on the other side of the state.

I didn't see them, but I know they put on quite a show because the crowd was really fired up. If you have spent a lot of time in the pits at shows then you know whether or not an act has been good. Of course, the whole floor was a pit because it was general admission.

Megadeth was firing up their act as we walked through the doors and we were greeted to the all-to-familiar sound of music Megadeth style.

They played a good mix of songs from Rust In Peace, Peace Sells ... Bus Who's Buying, and Countdown To Extinction.

The crowd was most riled up by newer songs like "Symphony Of



Marty Friedman plays at lightning speed,

Dream" and "Sweating Bullets." Other favorites of the night included "Hanger 18" and "Peace

The biggest treat of the night was Destruction," "Foreclosure Of A the second encore where they played Sid Viscous and Johnny Rotten.

"Anarchy U.K." by The Sex Pistols. This left the young MTV crowd a little lost but was a big pleaser for those of us who are well and truly familiar with the rebellious sound of

Calvin and Hobbes

by Bill Waterson Far Side

by Gary Larson





IT SAID A CODED LETTER WOULD FOLLOW! MAYBE IT

WILL ARRIVE TODAY! I

CAN'T WAIT TO GET HOME AND SEE!







A SPY! I'M SO GOOD AT FIGURING OUT WHAT'S

GOUNG ON!



Final page of the Medical Boards

Thor's hammer, screwdriver and crescent wrench

New Take this granite, bowl. It was dup up not for from here and Drobably dates back to... on I'd say early July



I'M HOME! IM HOME! DID OH BOY, HOBBRS, THIS IS IT! THIS IS THE CODED DECIPHER



BIZARRE SKULL PRAWING

THE CUT AND PASTED LETTERS

THE CODE _ ALL THAT SUSPENDE



WHAT KIND OF DEPRAYED

MANUAC WOULD GO TO SO

SAN F I WONDER WHO

IT'S IN COOK ?

SAYS, CALVIN HAVE STICKET ADMIRE P.S. 5 A PORRIOGE BRAIN! IT'S YOU HAVE A DETRACTOR INSULT. MACTHER LETTER

CLUE IS THAT

THE THISTED



Early archaeologists



AND MYSTERY FOR AN INSULT

MUCH TROUBLE P. RRRIGHH I MISH I KNEW WHO THE MYSTERY MHO

DITTPENS



FOR YOU

CAUTINE HOW



OKAY, FLEAS ... HOP OFF, I'LL BE BACK AT FIVE ...

The toaster divers of Pago Pago

LOCK HOBBES THE SKULL! THE SECRET INSULTER.

SLUEP

Outland



GOING TO GET AN INSULT IN THE MAIL EVERY DAY FOR THE REST OF MY LIFE FO



TO TRACE THIS LUNATIC



by Berkeley Breathed

Mutants on the Bounty

by Mike Peters Mother Goose and Grim

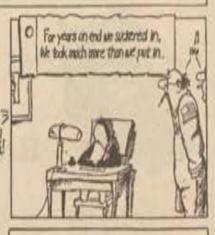
THANK GOD FOR DAY CARE CENTERS, SCRATCH SCRATCH



And boy, I'll bet we won't regret That we told them to For the debt















Aerospace Society

By Joshua Mussaf Click Historia

Congratulations to the new officers of the Embry-Riddle Aerospace Society for the 1993 calendar year, They are:

President: Stephanie Perkins Vice President: Ronald Hess Treasurer: Alicia Coulombe Secretary: Bric Sorion Historian: Joshua Mussaf

Tonight we will be hosting a guest speaker from Lockheed Space Operations Company, Dr. John Williams will speak on the role of Lockheed in space shuttle operations at the Kennedy Space Center. Tonight's meeting will be at 7:00

p.m. in room E-611.

Next week we will host an Embry-Riddle graduate who currently works at Gulfstream Aerospace.

In two weeks, on November 25, we will be having our final meeting of the semester and we will be giving out awards for our points-forprizes accumulated throughout the

For those of you who will be here president, Brian, will be hosting a Thanksgiving gathering, with turkey, stuffing, and all the trimmings cooked by our illustrious new

And finally, those beautiful club T-shirts are still available for only

Don't worry, everything will be back to normal now that I'm back and the articles will flow smoothly

Everyone apparently had a good time at the Halloween party while I was out of town and there are some pictures floating around if you

Nobody could have foreseen the rid of them.

I think that formal will go extremely well this weekend. Catch organization had the raw strength, up with Travis if you have any ques-

you or your friends didn't get one, see Dan Turner.

rain this weekend, but I still don't understand why we couldn't sell our Bratwurst! Oh well, thanks to Morrison's we should be able to get

tions or comments.

Save your extra money for the

Semper Fi Society

By Daron Hool

Daytona Beach, Fla. The first annual Inter-Service Field Meet of Embry-Riddle, held on October 31, was won by the Semper Fi Society. **Outstanding Marines!**

For those of you who missed the beating that the Semper Fi Society handed to the other services here on for Thanksgiving, our out going campus, here is a brief run down of the way it went.

After the first five events, the Semper Fi Society was out in front of Army ROTC by four points.

The club then began to stagger in the volleyball competition and Charlot race, somehow allowing Army ROTC to close in on the once untouchable lead. This, however, was not to stand.

The final event of the day was the Tug of War. The event where the men are separated from the boys.

This event would decide the winner of the whole day's events as well. Although the Naval Aviation Club, and Air Force ROTC gave it their beat shot throughout the day, they would not be a factor in the deciding event of the competition.

It was now a question of which

By Jason Piper

Historian

talking with them you can't help but be green with envy. It just shows what a determined Rho brother can

Darren Hool,

courage and determination to win

this field meet ... The answer was not

Army ROTC. The Marines pulled

their way to an easy victory and took

all those in charge of their detach-

ments and clubs who rallied their

men and women to make the Field

Army ROTC - Hilton J. Nunez.

Air Force ROTC- Bridgette Smith,

Naval Aviation Club- Eric Heizer

and a special " OOh-RAH" goes out

to Cleve McFarlane, from the

Semper Fi Society, who for the most

part, put this whole thing together

the days events for the Semper Fi

Erin Martin, Eric Hurley, Mark

Larson, Mike Brunnschweiler,

Charles Bell, Ben Buerke, Doug

McFadden, Reinaldo Morillo, Jame

Denny, Mark Bosley, Julito Drake,

Dave Shultis, Tyson Kennedy,

Cleve McFarlene, Ron Brand, Frank

Rodriguez, Steve Stormant, Chris-

Dever, Nick Marciano, Woodster

Woodward, Frank Farmakis, John

Moore, Sean Long, Mike Redd,

Angel Alvarez, Martin Stastney and

on a huge boat. Everyone had a blast,

even the people hanging over the

side of the boat. We survived the

night with no personal damage and

pledge class for their excellent plan-

ning and creativity. Regretfully, the

alamni didn't make it to the dock on

time to catch the second tour. I guess

even though they are alumni, they

still run on the same "rho time"

schedule. They got held up at the

A big congratulations to the

minimal damage to the boat.

This reporter would like to thank

home the trophy.

Meet à success:

and ran the show.

accomplish. We're looking forward This week has been an outstanding one for the brothers of Alpha Eta to seeing you all at ritual. The Beta Nu pledge class threw an Rho. A number of alumni brothers excellent party for the brothers. We were in town for Homecoming '92. spent the night cruising the Halifax

Scott Roper, graduate of the class of '87, is currently based in Atlanta with Delta. Scott is a Flight Engineer Joe Elm, who is a graduate of the

class of '85, is currently employed with American Eagle. Joe is based in Chicago and flying ATR-42's. Pat Aversa, a December '87 grad-

uate, is a DC-8 captain for Arrow Air out of Miami. Tom Starkey, also a graduate of

Class Council will be on Tuesday, at the class of '87, is based in Michigan All of the brothers that got to

alumni dinner. Remember pledges: ritual is spend time with the guys learned a approaching fast, don't processinate. lot from them. After a few minutes

By Nicole L. Malloy Public Attains Officer

Air Force R.O.T.C.

The cadets of Embry-Riddle Aeronautical University's Air Force ROTC Detachment 157 received a rare privilege Tuesday night, October 27th.

Retired General James R. McCarthy, president of the local Air Force Association Chapter, attended and spoke at an Arnold Air Society meeting. The meeting, normally closed to nonmembers, was opened to the entire cadet corps so that all could be challenged by General McCarthy's words.

During his twenty-eight years in The warriors who participated in the Air Force, General McCarthy served in various Command and Staff assignments.

> In addition to a tour in the Air Staff, he also served in the Joint Chiefs of Staff. He flew over seven thousand hours in bomber, fighter, and transport aircraft during his Air Force cureer.

> During his four and a half years in Southeast Asia, General McCarthy flew over twelve hundred combat

In December 1972 he was awarded the Air Force Cross, the nations second highest award for valor, for leading the largest bombing raids in history against heavily defended targets in the Hanoi area. These raids were responsible for freeing our prisoners of war.

In addition to the Air Force Cross, General McCarthy was awarded the Distinguished Service Medal with one oak leaf cluster, the Legion of Merit with one oak leaf cluster, the Distinguished Flying Cross with one oak leaf cluster, the Air Medal with twenty two oak leaf clusters, the Bronze Star, the Vietnam Service Medal, with eight battle stars, the Republic of Vietnam Cross of Gallantry, and the Vietnamese Air Service Medal.

After hearing about General McCarthy's accomplishments, the cadets were listening intently to what he had to say.

General McCarthy told the cadets about the history of Air Commandos in Vietnam. They were the behind the lines fighters supplied by Air Operations. He was specifically talking about Project Jungle Jim, which

took place in the 1960s. He shared some amazing details of what those pilots went through in order to get their planes on and off the ground.

The commandos had to land on an extremely narrow airstrip. The pilots, had only one foot of pavement extending past their landing gear oneither side of the aircraft. Normal runways extend at least twenty yards past the wing tips on either side of the largest aircraft using that run-

Not only did the pilots have to land on an almost nonexistent runway, they also had to deal with the expansive forests surrounding the runway. On each end of the runway, there was a wall of one hundred and fifty foot trees. This meant that the landing pattern had to start high, with a quick dive, and level out right before touchdown.

Taking off was just as difficult." The pilots had to keep the aircraft perfectly straight while taxiing, so they would not go off the side of the runway. They then had to get the aircraft off the ground quickly, or face a solid wall of rubber trees.

What made this situation even. more dangerous was the incessant fog. In order to land while the airstrip was hidden in the fog, one pilot would fly above another who was on final approach. The pilot above had a better view of the runway because he could see straight down, while the landing pilot could only see straight ahead. After the first pilot was safely guided to the ground, the other pilot had nobody to fly above him to guide him in. In order for the last pilot to land, the pilot on the ground had to listen for the landing pilot's engines and direct him by saying "left" or "right".

Few people have the courage and motivation it takes to accomplish this type of warrior mission, General McCarthy is one such man. His warrior spirit and dedication to the service of our country are evident in his life even after retirement.

The cadets walked away wanting to strive for excellence and to see their own warrior spirit and motivation show through,

We can find that same courage and dedication within ourselves, There is a warrior inside each and every one of us. Him noth-parts

By Boyd Kelly Walling for my-417 Prog

A good number of shirts are left if trip, It should be fun,

By Dave DeFossey

Well seniors, here it is ... ONLY FIFTEEN (15) MORE CLASS DAYS UNTIL the unemployment, uh... Graduation line. Now is the time to grab the horse by the., reins and morm into the final weeks.

The Senior Class Council is working diligently to get everything ready for the big party! T-Shirts are on the way for sale and the spirit is

There is the car wash still planned three more tentifively scheduled as well. Be on the look out! We need as mich help as possible so pull off a

Senior Class Council successful fundraising bid.

Homocoming was hopefully a success. The senior class did partake in selling soft drinks (soda, not pop!) in order to raise some more money for future events.

A discount hotel/motel guide is in on 727's. final production and copies should be mailed soon.

Various hotels and motels as well as restaurants and attractions offer discounts to Riddle students and guests during the graduation week-

The next meeting of the Senior for this Saturday. There are also 8 pm in the old career center room and flying Dash 8's for Mesaba. in the U.C. All are welcome to

See ya there!

Drinking and driving can not only cost you your life but

Don't throw it all away.

also your career.

Call a friend, a taxi or C.A.R.A.L.

A public service message by the Avion. We care about our student population.

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78 Honda motorcycle CB 750, Black, 13,000 miles, rous great \$500 or best offer. Call destria 258-2890.

+ Roommates

Female roommate wanted. Townboma located 2 miles from campus, \$215 per month, 1/2 electric and phone. Call Beth at 322-7604 and leave a message.

Roommate wanted- Looking for mature & clean male or female to share beautiful, new bedroom house 10 minutes from ERAU. Includes own room, washer, dryer, A/C, cable and nice quiet neighborhood. \$350/month. Utilities included. Call Dennis 788-8276

Roommuse needed to share 3 bedroom, 2 1/2 bath town house 2 miles from campus, Kitchen, living & dining rooms, \$200 a month plus 1/3 utilities, Call 248-2962 and ask for Chris or Pete or leave messagn.

Room for rent in newly restored Halifas River home. Share with other students. \$280 inclusive. Call 253-2513.

Efficiency for rest-\$60/week, all utilities paid- in private house of IRAU student rivate entrance - separate kitchen And bathroom, 315 Cedar St. (n ear Ridgewood and Bellevue) Call Chris at 255-8350.

Femile roominate wanted for Spring. Own bedroom, rent \$142 +1/3 elec and phone. Call Maliana 760-9586

+ Misc. for sale

New furniture. I twin size bed with box. spring 550. 1 love seat (Brown) 550. Must sell, Call Ted 322-1494.

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Sailboard-12 ft. Kerma beginner's board. 2 sails-5m sq. learning sail and 7m sq. speed/light wind sail. Clip-on boom, 16 ft mast, retractable centerboard. Jerry 756-7965 or box 6595.

Camero fender, Left from fits 1968, Excellent condition, no rest, 1 small ding \$30 O.B.O. Gary, Diego or Jerry 756-7965.

Super Nintendo for sale, Includes TVconvener, AC adapter, control box, one controller, and a super R-type game. Contact Mike at 226-7566. \$120 or best offer.

Pool table: everything included, even a Lamp. Does't miss this cluster, act now. Price: \$490. Call Ron at 756-4248 now. Yes now.

For sale -6'-2" Santa Cruz Taylor Surfboard. Asking \$100. Call dennis at 226-7340

CD's for sale. Metallica, Venom (live), Iron Maiden, Slayer, Megadeth, "Shocker" soundtrack. \$7.50 each. Call 248-2962 and ask for Peas.

For sale - 3" disks with the names, addresses and phone numbers to all U.S. regional and commuter sidines. Spreadsheet layout print merge function onto cover latter. 1992 current information. Call 760-1698.

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+Personals

DUSTIN IL I'd like to help her, but usuit she finally returns from fantasy land anything I say, saything I do, wen't mean anything. Perhaps your friend will map her back, although he is very frustrated by her lack of self will. He knows there is nothing wrong with her, became if there were she would not know it! He wants to be her rock, but he cannot until she throws away the pebble! He shouldn't have to go through this for one person! But, he's entry for her.

FLY DUDE Just a happy note for my being them for me through all this cruzy "@"1. By the way, I plan to win our bet. FLY GIRL

Thanks for the special treatment.

Great job guys! All that hard work paid off. Thanks a million, Patty.

SPANISH HYDS: Pleasez, don't go! One and a half months and you're free to make or break an airport... everyone deserves a personal. THE ONE WHO WATCHES THE SALT

You are the most romantic, sweetest, everloving boyfriend in the world. And I love you . . . soooo much (thump) I cannot measure it.

Long Live "Blue" The Mouse!

Ready to feel like a queen again? This weekend will be explosive! Plenty of fun and bot fodge sundans (mits are optional). I love you. Remember 57. WIGGLE WORM

If the ploral of cacros is cacti, is the ploral of doofus "doofi?" You be the judge!

Toonoesf Look out!

Why do psychics need to adventise their conventions? You'd think that they would know!

You know that fifth Hitchhiker Book makes my hardcover bound four book trilogy Chanletel Wasaah!

TO THE WOMAN IN BLACK Nothing like warm color over cold black and white. Hope we can do it again soon. AN OLD FRIEND

MAL

Sorry about messing with your section. It is just that some very important things were overlooked, in more ways than one, Monday JAYCE

GREEKS & CLUBS

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Notices

Attention all December graduates

Graduates will be held in the Student Center at 8:00 p.m. on Monday, November 23, 1992. Since plans, creating environments for there is no rehearsal for Graduation, innovation, product cycles, and it is very important that you attend. strategies for successfully introduc-Important details pertaining to ing new business and services from Graduation will be reviewed. Voting for the Faculty & Staff Appreciation Awards will be conducted, The Graduation announcer will be present to rehearse names that are difficult to pronounce.

If you are unable to attend, please stop by the Student Activities Office in the Student Center,

Dr. Sliwa to teach new class

This course will study the key success factors in initiating business

enterprises as "start-ups" as well as from within large corporations. Lectures will be supplemented by guest speakers who have successfully launched businesses. Topics will The final meeting for December include business growth cycles, marketing studies, financing of new businesses, preparation of business

within large corporations. Students will be organized into study groups for preparation of weekly assignments. Students will be evaluated on group preparation notes for cases, group summaries of speakers, class participation, and a final paper or final examination, Students seeking graduate credit will submit a case study based upon one of the speakers as a group project.

Prerequisites: The class is open to undergraduates with at least junior standing and graduate students of all majors with an interest in entrepreneurship. Oral and written

communication skills must be demonstrated to be above average. Permission of ABA graduate program chair is required.

New scholarship opportunities

If you are a Florida college atudent who support yourself through ctive at your college and in your community, then you may have a chance at winning a share of more than \$30,000 in scholarships and prizes in the sixth annual "Florida College Student of the Year" award.

For Application information, please send a self-addressed, stamped, business-size envelope to" Florida College of the Year" award, c/o Florida Leader magazine, P.O. Box 214081, Gainsville, Fla. 32604-2081. All applications must be postmarked by February 1, 1993 to be eligible. If you need more information or have specific questions about

the award or eligibility requirements, please call (904) 373-6907.

New student loans available

To further assist sons and daughters of members of the uniformed services in obtaining a college degree, The Retired Officers school, makes superb grades, and is Association (TROA) has increased its Educational Assistance Program to provide \$2,000 annual, no-interest loans. The loans, increased by \$500 over the last two years, are awarded for up to five years of undergraduate study to unmarried undergraduate students, under the age of 24, who are dependent children of active, reserve, and retired service personnel and their widows(ers).

This current school year, 700 students were awarded loans, totaling over one million dollars, From this group, based upon their academic records, participation in extracurricular and community activities, 142

students received special \$500 grants in addition to the loans, All those who were awarded loans were automatically considered for the

grants.

Educational Assistance applications for the 1993-94 school year will be available after November 1. 1992. Applications should be requested by February 15, 1993, and the completed application must be Educational Assistance Program Administrator (09D), 201 N. Washington St., Alexandria, Va. 22314-2539.

Attension SWE members

As organization meeting of a Student Chapter of the Society of Women Engineers will meet in Room W306 on November 5 at 1:30 p.m. Any student may be a member but 50 percent must be women engi-

neering students. Please attend this meeting. For more information see Mary Gurnee in Room A110, Ext. 6647.

Trip to St. Augustine

The City of Daytona Beach recreation Department is bosting a bus trip to St. Augustine on Nov. 19, 1992. The sightseeing tour of our postmarked on or before March 1, oldest city will be on the new train 1993. For applications and more named "Of Henery" after Henery M. information, write to TROA Flagler, Of Henery covers 7 miles of interesting restaurants, shops and points of history with on and off priviliges at major attractions,

The cost of the bus trip is \$10 and must be paid in advance at the Daytona Reach Recreation office on Orange ave. The bus will leave Penbody Auditorium at 10 am and will return at about 3 pm. The price of the train is \$9. For more information please contact Judy from Daytona Beach Recreation at 258-3106, or Janet from Peabody Auditorium at 258-3169

Celebrate STUDENT **EMPLOYMENT** WEEK! NOVEMBER 16 - 20. 1992

Intelsat

(continued from page B2)

named as soon as NASA has accepted a mission, and this person should be responsible for all aspects of preflight mission execution."

The report also recommends added emphasis on training and the upgrade of EVA (extravehicular activity, "spacewalk") including use of state of the art EVA tools and training methods. Also noted was the forces of gravity and friction, which makes it difficult to simulate the weightlessness experienced in outer space.

It also calls for the maximum use of individuals with previous experience, both internal and external to

Bolt (continued from page 82)

support to the housing would be the best alternative to changing the original designs, which would have delayed the August launch. "They came up with what they thought of as a pretty innovative fix," said Darrell Branscome, chairman of the investigation board.

The report outlined two snags during deployment and retrieval of the satellite. The first occurred when the crew immediately began satellite the satellite was at 735 feet. These a successful mission. two stops were due to slack that developed in the tether at a point where it moves between one pulley ones who designed the winder

NASA, to help ensure mission safety and success.

None of the four astronauts aboard Endeavour had spacewalked before their mission in May.

Risky business Covert said one of the most important findings that came out of the study was the risks of performing these types of missions. Noting that rescue missions on land or at sea are not always successful, the committee recommended NASA remind the public of the risks associ-

ated with rescue missions. "There may be times in the future when NASA is not successful in rescuing and repairing a satellite. That does not mean the total, overall shut-

tle flight was a failure," he said. Covert said the extensive plan-

"The crew found a way to procedurally get around this slack problem," said Branscome, "In both cases the jamming was overcome. By itself, this problem would not have prevented us from fully deploying the satellite,"

Two other stops, one at 587 feet and the other at 840 feet, were a direct result of the bolt protruding into the reel housing. The experiment was terminated after mission controllers determined that time constraints and the risk of permadeployment and the second when nent jamming were not conducive to

> The engineers who designed the structural modifications were not the

ning and training that must be done to prepare for and carry out a complex mission such as a satellite rescue and repair can possibly provide valuable information that will Lenfit space operations in the future

ences and information is gare from disciplined execution of ca fully planned experiments." he said

"But the most valuable ax,

The report released last Friday does not address NASA's general pricing policy for shuttle payloads, which has allowed other countries; space agencies to use the shuttle at discount rates.

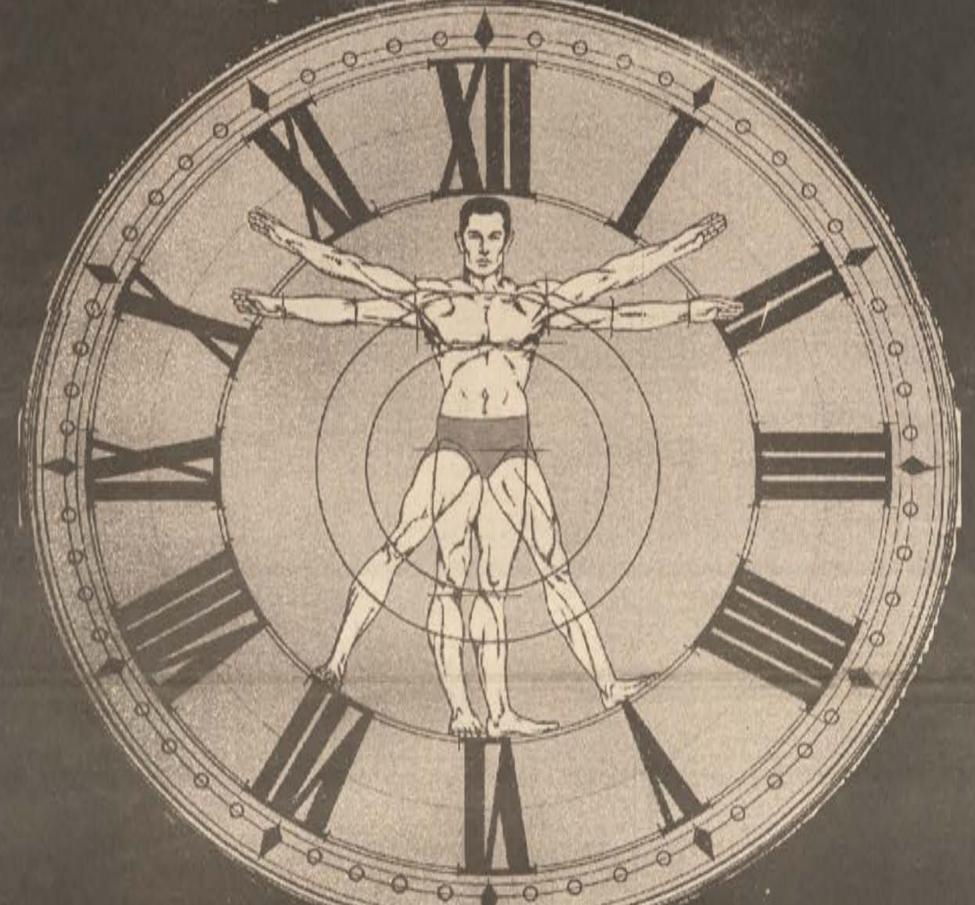
For example, the Japanese space agency paid \$47 million for its share of the September Spacelab mission of Endeavour, even though the actual cost was closer to \$215 million.

mechanism, therefore they were not the ones most familiar with its operation. This change should have been discovered by the review process, the report said.

The experiment was designed to generate 5,000 volts of electricity as the cord passed through the Earth's magnetic field. No one at NASA's Marshall Space Flight Center could affirm a future flight date for the Tethered Satellite System, but Monrad remains hopeful that NASA will decide to give the experiment another shot.

"It was installed in the blind," Branscome said of the troublesome bolt. "If it had been three-eighths of an inch to the left or right, we never would have known about it."

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