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Inside Section B

Aeronautics.....B2
 Classifieds.....B7
 Clubs.....B4
 Comics.....B5
 Mechanical Technology.....B3

SPACE TECHNOLOGY

Gravity assist from Jupiter sends Ulysses toward the sun's poles

by Joshua S. Mussal
 Space Technology Reporter

Sixteen months and 617 million miles after launch from the Kennedy Space Center aboard the Space Shuttle *Discovery* on October 6, 1990, the Ulysses spacecraft has reached the planet Jupiter.

Ulysses will use the planet's gravity to swing out of the ecliptic plane and onward to the poles of the sun, a region never explored by any spacecraft.

Ulysses will accelerate as it nears Jupiter's northern hemisphere, but will not be captured by the planet's gravity.

Instead, Ulysses will skim by the planet at a distance of 6.3 Jupiter radii, about 280,000 miles from the planet's center.

The closest approach occurred on Saturday, February 8. Ulysses

dove down at an 80 degree angle to the ecliptic plane in which most of the sun's south pole was visible to carry out its primary mission.

Ulysses will arrive at 70 degrees south solar latitude in June 1994. The spacecraft will spend four months studying the sun's southern polar region, then cross the solar

equation in February 1995 and begin a four-month pass of the sun's north polar region that June. End of mission is scheduled for September 30, 1995.

During its passage by the sun, Ulysses will study three general areas of solar physics: the sun itself, magnetic fields and streams of particles generated by the sun and interplanetary space above the sun.

In addition to sending Ulysses toward its primary mission, the unprecedented maneuver about Jupiter presents scientists with an added opportunity to investigate the

region of space dominated by Jupiter's magnetic field, called the magnetosphere. Science experiments will attempt to examine the interaction of the magnetosphere with the solar

wind, a stream of high-energy particles emanating from the sun, and study various phenomena within the magnetic bubble.

Scientists know from previous passes by the Voyager and Pioneer spacecraft that the outer, middle and inner regions change over time. The experiments will study the structure

and dynamics of Jupiter's magnetosphere.

Ulysses' complement of nine instruments will return data from regions never before explored as the spacecraft flies past Jupiter at high latitude and in the dusk region, the side of the planet that would be seeing sunset.

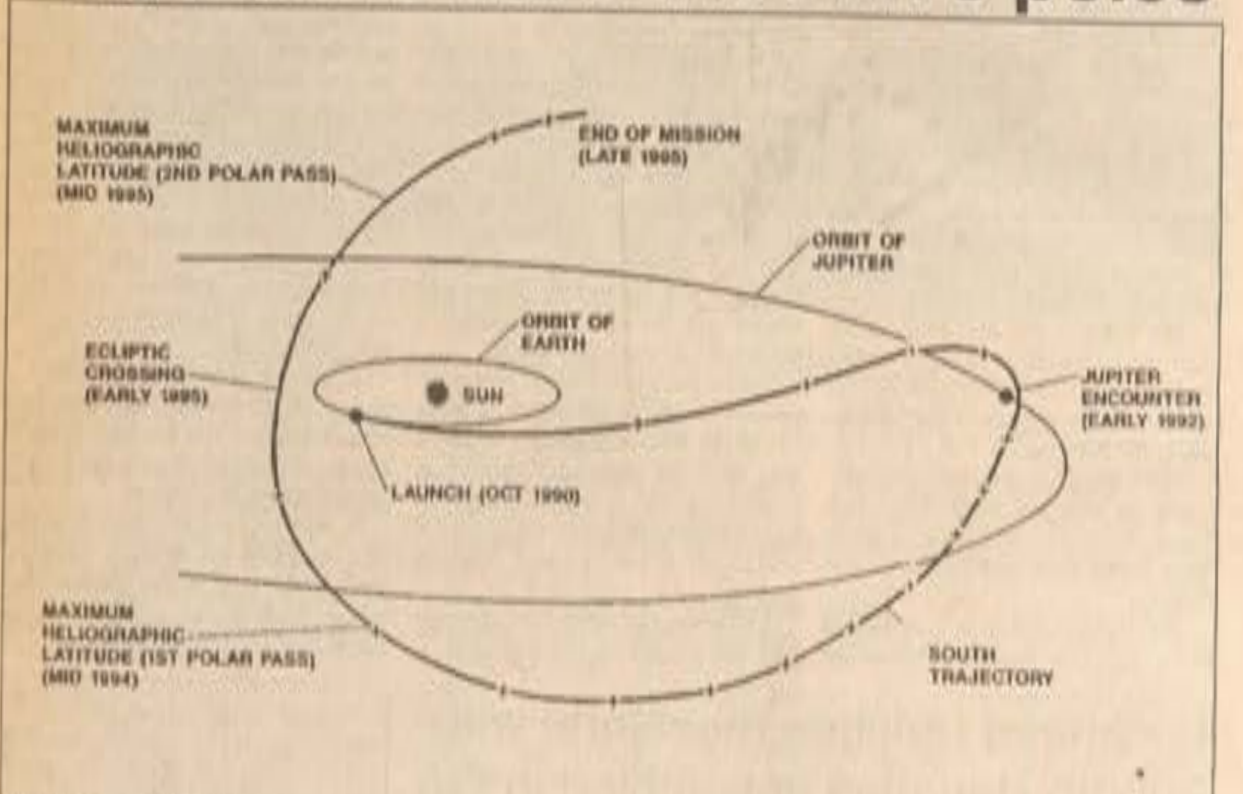
The region, however, is a hostile environment of charged particles and radiation. The intensity of radiation trapped within Jupiter's magnetosphere poses certain risks for the spacecraft as it flies past.

"It's a risky business for any spacecraft traveling through Jupiter's environment, but we needed the gravity assist of Jupiter to achieve our polar orbit around the sun" said Dr. Edgar Page, ESA science coordinator at the Jet Propulsion Laboratory.

Should Jupiter's radiation environment prove too harsh, Ulysses is programmed to shut off its instruments and enter a "safe mode" to protect itself for its primary objective of studying the sun.

The radio frequency carrier will remain on to keep the spacecraft in contact with ground controllers.

The greatest threat from Jupiter's radiation will occur during a four-day period centered on the spacecraft's closest approach.



NASA graphic

Ulysses is programmed to shut off its instruments and enter a "safe mode" to protect itself for its primary objective of studying the sun.

Heading to the sun...

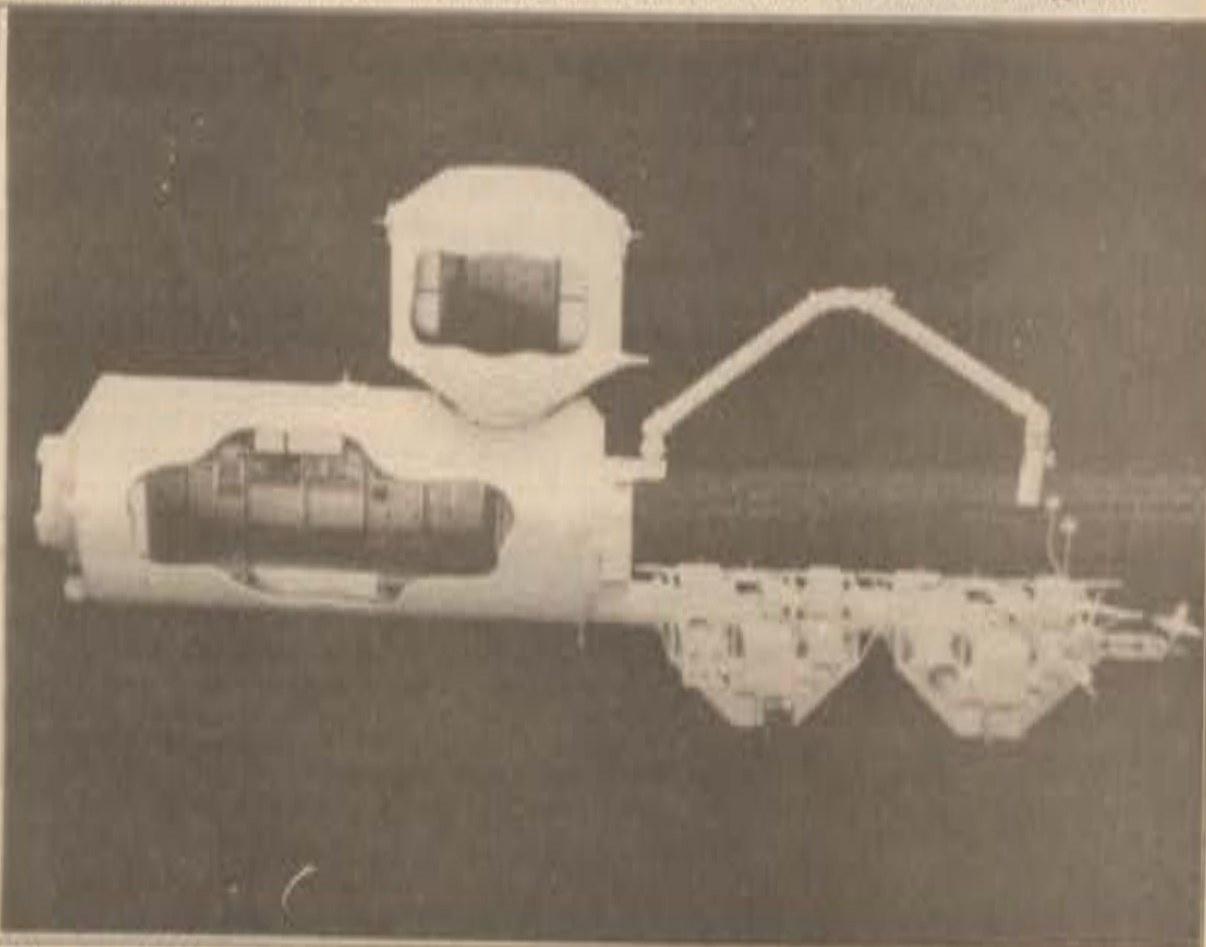
The spacecraft Ulysses reached the planet Jupiter last Saturday, on its way to the sun. Ulysses will begin its study of the solar poles in mid-1994.

Before leaving the magnetosphere, the spacecraft will pass directly through a ring of mostly sulfur and oxygen ions around Jupiter's moon Io, called the torus. Only one spacecraft, Voyager

1, has passed directly through the region before, in March 1979.

Since Ulysses' flight takes it too far away from the sun for solar panels to supply energy to the spacecraft, electrical power is

provided by a Radioisotope Thermoelectric Generator (RTG). In the RTG, heat produced by the natural decay of plutonium-238 is converted into electricity by thermocouples.



NASA photo

What a JEM...

The Japanese Experimental Module (JEM) will be part of the space station *Freedom*, which is a joint effort between NASA, ESA, NASDA and Canada to have men permanently in space.

Atlas Centaur carries DSCS III into space

by Greg Rezendes
 Space Technology Editor

On Monday February 10, an Atlas Centaur space booster carried the Defense Satellite Communications System (DSCS III) into orbit.

After an hour delay on Monday because of ground control problems, the Atlas blasted off of pad 36A at the Cape Canaveral Air Force Station.

The mission was scrubbed on Saturday because of a failure of a pneumatic pressure valve. This pneumatic pressure provides force to the booster.

The DSCS III satellites support globally distributed Department of Defense users. The payload includes six independent SHF transponder channels covering 500 MHz of bandwidth with great flexibility through receive and five transmit selectable antennas, providing for earth-coverage, area-coverage and/or spot beams.

A special-purpose (AF-SATCOM) single-channel transponder is also on board. The spacecraft serves all branches of the Defense Communications Agency (DCA), who purchased the satellite under contract to the U.S. Air Force.

Astro-Space Divisions is responsible for the satellite design,

test and fabrication, under contract to the U.S. Air Force.

The DSCS III satellite was pushed into a near geosynchronous orbit by the Integrated Apogee Boost Subsystem (IABS). The spin stabilized IABS is a detachable structure that includes an integral propulsion subsystem. Its use permits the host satellite to employ a smaller, existing, less expensive launch system.

The DSCS III has a life of about 10 years and currently there are five DSCS III satellites in orbit.

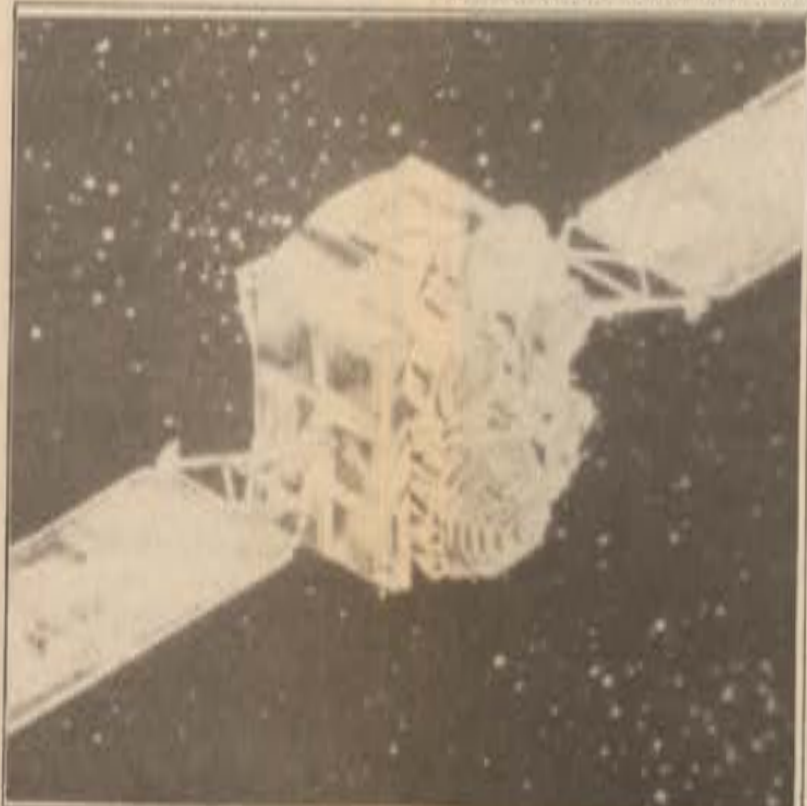
General Dynamics has been launching its Atlas/Centaur for NASA and the Department of Defense from Complex 36 at Cape Canaveral Air Force Station since 1962.

General Dynamics has been launching Atlas/Centaur at Cape Canaveral since 1962

shuttle making the expendable launch vehicle almost obsolete, there was fear that the Atlas program was dead.

After the *Challenger* disaster and the 33 month, reevaluation of the United States space program, there was a need for the lifting of commercial vehicles. While the shuttle program was on hold many commercial satellites were taken off of the shuttle waiting list and launched by Atlas.

The Commercial Atlas program



NASA photo

Radio free military...

The third-generation Defense Satellite Communications System (DSCS III) is equipped with anti-jam capability and sophisticated survivability enhancement.

began in October 1987, when General Dynamics and the U.S. Air Force signed a historical agreement that was an essential step in the commercial Atlas program.

The agreement allowed General Dynamics to launch commercial missions from Complex 36 at the Cape Canaveral Air Force Station, Fla., and it promised use of government-owned facilities at Vandenberg Air Force Base, Calif., for commercial Atlas booster

manufacture.

This agreement was an important step in establishing the synergism between government and private industry necessary to carry out the country's national space policy.

There will always be a need for an inexpensive means of deploying a satellite in orbit. Because of this, Atlas will probably be around for many years to come. The question is, how long will the shuttle be here?

ESA and NASDA moving faster than NASA

by Ronald Hess
 Space Technology Reporter

Now that the Soviet Union ceases to exist, the once heated space race between them and the United States has ended. But two new competitors have begun to advance toward the top of the technology mountain. The two challengers are the European Space Agency (ESA) and Japan's National Space Development Agency (NASDA).

The ESA, formed in 1973, is a coalition of 13 European nations, whose interests lie in the establishment of Europe as an independent space power, and the commercialistic expansion of space. The organization is based upon the philosophy, you get out, what you put in."

The group of nations decides upon which projects to develop. Once a mission is selected, then contracts are given to companies within each contributing country, based upon the amount of money donated to the ESA budget.

ESA is currently gaining popularity as a cheap and efficient launch source for commercial satellites. The agency has launchers with multiple lift capabilities, based upon the Ariane rocket design and

the addition of external booster packs. The program's rockets are being launched from French Guiana.

ESA will use the revenue from satellite launches to fund its manned spaceflight programs.

The ESA is currently enrolled in two joint research efforts with NASA, these being Spacelab and Space Station *Freedom*. But NASA's budget cuts and bureaucratic red tape are frustrating the Europeans by slowing their progress.

In an effort to break away from the United States, the agency is developing a space plane called *Hermes*. The plane, launched on an Ariane rocket, will shuttle crew and supplies to an orbiting research laboratory called *Columbus*. The only foreseeable difficulties are cost escalations for a manned spaceflight program. But international cooperation may just be the solution to the financial difficulties for space missions.

Japan is also entering the space race. This nation has only recently achieved launch capabilities. But with their known tenacity and financial integrity, there is great potential for success.

The NASDA's interests lie

outside of Earth's orbit.

The current goal is to eventually construct a lunar outpost.

The first step for the lunar project is to survey the moon's surface for possible construction sites.

The next portion involves landing probes on the lunar surface to obtain physical information about the moon, which currently, the United States has a monopoly over.

Finally, once sufficient data has been obtained, the moon based will be designed and constructed.

The only difficulties the Japanese face are current budget deficiencies, and a lack of research and data. But these problems may change, as the quest for the moon begins to stir an interest in the Japanese industry.

If there is enough support, NASDA may achieve its estimated launch dates for each phase by the end of the century.

The death of the Soviet Union ended one great space race, but as these prospective nations continue to achieve more and more success in space, the United States' position at the top may be in jeopardy.

If budget deficits and technical problems continue to plague NASA, the United States may find itself the "hare" in the new space race.

New design for NASA space suits

by Carolyn Shultz
 Space Technology Reporter

Hamilton Standard, a division of United Technologies Corporation, has been one of many companies working on improving the EMU (Extravehicular mobility unit) space suits.

Supervisor of Quality Engineering at Hamilton, Carolyn Gernux stated that the company is presently working on enhancements to the original EMU space suits.

Various enhancements are being made to increase both mobility and performance for the astronauts.

The boot of the suit is being soled with a different material. Also an enhanced bearing seal is being installed to prevent leakage.

Beyond the original EMU suits, companies are working on hard shelled suits and also a suit with a rear entry instead of having to crawl into it. With the rear entry the life support system would swing open like an ordinary door to make the suit more accessible.

The original 258 lb. EMU space suit that is now in use was originated in 1982. With various cleanings in-between shuttle flights the suit should be in operation for at least 15 years.

The space suit has everything needed for basic survival in outer space.

The mission duration can last up to 6.5 hours at a time. During that time one can make plenty of use from the 18 different items built within the suit.

Contained in the EMU are the following: urine collection device, insuit drink bag, communications carrier assembly, portable life support subsystem, secondary oxygen pack, liquid cooling and ventilation garment, display and control module, service and cooling umbilical, helmet and extravehicular visor assembly.

With the modifications and revisions of this old design, it may be in use for even longer than it was intended for.

Become a Space Technology Reporter.

World's slowest biplane visits New Smyrna Beach Airport

Soviet designed biplane, the STOL Antonov AN 2, is one of only four flying in the United States

by Bill De Brauwver
Campus News Reporter

As one flies into New Smyrna Beach airport, it is almost impossible to have missed the big white biplane sitting by the Vintage Props and Jets, Inc. hangar on the north side of the airport.

Many ask: "What kind of plane is that?" Well, the mystery has been solved.

The biplane in question is an Antonov AN 2 and was built by the now defunct Soviet Union. The first production model rolled off the assembly lines in 1947 with the last one built in 1988.

The biplane was also built under license in Poland. In later years Poland built them for the Soviet Union. China also built the biplane using the designation Y-5.

The biplane is still used today by many socialist and formerly eastern block countries, but four of them have found their way to the United States.

The biplane that is now parked at New Smyrna Beach belongs to

World Jet from Fort Lauderdale. The owner is a good friend of Tom Crevasse, a well known antique aircraft restorer and owner of Vintage Props and Jets, Inc.

Crevasse probably has the most hours in this make of aircraft than anyone in this country.

The biplane has a Shvetsov ASH-62 IR nine cylinder aircooled radial engine, made in Poland, which produces 1000 horsepower.

At a gross weight of 13,150 pounds, this makes it the largest single engine biplane in the world.

It is constructed with a metal fuselage and has fabric wings and empennage. As with most biplanes it has a conventional gear layout.

Takeoff at gross weight is accomplished in 550 feet. Because of these excellent STOL characteristics, it was used for passenger service to remote regions. It was also used for paratrooper training, agricultural work, air assaults, and hauling cargo.

The plane can carry fourteen people- two pilots and 12 passengers. It

also carries 312 gallons of fuel, which it burns at a rate of 45 gallons per hour at cruise power.

The visibility from the cockpit is very good. The canopy is designed to "bubble" out. This is a feature common of low flying observation airplanes such as the O-1 Bird Dog and the OV-10 Bronco, which were used in Vietnam, and in the case of the OV-10, also the Gulf War.

The reason this biplane has a "bubble" canopy is that the biplane was designed to fulfill many missions. To land a large aircraft on small unpaved runways requires good visibility. This feature is also useful when it is employed in the agricultural mode.

Although this airplane usually cruises at 95 knots, it has a unique characteristic. The biplane is incapable of stalling. It can fly at airspeeds as slow as 25 knots.

It was because of characteristics like these that the airplane was chosen to take part in Fox's television show *World's Greatest Stunts*, which aired in June of 1989.



Caution, wake turbulence...

The Polish built aircraft is still in use in former Eastern Block countries. The AN 2 flies at speeds as slow as 25 Knots and can take off in 550 feet at a Max Gross of 13,150.

The stunt, which was filmed a month before, involved a stuntman being catapulted of the New River Gorge Bridge in Beckly, W.Va., just

as the airplane was flying by trailing a huge net. The stuntman then grabbed the net in mid-flight. The plane was flown by Crevasse.

The biplane is not based at New Smyrna Beach, so time is limited to sneak a peak at this truly unique aircraft.

Lockheed reaches milestone with 2000th Hercules assembled in GA

by Bryan Gross
Aeronautica writer

Lockheed Aeronautical Systems Company (LASC) recently announced the assembly of the 2,000th C-130 Hercules.

The aircraft is now being painted in preparation for fuel and flight evaluation operations. After that, it will be delivered to the Kentucky Air National Guard. This is scheduled for the second quarter of this year.

The 123rd Tactical Airlift Wing, located at Standiford Field in Louisville, will receive the C-130H model. It is one of twelve aircraft to be delivered. (This order could change, though, with the recent crash of one C-130 into a motel and restaurant in Evansville, Indiana.)

"An appropriate delivery ceremony is being planned to commemorate the delivery of this aircraft. It is a significant milestone for

Lockheed," said Terry Graham, C-130/L-100 Program Director for LASC.

Lockheed first began developing the Hercules in 1952. It was awarded a contract by the United States Air Force to build a new medium-sized logistic and tactical military airlifter. It also needed to be able to operate from short and unpaved airstrips.

The first production model was delivered in 1956. It is still flying today.

"The Hercules longevity in production and universal customer satisfaction is...evidenced by the number of airplanes that have been delivered with no customer complaints," said Graham.

LASC has delivered 1,992 Hercules in both military (C-130) and commercial (L-100) versions. The average rate of production for the Hercules is 3 per month.



Hercules...

The C-130 or L-100 has been in use for over 35 years in countries around the globe.

Apache has new buyers

by David Fekke
Aeronautica Editor

McDonnell Douglas delivered the 700th AH-64 to the Army last month. Days later Greece announced that they would become the first European country to purchase the attack helicopter.

The AH-64, or Apache, is the premier attack helicopter in the United States military arsenal. The Apache is the replacement for the Cobra, which was developed during the Vietnam conflict.

The 700th AH-64 was delivered to the 3-101st Combat Aviation Battalion, which is part of the 101st Airborne Air Assault Division at Fort Campbell, Kentucky. The U.S. Army has fielded 24 combat-ready Apache divisions since 1985.

Before the Gulf War there much skepticism over the mechanical reliability of the AH-64. After December 1991, the Apache had more than proven its reliability. McDonnell Douglas now has

orders from Greece to build 12 Apaches, with an option for another eight, and an additional option for four. McDonnell Douglas received orders from the U.S. Army that the United Arab Emirates had an agreement for 20 Apaches.

In addition to the 807 orders of AH-64s for the Army, McDonnell Douglas will build 86 Apaches for foreign military contracts.

With orders and commitments for 893 AH-64s, production at McDonnell Douglas's Mesa Arizona plant will continue until mid 1995, when the plant will begin converting AH-64As to the AH-64D/Longbow for the U.S. Army.

Work has already begun on the Army's Longbow helicopter. The Longbow project is designed to enhance the helicopters performance so that it can remain in the top of its class into the 21st century.

The Army initiated a \$195 million contract to convert four AH-64As to

See AH-64, page B7.

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WHAT IS CREATIONS?

Creations is a magazine for ERAU's family to expose their artistic talents to the world. It is for anyone who chooses to show their personal work to others, either poems, photos, drawings, essays, or short stories.

Submissions for *Creations* literary magazine are being accepted now! To submit your work, visit the AVION office and drop them in the *Creations* box.

Creations

Embry-Riddle's literary magazine

Because talent is nothing to waste



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the world
through
your eyes

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Rating the 1992 cars

The 1992 Car Book, a consumer guide released Dec. 3, ranks new model cars in a variety of categories; some highlights:

Complaints		Best in crash test	
Index of number of complaints vs. number of cars on the road:		Lower index number means car better able to protect occupants:	
Best			
Honda CRX '88-'92	0	Subcompact	
Mitsubishi Mirage '89-'92	148	Ford Escort	1,880
Porsche 911 '81-'92	165	Subaru Justy	1,901
Mazda RX7 '81-'85	281	Compact	
Honda Prelude '83-'87	351	Dodge Daytona	1,479
Worst			
Mazda MX6 '88-'92	119,815	Chevrolet Beretta	1,809
Eagle/Renault Medallion '88-'89	63,938	Intermediates	
Chrysler Imperial '81-'83	20,187	Volvo 240 Wagon	1,249
Pontiac 6000 '82-'91	12,154	Saab 9000	1,597
Nissan ZX '90-'92	11,531	Large	
Best in fuel economy			
Yearly fuel cost of car driven 15,000 miles a year:			
Geo Metro XFI	\$128	Overall rating	
Honda Civic HB VX	\$351	Based on crash safety, fuel economy, repair costs, warranties, insurance costs, complaint history:	
Geo Metro	\$383	Subcompacts	
Geo Metro LSi	\$383	Nissan Sentra	
Suzuki Swift	\$383	Mazda Miata	
Preventive maintenance			
Cost of manufacturer's warranty maintenance program:			
Lowest			
Audi 100	\$0	Volkswagen Golf/GTI	
Audi 80	\$0	Hyundai Excel	
Volkswagen Fox	\$311	Daihatsu Charade	
Volkswagen Golf/GTI	\$332	Geo Storm	
Volkswagen Jetta	\$332	Compacts	
Highest			
Mercedes Benz 190E	\$1,310	Audi 80	
Mercedes Benz 300E	\$1,310	Chevrolet Corsica	
Isuzu Trooper	\$1,295	Dodge Shadow	
BMW 325i	\$1,122	Plymouth Sundance	
BMW 318i	\$1,122	Pontiac Sunbird	
Resale value			
Percent of value the top 100 selling cars of 1987 held in 1991:			
Best			
Acura Legend	71%	Chevrolet Cavalier	
Honda Civic	70%	Dodge Spirit	
Honda Prelude	68%	Mercury Sable	
Acura Integra	67%	Ford Taurus	
Honda Accord	67%	Saab 9000	
Worst			
Yugo	31%	Plymouth Acclaim	
AMC Alliance	30%	Volvo 240	
Isuzu I-Mark	25%	Large	
Dodge Colt	24%	Oldsmobile Toronado	
Ford Taurus	21%	Infiniti M30	
		Buick Riviera	
		Chevrolet Caprice	
		Minivans	
		Oldsmobile Silhouette	
		Chevrolet Lumina APV	
		Dodge Caravan/Grand Caravan	
		Plymouth Voyager/Grand Voyager	
		Pontiac Trans Sport	

SOURCE: "The New Car Book"

Helpful ratings...

Take ratings into account when shopping for a car.

Abrasive flow machining hits auto markets

by Jon Eichelberger
Mechanical Tech. Editor

Abrasive Flow Machining is an aerospace technology that is more than twenty years old, but now it has taken on a different purpose.

Several performance car companies are using this technology on different engine components to increase engine output. Applied mostly to intake manifolds, the process is constantly being expanded to different parts.

The Extrude Hone process uses a silicone compound that does not react to moderate heat and is mixed with varying levels of abrasives.

When the procedure is applied to an intake manifold the compound flows through like air except the abrasive material removes the obstructions that air would flow around.

This is done without any cutting to the manifold like a machine porting process would require. In areas that need to be protected, deflectors are placed to change flow direction. These deflectors are also used to give flow concentration in areas that need extra attention.

The process has several variables to control the results for specific applications. Pressure can vary between 200 to 2000 psi to control flow speed.

The amount and consistency of the abrasive can be changed to control the amount of material removed from a component. The final variable is the actual process time.

The Extrude Hone offers increased manifold airflow without the cost of buying a performance manifold.

The companies offering this process claim an increase flow of 33 percent on a stock Mustang manifold.

Other applications have also been tried, such as use on turbine wheels on turbochargers, exhaust manifolds, and cylinder heads.

Pacific Performance offers the process for about \$500 on a V8 intake manifold; Extrude Hone offers increase performance without machine porting or going to a non-stock part.



Pontiac leads way...

The Twin Dual Cam V6 gives Pontiac its image of excitement more of a boost. Grand Prix sets pace another year

PONTIAC, Michigan—The 1992 Grand Prix GTP reinforces Pontiac's excitement heritage," says Pontiac General Manager, John G. Middlebrook. "There's no better place to showcase this high performance Pontiac than at the superbowl of racing."

Identical to the Grand Prix GTP coupes available at Pontiac dealerships, the bright red pace car features Pontiac's Twin Dual Cam V6 engine; a 3.4 liter, 210 horsepower dual overhead cam, 24-valve powerplant with 215 pounds per foot torque.

It comes with a high capacity

five-speed manual transmission. It also comes with the electronically controlled 4T60-E four-speed automatic transmission.

Another Grand Prix model, the SE coupe, with Pontiac's aero performance package and a 3.4 liter Twin Dual Cam engine provides the same exterior styling and performance as the GTP, but at thousands of dollars less.

The Twin Dual Cam, the highest displacement multivalve V6 from any car manufacturer, has been heralded by the automotive press since its mid-1991 model year introduction.

According to *AutoWeek*, "At the tail end of more than a year's production run of the engines, our test car provided power without complaint," while *Consumer Reviews* "1992 Car Buyer's Guide" reports the Twin Dual Cam "guarantees one of GM's most sophisticated engines, while also promising to provide rapid acceleration and sweet sounds."

Middlebrook added, "We're happy to be selected as pace car for so many races and look forward to continue involvement for many years to come."

Small cylinder engines hold their own

by Jon Eichelberger
Mechanical Tech. Editor

When Mazda introduced the MX-3 they did so with a twist. The powerplant of this car is a tiny V6, displacing only 1.8 liters.

Some might not see the advantages of having such an engine. With the small combustion area, air and fuel ratio is easier to maintain. The spark plugs, having a smaller volume to ignite, work more efficiently.

This enables the engine to have a cleaner, more efficient burn. Emissions are better and power is increased with no modifications except the down sizing of the combustion chamber.

The differences between a large and small cylinder engine of the same displacement are easily apparent. The small cylinder engine has increased horsepower and better top end.

It has a higher red line and its torque band is flatter and broader than the large cylinder engine, although there is no gain in torque in the smaller cylinder engine. The large cylinder engine has a more of a peak torque curve at lower revolution.

Each engine can be suited for different applications. The large cylinder engine is more suited for large cars or utility vehicles because of its

torque. The small cylinder engine is more suited for sport cars or small and light vehicles. The MX-3 is a good example being a small sport coupe not needing great amount of torque.

Then you have cars like Ferrari, and Jaguar who use five liter V12's in their cars.

This provides plenty of torque while giving them a smoother and greater range of power from the engine.

So the small cylinder engine has advantages for certain applications. There will certainly be more engines of this type coming into production in the coming years.



HOT NEWS

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Alpha Eta Rho

by Matt Hopkins
Historian

Hello, brothers of Alpha Eta Rho. These past few weeks have been quite eventful. I hope the coming weeks are as successful as the past.

I'd like to start by congratulating all the new pledges on receiving their bids. I hope you are looking forward to your pledge period. I'm sure it will prove to be quite an adventure. Good luck.

Last week was fun, thanks to Rich for the use of his house. It was

good to see the brothers from F.I.T. We're looking forward to partying down there later in the semester.

Jason Piper has been promoted to "crazy" status. This is in reaction to his famed bungee jumping debut. Can't wait to see the pictures.

The car washes and the track have been progressing well. Let's keep the fund raisers going. We need the money for the excellent ritual we have planned.

Until next time my brothers, I will talk to you later.

Air Force ROTC

We're well into the Spring 1992 semester and Air Force ROTC is flying high.

Our Special Operations division held tryouts for prospective Drill Team and Color Guard members on the 18th and 19th of January; these dedicated people - you may recall - present the colors at various school functions, such as basketball games.

Arnold Air Society (AAS) is gearing up for its area conclave, this year being hosted by our school's chapter. Arnold Air chapters representing schools from all over Southeastern Florida will attend the gathering on the 28th and 29th of February.

Several members of AAS are also participating in the Youth Motivator Program, in which they become big brothers or sisters to area middle school students.

Going to the races this semester? Air Force ROTC is - and we're

coming out in full force. Cadets will be working day in and day out parking cars, ushering and directing traffic.

This yields a two-fold benefit: our workers provide a valuable service for race fans coming here from throughout the world, and in return we are given a chance to earn some money for our organization.

Air Force ROTC Detachment 157's Spring 1992 Wing Commander, Cadet Colonel Michael Kilian, is pleased with these events, and he knows that the excellent relationship between Air Force ROTC, Embry-Riddle, and the surrounding Daytona community will continue to be strong.

All of us here at Detachment 157 wish you the best of luck in the Spring 1992 semester.

Keep up with us in this column for upcoming events!

CFC

The CFC is a fellowship of Christian students who are here to help you gain spiritual strength.

Sometimes we are looking for something inside, motivation, strength, courage, and God has the answers! He has a HOTLINE for questions, the Bible, and at Saturday evening Bible Studies at 6:30 p.m., we call that HOTLINE for possible answers.

Bible Studies are a fun and enlightening way to start the week-end with singing, snacks, guest speakers and many surprises! Each

Sigma Chi

by Peter A Zaccagnino
Capter Editor

CONGRATULATIONS Joe Adkins on a party well done. Pledges, congratulations is also in order on your recent entry into pledgship it is a tremendous journey with great rewards. "Blow You BY..." AHP we are offering a litera-

Sigma Pi

by Jack Snyder
Chapter Writer

Well boys another week has passed on our ERAU tour of duty. It was quite productive for us SIGMA PI. McKay managed to bruise a brother, I nearly killed a Bear, and a pedestrian and some of us got to diffuse culture at the O.C.

The road trip to DeLand was long but fun, even though I have trouble remembering it. Congratulations go out to Per for going hitchhiking, sometimes your thumb can get you everything you need.

I'm happy to announce that we have been challenged to a game of full contact, naked "twister" by the Swedish bikini team. They'll bring the Old Mill if we bring the cement mixer full of miracle whip.

I have recently polled the brothers and asked "If you won the lottery what would you get first." see if you can match the answer to the

week is different, and you never get a hangover! Try it!

On January 25, the CFC hosted the Desert Storm Anniversary. The ERAU Alumni and Students killed in the war were honored, and their families prayed for.

We would like to apologize to those Desert Storm Veterans who attended the service for not honoring you, as well. Your sacrifice was as great as theirs, your life was in as much danger.

And we thank the LORD for your safe return!

cy class here at our HOUSE free of charge. Come and change your literary "Perspective." 60s week was very entertaining. For such a decadent and disorderly social period, we sure did represent it with Nixon-like organization and 5th grade level propaganda. And you breed like rats....

brother.
1. Season tickets to the Chicago Cubs

2. A Florida drivers license
3. A solid gold dumbbell
4. A brand new IROC with enough gas to drive to Rome

5. A blond wife, and a Volvo with a car seat
6. A small Kentucky distillery

7. A truck full of Genny Light
8. A ticket to Spain

9. More magazines and a new blow up doll
10. Spare parts for an old Javelin

11. Bribe Gordo out of playing so hard to get
12. Buy some shampoo

Before I sign off let's play a little game, shall we boys and girls?
Mirror, mirror on the wall who do Linus and Lurch love most of all?
Unscramble the letters to find out?
SGIERNG.

Delta Chi

by Slartibartfast
Public Relations

Well the weekend was a smash. No juice and the fluids flowed. Our sincere apologies to those who had to good a time Friday and couldn't make it back Saturday.

Hey baby, I have a Seneca would you...? Anyway, ABT approved our retreat plan and caught up on the usual gossip.

Aces high at the house. We are getting ready to print weekly programs if you are having trouble keeping up with the life at the house.

Track, Track, Track, need we say

Theta Phi Alpha

by Erica Watt
Public Relations

Completely unbelievable! That's what this past week has been. The sisters of Theta Phi definitely never encounter a dull moment.

Our last week of rush was just as exciting as the first. We would like to thank sister Robin (Steam Boat Willy) for filling all our balloons with helium.

Special thanks to PLEDGE Kellene for sucking it all out! Our bachelorette part proved to be quite interesting. Flying Nun - do you realize what you held in your hand?

Our White Rose Formal also went well. Twister, at least you

any more.

For those of you who keep tempting fate, we have three letters, DUI. Team Sandblaster has just about finished their project. Maybe it will be back together to get stolen for Bike Week.

We would like to especially thank our delegates to Regional, maybe we'll keep the charter long enough for the Alumni dinner on March 14. Pay up or get out!

Remember Youth Motivator Meeting tomorrow in Room A-109.

Thought for the week "There are no badasses, there ain't no one who can't die."

wore white (private joke).

Well Babs, what a place to pass out. This is becoming a habit! We will blame the whole event on PLEDGE Barb, after all that shot was for Coppertone, not ole' lightweight.

Theta Phi will be having flower sales on Friday, Feb. 14.

Just a quick reminder: All Greek happy hour is on Friday, Feb. 21 at the Delta Chi house. Hope everyone shows up!

Sisters who have a 3.0 or better, sorry Babs - get those IFC scholarship applications in.

Have a fantastic week and if you don't say what you mean then you'll never mean what you say.

Clubs Policy

- All articles must be type-written, double spaced or on disk format (unformatted in Word Star or Microsoft Word).
- Deadline for submission of all club material is **Wednesday at 5 p.m.**, one week prior to publication.
- Photos may be submitted with club articles.
- All submitted material becomes property of the *Avion* with the exception of disks.
- The *Avion* reserves the right to edit all submitted copy.
- For more information stop by or call the *Avion* office at (904) 226-6079.

Model Senate Club

The Model Senate Club has selected most of Embry-Riddle's team to participate at the Stetson Model Senate (an intercollegiate debate).

The team will be holding meetings in the Library every Wednesday at 8:00 p.m.

If you wish to learn Robert's Rules, Parliamentary Procedure and

about government, you are welcome to attend the meetings. The club would also like to congratulate Cynthia Robertson for being elected Secretary of the Model Senate Club. New members, Cynthia Robertson, Alan Tacy, Malcolm Kirwin and Troy Midora have attended every meeting since joining and deserve special recognition.

Attention Writers

Due to the large number of typed articles coming in, we are having trouble distinguishing between which article is current.

Please put the date that you turn your article in on your article.

Also, have the secretary place the issue number on it. You must also

put your writer's name and box number on the article.

The more information we get, the more likely you are to get your arti-

cle in print. Thank you.
The Editor

WERU: The Broadcast Club to end all broadcast clubs



We Are Getting a Radio Station See us everywhere this week

Our mission in life is to crawl through the electrical lines, into your rooms and jump into your brain.

another subliminal message: support radio radio

Motorcycle ride

On Sunday, 16 February, the Riddle Riders will be hosting a ride to Port Canaveral to tour the nuclear submarine which is on display. We will leave from the triangle motorcycle lot at 10:00 a.m., as we do each week. 2 WEEKS TO BIKE WEEK!

Society of Women Engineers

The Society of Women Engineers' (SWE) 1992 annual convention and student conference will be held June 22 - 27 at the Stouffer Resort in Orlando, FL.

The first three of the convention's five days offers technical sessions, workshops and "mini-courses." The mini-courses range in topics from "Effective Meetings" to "Success in a Multicultural Environment" to "Nutrition Consumer Awareness." There will also be technical sessions and workshops and presentations of technical papers relating to the convention's theme: Space Challenges: Earth and Beyond. This year's convention features speakers and presenters including keynote speaker Deborah Wince-Smith, Assistant Secretary for Technology Policy, and NASA astronaut Dr. Janice Voss.

This year's convention offers tours of the Kennedy Space Center, the Naval Training Systems Center and UCP Labs, Florida Sinkholes, the Florida Hospital Nuclear Medicine Wing, Infrared Industries, the Institute for Simulation and Training and the Curtis Stanton Power Plant.

More than 50 of the most prominent high-tech companies and governmental organizations will have promotional booths in the convention's career fair/exhibit hall. Soon-to-be and recent graduates are given the opportunity to meet and speak with company representatives.

Social events will include a Polynesian luau, an ice-cream social, a reception and dinner to award the achievements of student members, a Florida tropical-themed Flamingo Fest and the grand achievement award reception and banquet.

Traffic information

During the period of February 3, 1992 through February 16, 1992, the Daytona International Speedway will be conducting race activities which will impact and at times interfere with the arrival and departure of ERAU students, faculty and staff.

The University community should be prepared for traffic delays on the following days:

Thursday, Feb. 13, 1992 "Twin Qualifying Race"

Catalina will be one-way (westbound) from 9:00 to 11:30 a.m. From 1:30 to approximately 7:00 p.m., Catalina will be one-way (eastbound) with Right Turn Only on to Clyde Morris. Clyde Morris will be one-way (southbound) from approximately 4:30 p.m. until 6:00 p.m. Left turns (northbound) on Clyde Morris will be prohibited. Allow ample time for travel to your destinations throughout the day.

Saturday & Sunday, Feb 15 - 16, 1992 "Goody's 300 and THE DAYTONA 500"

Expect major congestion and altered traffic routes throughout the Greater Daytona Beach area, particularly around the immediate area of the campus. Note: The Senior Class will be parking cars for the race fans under the supervision of the Parking Services Office on the Catalina Street side of the campus.

New student organizations

If you are interested in starting a new Student Organization, the deadline to begin that process with the Department of Student Activities is Wednesday, February 19, 1992. Please schedule a meeting with Laurie Ranfos, Student Activities Coordinator, to review the process. Thank you.

IFC Scholarship

The Embry-Riddle Interfraternity Council is offering a \$100 Scholarship for the Spring '92 semester. The scholarship will be awarded to the student who best represents Greeks through academic achievement and fraternity/sorority, campus and community involvement.

- The requirements to apply for the scholarship are:
- 1) Only initiated brothers/sisters of those groups represented on the Embry-Riddle IFC are eligible.
 - 2) Applicants must be currently enrolled as a full-time student at Embry-Riddle Aeronautical University, Daytona Beach Campus.
 - 3) A minimum cumulative grade point average of 3.0 (based upon last semester's CGPA). Applicant must be in at least the second semester at Embry-Riddle.
 - 4) A signed grade-release form.

For further requirements, see the application form.

Applications are available at the Financial Aid Office or in the IFC Student Activities Mailbox. All applications must be returned to the IFC mailbox by February 21, 1992.

Spring '92 degree completion

Applications for degree completion are being accepted for those expecting April '92 degree completion. Come to the Records and Registration Office to complete an application to receive an evaluation and have your diploma ordered. Also, fill out the necessary form if you desire to attend the Spring '92 Commencement Ceremony. Graduate Students need to apply through the Graduate Students' Office.

Students anticipating Summer '92 degree completion

We suggest that you fill out your Degree Completion Application if you intend to complete your degree during the summer semesters. You will then receive a PRELIMINARY EVALUATION. It is especially important for those summer applicants anticipating attendance at the Spring '92 ceremony to apply at this time. You must submit your applications no later than February 21st if you plan to attend the Spring '92 Commencement Ceremony. Graduate Students need to apply through the Graduate Students' Office.

Memorial service

A memorial service for CW2 Kerry P. Hein will be held on 27 February 1992 at 12:00 along the University Entrance Parkway.

CW2 Hein was an Embry-Riddle Graduate killed on a night medevac mission in Iraq.

The memorial service will be performed by Father Morris with representatives from the 348th Medical Detachment (Helicopter Ambulance) and the ERAU Army ROTC.

Summer bike trip

Bike-Aid is an annual transcontinental trek sponsored by the Overseas Development Network (ODN), a national student-based organization which involves individuals in addressing global problems of poverty and injustice. This year, special interest is given to Native American communities.

Bike-Aid '92 is recruiting riders now for this summer's trip. The application deadline is March 31, 1992. Write or call the Bike-Aid '92 office at 333 Valencia St Suite 330, San Francisco, CA 94103, or (415) 431-4480 for more information.

Co-op positions available

The following are co-ops especially in need of applicants. To discuss these or other co-op positions, please visit the Career Center.

IBM - Gaithersburg, MD	2.5	BSCS
02/20/92		
General Aviation Manufacturers Assn.	2.5	ABA, MBA/A, MAS
Washington, DC		
02/21/92		
Baltimore/Washington Inter.	2.5	ABA
Baltimore, Maryland		
03/02/92		
CTA, Inc. - McKee City, NJ	3.0	BSCS
03/02/92		
Lee County Port Authority - Ft Meyers, FL	2.5	ABA, Aero Stud/Mgmt
03/02/92		
Peachtree Dekalb Flight Academy		Aero Science
Atlanta, GA		
03/13/92	2.5	

Environmental career institute

To help college students, particularly recent graduates and those seeking a challenging career, Government Institutes is offering a unique 9-day Environmental Careers Institute at The Catholic University of America in Washington, DC from June 12 - 20, 1992.

This comprehensive yet practical program will provide students with:

- Extensive knowledge about the environmental fields
- Access to valuable informational resources
- Personal contact with key leaders in the field
- Practical information on possible careers

The program includes classroom lectures, discussion and interesting field trips to Chesapeake Bay, EPA Headquarters, the United States Congress and other important practical learning opportunities.

For more information or how to apply for the Environmental Careers Institute, please contact Tim Hohman or Colleen Sullivan at Government Institutes, 4 Research Place, Suite 200, Rockville, MD, 20850, or call (301) 921-2345; FAX (301) 921-0373.

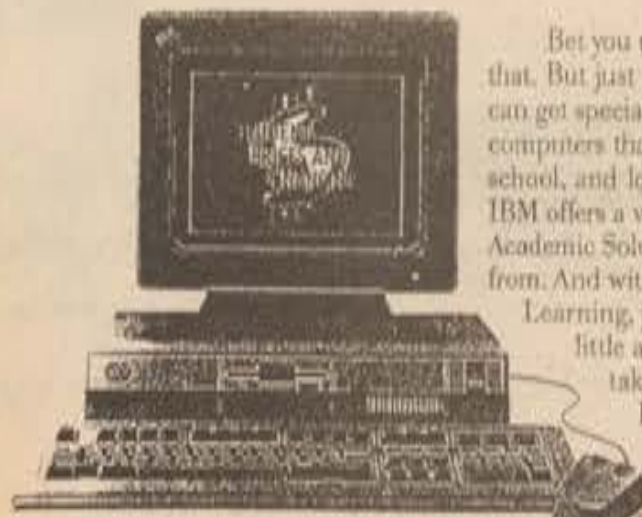
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Get in on the action at . . .**



American Bartending
Bartending is the perfect job for busy students. The hours are flexible, it's fun and exciting, plus you can earn a healthy income while meeting new friends.

Call us now to get started.
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Finally, going to college can save you some money.

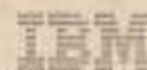


But you never thought you'd hear that. But just by being a student, you can get special prices on IBM PS/2 computers that will help you through school, and long after you get out. IBM offers a variety of PS/2 Selective Academic Solution models to choose from. And with an IBM PS/2 Loan for Learning, you can own one for as little as \$30 a month** and take up to five years to pay. Buy now and you'll get a special Bonus Pack worth over \$1,000 in savings on air travel, phone calls, software and more. So while the price of college keeps going up, at least the price of succeeding is on its way down. Visit your campus outlet to find out how to make a PS/2 click for you.

For More Information

Students: Call ext. 6660

Faculty and Staff: Call Data Processing at ext. 6400



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Autos for sale

Economy Transportation, 1981 Chevy, New Tires, Rust Great, \$350.00. Call Steve or Geri at 788-7762.

1983 Black Nissan Pulsar, 5 speed, \$1000/offer. Murf, X6044.

1989 Chevy Camaro Ret, 5.0 liter-V8, all power, all options, new tires. Regatta blue with grey tweed-leather accented interior. All maintenance records, immaculate condition inside and out. Asking \$10,600 OBO. Call 252-3287 leave message.

Chevy/FBI/U.S. Seized
 89 Mercedes.....\$200
 86 VW.....\$50
 87 Mercedes.....\$100
 65 Mustang.....\$50
 Choose from thousands starting \$25. Free 24 hour recording reveals details. 801-379-2929. Copyright #PL16KJC.

Misc. for sale

Furniture: Nice living room couch \$250.00, desk and chair \$50.00, 13 inch color TV \$150.00, 65 inch water ski Mach 1 \$200.00, end tables and lamps B.O. Call Will 252-6390 leave message.

Waterbed, super single with semi waveless mattress \$150.00. Microwave oven, small compact size, like new \$60.00. Brs for Mustang GT (87-91) new in box \$30.00. Men's Schwinn 10 speed bicycle Extras included \$150.00 OBO. Excellent condition. Call 255-6973

For Sale: queen size full waveless waterbed 4 drawers and rail pads. Call 767-4806, ask for Wally.

\$40,000/yr! READ BOOKS and TV scripts. Fill out simple "like/don't like" form. Fun, relaxing, at home, beach, vacations. Guaranteed paycheck. Free 24 hour recording. 801-379-2925 Copyright #PL16KER.

For Sale: queen size bed with frame and headboard \$30.00 Call Frank 756-8338.

For Sale: Samsung 20 inch color TV \$50.00 Call Adriano at 760-2543.

Nikon FE-2 with MD-12 motor drive and 50mm lens. One owner, original papers and box \$300.00 322-0633, leave message. Telephoto extra.

For Sale: Epson laser printer (HPLJ+ compatible) 300 dpi, 4ppm, \$800.00 TVM multi sync SVGA monitor (comparable to NEC hotsync 3D), 14 inch 1024x768, \$500.00 excellent condition, manuals and cables included. 248-0042, leave message.

For Sale: Grammatical TV, math cad (student edition), Quicken 3.0 (older version), \$25 each, manuals and original 3.5 inch disks included. 248-0042, leave message.

For Sale: window loovers-fit 79-85 RX 7 \$35.00
 Sony Amp 2x20watt \$50.00
 Alphasonic 2x20 amp \$35.00
 Alphasonic 2x50 watt amp \$100.00
 Flash for cannon camera \$35.00
 Fisher dual cassette deck \$35.00
 Call Pino 760-4348.

For Sale: Computer printer ribbon for Epson and others. \$5.00 each. Call 761-9384.

For Sale: Macintosh Computers, interested in buying a Mac. computer system? Package prices available on CPUs, monitors and printers. Call Keith 788-1240.

For Sale: Computer game card for MCA PS 12's. \$50 OBO. 756-9259.

For Sale: Alpine 7380 AM/FM cassette. Pull out stereo, 1 year old, perfect condition. \$200 OBO. Call 756-9259.

Oval dining table with 2 brand new metal chairs \$40.00
 Small refrigerator (18"x18"x18") \$50.00
 Large end table \$10.00
 Piero leather front mask \$15.00
 Side table with two seats \$20.00
 Sofa chair \$10.00
 Brand new electric heater \$20.00
 Rotan rotating chair with cushions \$25.00
 Washing machine that runs, but needs adjustments \$25.00
 Acoustical guitar (made in Korea) \$30.00 o.b.o.
 Call Mike at 788-0751 or leave message

For Sale: Skimboard—Victoria Speeder, \$60.00. Get the good one! Also 2 real yakima rock pads, \$15.00 257-6905.

Roomates & Rental

Large bedroom available in 2 story, 2 bedroom, 1.5 bath town house, fully furnished, free cable and movie channels, microwave, 2 pools, tennis courts. Available in April or sooner if you wish. \$237.00 per month plus half of utilities. Call David after 8:00 p.m. at 761-7998.

Female roommate desperately needed to share 2 bedroom apartment at the Barrington. Rent is \$205.00 per month plus half of utilities. No deposit needed. Please call Michelle at 258-6977.

Condominium For Sale: 2 bedroom, 2 bath, full appliances with washer and dryer. Includes pool, cable, waste pickup, and parking space. Quiet and safe neighborhood. Asking \$51,500. Call 788-1240.

Miscellaneous

LEARN TO FLY!!!
 Get your pilots license or continue with your flight training. Quality and Experienced instruction at low rates. Aircraft rental \$36.50 / hr. Block time. Train at a local airport. Contact Jack at 756-1494. Please leave a message.

Anyone going towards the vicinity of Charlots, N.C.? I'm looking for a ride. I will split gas and I am willing to go anytime. Call Chad at 255-8726.

Reasonable Flight Instruction!!! Private, instrument, or commercial. Best rates around the area, flexible schedule. Plane rental \$36.50 / hr. Contact Tom at 671-6895.

Lost: "ERAU RUGBY" jacket. If found please contact mail ERAU box 9057 or 248-2901 Rowan.

Personals

C. ED
 It is a shame that we have bairners in the U.C. that are misspelled, advertising our ignorance to those who tour the campus. Even the AHP Banner (The ones who are "known" for their intelligence) have spelled the same word wrong TWICE. Tak. Tak. PERSPECTIVE

DUIG
 Happy Birthday. Glad we're friends. STITCH

TO PENGUIN,
 Good luck with AS 310 this semester. You've already got one strike. Three and your out! SLBEPY

TERMINATOR,
 Does 3-0 Ring a bell?
 Got a Clue!
 THE KINGS

RANDOM VIOLENCE,
 You wanted us - you got us, baby! A 3 - 0 crush / loss to the Champs. What a shame. It sucks to be a wanna be-a, eh?
 NUMBER ONE

RANDOM SHOTS
 I mean Random Violence. How can you win if you can't score? Your Defense is Swiss cheese and I have two words for your shooting - wide right!
 A KING

OWNER OF BURGANDY MUSTANG 5.0,
 Try writing sometime, your not as bad as you are.
SICK OF YOUR ATTITUDE

I wanna fence sabre. Not an ogre, just someone really pissed off.
 P.C.

JANIT
 Australia!!!
DARRIN

RANDOM VIOLENCE
 You can talk the talk, but can you walk the walk?
GRANT

FENCER #2
 I come down hard on those who duck! Sorry about the wells. He, he, he.
 PC

Dark as night, Dark as pitch, Dark as the heart of the Blackest witch.

FRUNCHIE
 I think that's the pot calling the kettle black. What! Am you slacking? I haven't heard any fireworks lately!

TO THE RENTERS OF #2201 (+ MOOCHERS):
 Jeremy the week is halfway UP, yesh, Chris have you caught any angels lately with those magnet suspenders, Ryan I think it is time for that oil change, Trem how about a few dance lessons, and Tom-Tom would you fix me some chicken wings and here's to that orange, yuck, I mean grape juice!
 Love your neighbor,
 Niengale

TO THE STUD PILOTS OF APARTMENT 227 AT THE BARRINGTONS
 Single, attractive young woman is dying to get to know you Really Well. Please respond soon. Box 8077

HALFPINT
 Do you read the classified personals often? Also, thanks for cutting you know who's toenails. They were killing me.
 PAW

Murf
 Thanks for last Sunday night. It was beyond my wildest dreams.
BREWSTER (MEMBER: NGPA)

To my hunk-a-chunk of burnin' love (aka Straker)
 Happy Valentines Day.
LOVE THE SQUID

You know it's going to be a bad day when you wake up and turn on the morning news, and they're showing emergency escape routes out of the city.

TO THE IMPATIENT GUY IN THE 3.0
 Bad way to get voted most popular, pal! How much do you spend per month on tires and transmission?
A GROWING NUMBER OF PISSED-OFF STUDENTS

Need Female roommate for left side of bed
 Contact Mr Ibig #0-204

RRRRRRPP
 You're just too sexy. We kicked your ass, once and we'll do it again - tonight, 11:00 p.m., be there. Afterwards you can buy at Albertsons.
THE MICE

DITTO
 Only 40 more months until I can keep your bed cool. We can have some practice runs next year - NOT (you know the agreement). You'll just have to wait until May 25, 1995
SWEETCHEEKS

Damn foreign cars. You see that tractor over there? That's a Kentucky Harvester. Never given me a lick of trouble in 15 years. Not like those foreign pieces of junk. That's a Kentucky Harvester!

Doem II
 I love you! I can't wait until we are together again. It will be wonderful to spend Valentine's Day together. You are my sunshine.
Terminator

TO JEFF HUMPHREYS
 This is just a little note to say thanks for being such a great guy. I had a really nice time on the "first date" and am glad I get the chance to know more of "Jeff." I hope you're are having a great day! Happy Valentine's.
YOU KNOW WHO

DANNY, MY BEST PAL
 I wanted to write this like old times to let you know how much I appreciate everything you have done for me. I couldn't have asked for a better friend!
 Happy Valentines Day!
YOUR BEST PAL

AH-64

(continued from B2)

the AH-64D prototypes. The long-bow will have an advanced fire control radar as well as a RF Hellfire missile.

The first flight is planned for the same time of the second quarter of the year.

A fleet modernization program will begin work 254 AH-64As that have reached term improvements from the Gulf War. The other 535 A

models will later be converted to C and D models.

The only difference between the C and D models will be the radar system and more powerful engines on the D model.

McDonnell Douglas will do very well with these new contracts despite persistent maintenance problems through the helicopters short history.



Eros in other eras
 In the 1700s, men drew valentine names and pinned them on their sleeves, thus the saying "wearing his heart on his sleeve"
 Stores once sold handbooks called valentine writers, with verses to copy
 Penny dreadfuls were popular in the mid-1800s. They cost a penny and were insulting
 Trendy valentines of the 1830s featured brokenhearted lovers
Source: World Book Encyclopedia

FREE Admission
 To THE AVION office, anytime just walk in and present this coupon.

What is

CFC ??

➡ Come SAT 6:30 p.m.
 Student Center Conf. Room

Food!

special guests!

✓ Check us out

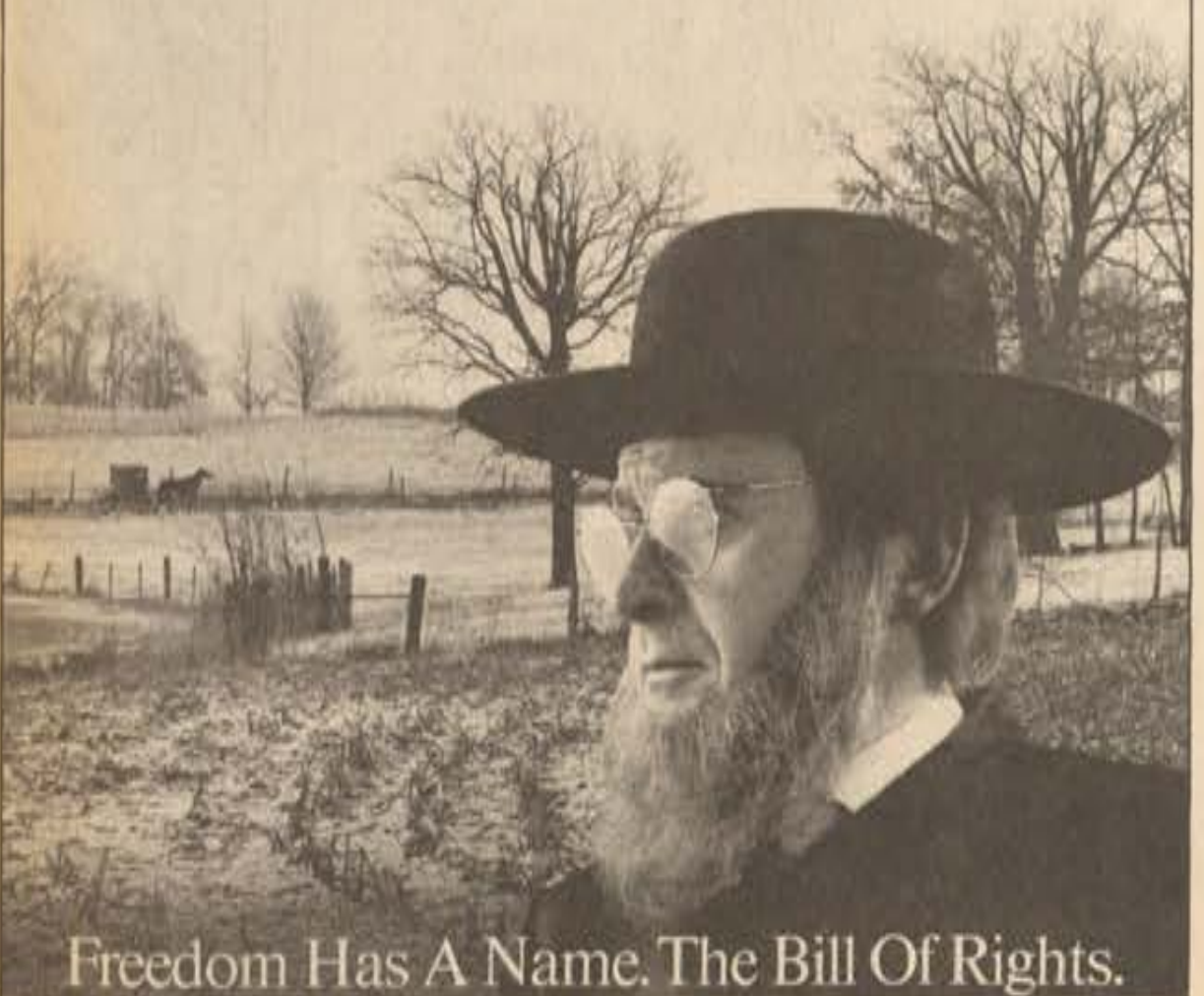
Christian Fellowship Club

The Bill of Rights guarantees religious freedom. Otherwise he wouldn't have a prayer.

Shunning modern conveniences, they live peacefully in simple communities that dot the landscape. The Amish.

Across the nation, Americans practice their religious beliefs in many ways, from formal worship to simple bedside prayer. For the Amish, these convictions are so strong that they have tested the Bill of Rights on more than one occasion. Thankfully, the First Amendment rights accorded to the Amish apply to us all.

Freedom of religion allows the Hari Krishnas to parade with bells on their fingers, just as it allows the Baptists to ring their church bells on Sunday mornings. It supports the Jehovah's Witnesses in their refusal to pledge allegiance to the flag, just as it permits the Amish to remove their children from public schools after 8th grade. No other nation has this combination of religious diversity and tolerance. Whether you practice an established religion or not, your choice is protected by the Bill of Rights.



Freedom Has A Name. The Bill Of Rights.

Eagles

Basketball



TONIGHT 7:30
AT
SILVER SANDS
AGAINST
FLORIDA MEMORIAL