

Skylab reentry date predicted for July

Attitude maneuver may allow some control over final orbits

Derelict space station Skylab continues to drop lower in its orbit despite force fields sent out by psychokinesis buffs, and suggestions by callers to capture Skylab with "huge magnets" or to shoot it down with a surface-to-air missile.

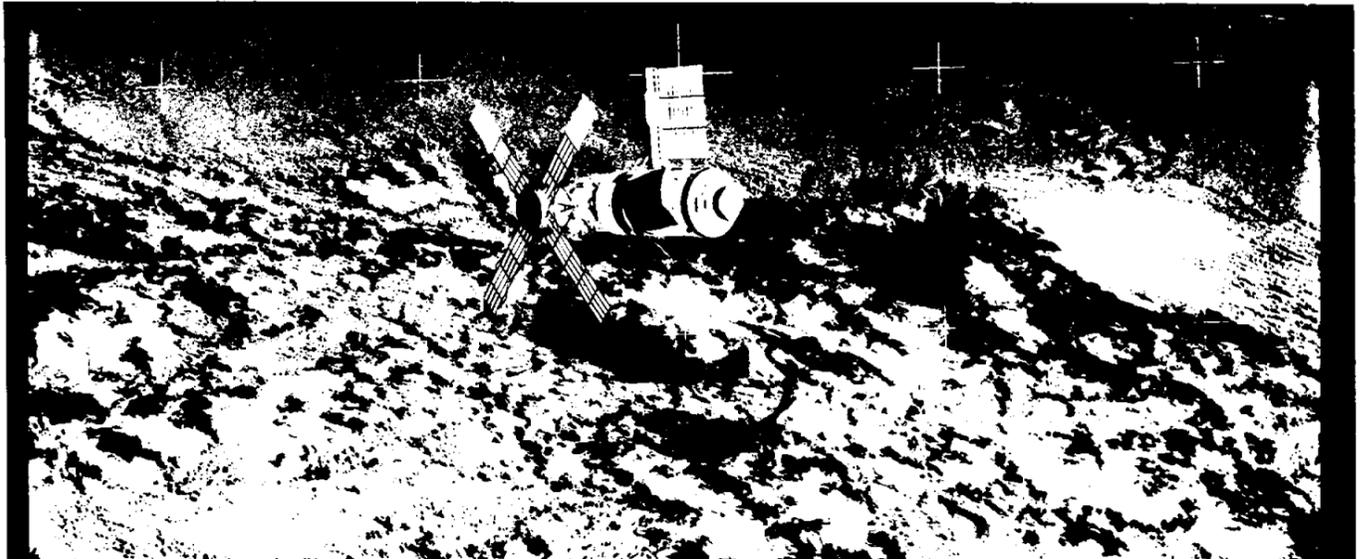
This week's prediction for 50% probability of Skylab entry from NORAD (North American Air Defense Command) is for July 16, with a 95% probability of entry between July 4 and July 28. NORAD updates its predictions weekly based upon skin tracking of Skylab.

NORAD's latest figures on Skylab orbit place apogee at 178.8 statute miles and perigee at 170.4 miles.

Abnormal solar flare activity during the six years since the Skylab Workshop was launched has caused "bulges" in the Earth's atmosphere to reach out to the space station's altitude, forcing Skylab's orbit to wear out faster. When launched in May 1973, Skylab was predicted to have an orbital lifetime of 10 years.

The 79-ton space station is expected to break up and vaporize as it enters the atmosphere, although some components such as titanium and stainless steel pressure vessels and the airlock shroud may survive reentry and reach the Earth's surface.

June 18 JSC flight controllers in Mis-



sion Control Center will attempt to maneuver Skylab into torque equilibrium attitude (TEA)—an attitude in which aerodynamic and gravity gradient forces balance each other. Skylab has been in solar inertial attitude—solar panels facing the sun—for the past several weeks to keep battery charges topped off.

Placing Skylab into the TEA-formation is supposed to give more aerodynamic control and perhaps even an option of

selecting entry orbit as the space station begins dragging through the upper reaches of the atmosphere.

Harried news center people at JSC, MSFC, and KSC are quick to point out to concerned callers that in 22 years of space flight, there has not been a single instance of personal injury or property damage caused by falling space debris, and that an individual is much more likely to be hit by lightning than by a piece of

Skylab. Moreover, it is explained, Skylab did its job and did it well for 171 manned days of operation, and the space station would have entered the atmosphere eventually when its orbit wore out.

Actual Skylab entry location and orbit ground track will not be certain until the final two orbits, although NORAD plans to issue daily entry predictions beginning 10 days prior to atmospheric entry.

—Terry White

Hot rooms and low lights, new energy plan under way

Loosen your tie and lighten your fabric weight. It's going to be a long, hot summer, and because of new Federal policy, it's going to be even hotter than usual in JSC's buildings.

President Carter has issued instructions to each Executive Agency to reduce energy consumption by 5% over a 12-month period. Each NASA field center has the same 5% goal; however, JSC is currently overrunning its fiscal year energy consumption plan by 4.5%.

We're going to have to try harder, NASA officials say, and the official energy reduction plan is as follows:

Thermostats will be set so office temperatures will not go lower than 80 degrees. This rule will be strictly enforced and monitored. Heating and cooling of halls and corridors has been, or soon will be, eliminated or severely reduced. Center management suggests closing blinds and hallway doors to keep offices comfortable.

The use of personal fans or similar devices is prohibited.

Lighting levels will be kept to the minimum required for the task. Each directorate is to submit a plan for consolidating work areas and eliminating low use areas by June 15. The use of equipment to support clerical and research work is also to be reviewed, with a plan to discontinue use of "low priority" equipment to be submitted by each directorate June 15.

Each JSC organization is to find ways to do its work using less energy. Energy intensive R&D programs are being evaluated to reduce high energy intensive equipment use. Each directorate will submit an activity planning schedule indicating what tests or flights are necessary and what energy resources required.

The Engineering Division will accelerate its review of use of office equipment. No high heat-generating equipment will be procured for use in an office type environment without Engineering Division approval.

Equipment such as word processors and automatic drafting machines ad-

Continued on Page 2

Gas shortage hits Motor Pool

The Motor Pool ran out of gas last week, and for two days Center personnel were sent to the streets to stand on line at gas stations—when they could find them open.

A Motor Pool spokesman said the GSA used to have a contract for regular delivery of gasoline. "Now they have to get it wherever they can get it."

He said he'd been promised gas by close of business Tuesday, then by noon Wednesday, and he still wasn't sure there would be gas on Thursday.

At 4 p.m. Thursday a 6500-gallon delivery came in, usually enough to last 10 working days. The spokesman said that if that delivery had not come, JSC's taxis and shuttles would have joined other cars on lines at stations near the Center.

In the two-day period, around 200 employees were turned away from Motor Pool tanks. The spokesman could not say if there would be a similar problem when this gas supply runs out.



BABY PALM TREES are irresistible to touch. JSC visitors could not keep their hands off these small trees near Building 2. Damage was setting in until someone put up this sign. Now the trees are a big tourist attraction—a favorite spot for mom and pop to pose with the kids. But is there really danger? Will poison sap squirt out if you approach? A duplicate of your body emerge from the pod-shaped growths? No need to worry, just heed the sign. Like Coneheads, they come from France.

As a secretary she's a scholar



Billie Gibson
Outstanding Secretary

"There are everyday functions that a secretary performs," says Don Arabian. "A good secretary handles these tasks without fuss and fanfare, providing the essential link between the 'inner office' and the outside world.

"Billie Gibson is a scholar in that field," Arabian says. "The efficient use of the manager's time is directly affected by the efficiency and ability of the secretary to sort the wheat from the chaff.

"There is a lot of chaff these days," Arabian says.

Gibson has made calculated use of JSC's employee development, taking the right courses to make herself professional in her job. "Mrs. Gibson maintains a continuous training effort which is reflected in her work," Arabian says.

Billie Gibson, secretary to the Manager, Program Operations, is May's Secretary of the Month.

3 women named for 3 awards

CAROLYN LEACH HUNTOON, Ph.D is the nineteenth recipient—the first woman ever to receive the **Louis H. Bauer Founders' Award of the Aerospace Medical Association**. She received the honor at the 50th annual scientific meeting of the association held in Washington May 17.

Huntoon is Chief of the Biomedical Laboratories Branch and Deputy Chief for Personnel Development of the Astronaut Office.

Established in memory of Louis H. Bauer, M.D., founder and first president of the Aerospace Medical Association, the award is given annually for the most significant contribution in space medicine.

Earlier recipients include several physicians currently or formerly well-known in medical operations at JSC: Drs. Rufus R. Hessberg, L. F. Dietlein, W. R. Hawkins, Charles A. Berry, and Stanley C. White.

ELSIE M. EASLEY, Chief of the JSC Supply Branch, was named the first recipient of the **American Business Women's Association's "Abbey" award** June 5. The award was established by the Clear Lake Area Chapter of ABWA to recognize an individual who has done the most for advancement of women in their careers, either by helping others or by setting a personal example.

Easley joined JSC in the early 1960's as a stock clerk and was named a section chief in 1968. She became Chief of the Property Branch in 1974, heading an organization of 19



Huntoon



Easley



Horton

professional and non-professional employees until her recent transfer.

A member of the Clear Lake Area chapter of the ABWA since 1977, Easley was described as "always available to give assistance and encouragement when needed. She asks people their opinion on various matters and constantly gives them credit for good ideas."

LOUISE HORTON, secretary to Paul Kramer of the Avionics Systems Division, has been named **1979 Woman of the Year** by the Clear Lake Area chapter of the American Business Women's Association (ABWA). Horton was honored at the chapter's June meeting at the

Golfcrest Country Club.

The Clear Lake chapter bestowed this honor on Horton in recognition of her professional talents and her service to the organization. She will represent the local chapter at the National Convention at Minneapolis in October.

After joining the chapter in March 1976, she served as a member and then chair of the Membership Committee. She became vice president in 1977, and is currently serving as president.

Horton began her career with NASA in 1964, and since then she has attended numerous JSC training classes. She is currently enrolled at San Jacinto College.

2 JSC Exchange scholarship winners chosen from 'extremely qualified' group of applicants

Both are valedictorians for their high school graduation class this year. Both have been active in school and in the community, and they are on their way to college next fall.

They will take NASA Exchange—JSC Scholarships with them to help cover college expenses.

Kristin Haugen is going to Southern Methodist University in Dallas to study engineering. She was Clear Creek High School's Senior Honor Society president, sang in the Clear Creek Chorale, was voted basketball sweetheart, acted in the senior play, and is a member of the Junior Engineering Technological Society.

Her father, Kenneth Haugen, is a JSC pilot at Ellington.

Mitchell Smithson is on his way to the University of Houston, and, he hopes, later to Rice, to study electrical engineering. He was active in Pearland High School's science club and drama club, and he's a member of the National Honor Society.

His father Jerry Smithson (deceased) was an engineer in the Propulsion and Power division of Engineering and Development.

Each year the JSC Exchange sets aside funds for scholarships for children of JSC civil servants. Announcements go out in February, and there are 45 to 60 applicants a year.

"The quality of all the applicants is extremely high," said Harvey Hartman, chair of the scholarship committee. "You could award 15 of them and not sacrifice quality."



FUTURE ENGINEERS—Smithson, above, and Haugen, below, with parents receive award and pep talk from Center Director Christopher Kraft.

He describes the sealed book selection technique. "My secretary (Ruth Hollen) sanitizes the applications," he said. "We don't know the name, race, sex. All we see is the objective performance."

The committee, made up this year of Hartman, Ken Gilbreath, and Martha Speller, evaluated applicants according to grades (considering the difficulty of courses taken), class standing, and SAT scores.

"There were ten this year with SAT scores higher than 1200," Hartman said. "Five scored 1300 or better."

Community involvement and financial need are also considered.

JSC has been awarding scholarships through the Exchange Council since 1967. "We have as many as ten students on scholarship at any one time," Hartman said.

Applicants must be unmarried dependents of NASA civil service personnel who have been working at JSC for at least two years. Dependents of personnel who were medically retired or deceased in the preceding year are also eligible.

Scholarship support up to \$3000 is awarded.

Energy policy

Continued from Page 1

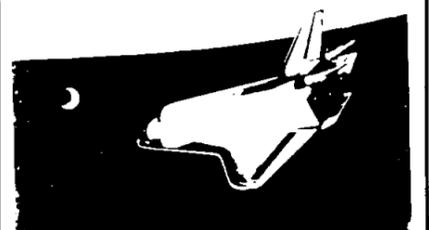
versely affect heat levels in office environments and should be located in areas now receiving special environmental control.

Automotive fuel consumption will be reduced 10%. This applies to GSA vehicles and privately-owned vehicles (POVs) used on official business. Until further notice, all personal preference use of POVs on official business is prohibited, except for local area travel within a 50-mile radius of JSC.

The Director of Center Operations serves as the JSC Energy Resources Manager, and is responsible for managing and reporting our efforts in achieving this energy reduction goal.

However, it will take full cooperation of each person on site to achieve the goals set forth by the President.

Roundup deadline is the 1st Wednesday after publication.



The Roundup is an official publication of the National Aeronautics and Space Administration Lyndon B. Johnson Space Center, Houston, Texas, and is published every other Friday by the Public Affairs Office for JSC employees.

Writer/Editor: Kay Ebeling

Bulletin Board

Please limit announcements to 10 lines, double-spaced copy

Philatelic Exhibition To Follow Apollo 11 Theme

SPACEPEX '79, the annual philatelic exhibition of the JSC Stamp Club will be held July 20, 21, and 22, with the tenth anniversary of the Apollo 11 lunar landing as its theme. A pictorial cancellation showing the U.S. flag, the Apollo 11 emblem, and the "Moon Landing USA" postmark will be in use during the exhibition. Temporary postal stations will be in operation at the Nassau Bay Resort Hotel on NASA One, and in the visitors center in Building 2. A set of three cacheted

There will be no Bulletin Board section in the July 13 issue of *Roundup*. That issue will be a special edition for the tenth anniversary of the lunar landing July 20 Space Day. Club and organization reps, please note.

EAA Reps Have Alley Theatre Order Forms

Season tickets are again available for next year's five performances at the Alley Theatre for the low price of \$24.50. See your EAA rep or bulletin board for an Alley Theatre brochure which contains an order form for subscribers. Enclose a check or indicate a charge plan, and send it to Doris Wood, EF-1 (x-2161). Your check will be cashed or charge card billed in September. Coupon books will be home-mailed just prior to the opening of the '79-80 season in October.

covers with SPACEPEX cancellation for each day is available for \$1.50, or one for 50¢ from the JSC Stamp Club, Box 58328, Houston, TX 77058.

JSC EXCHANGE STORE (Store hours 10 a.m. to 2 p.m.)

Dean Goss tickets - \$10 single
\$20 couple (Reg. \$14.50)
ABC Theatre tickets - \$2 each
General Cinema tickets - \$2.40 each
Six Flags Over Texas tickets
\$7.25 for one day (Reg. \$9.25)
\$9.25 for two days (Reg. \$13.95)
Astroworld tickets - \$7.25 (Reg. \$9.25)
Magic Kingdom Cards - Free
Sea-Arama Marineworld Fun-Time Card - Free

Museum of Fine Arts Features Matisse and Picasso

An exhibition that concentrates on 20th century prints from the museum's permanent collection of School of Paris Prints is on display at the museum's Romansky Galleries through July 1.

Lunarfins Offer Scuba Course

The JSC Scuba club, Lunarfins, will offer a basic scuba course beginning July 1 at Gilruth Center. Students who successfully complete the course will be certified by NAUI. Enrollment is limited. The club schedules regular boat trips to the Flower Garden Reefs, sunken wrecks, and platforms in the Gulf—plus favorite diving locations in the Caribbean. Lunarfins' training officer, Brad Hillaker, at 676-8029, has more information about the course.

What's cookin' in the JSC cafeteria

Week of June 18 - 22

MONDAY: Chicken & Rice Soup; Texas Hots & Beans; BBQ Ham Steak; Steak Parmesan; Beef & Macaroni (Special); Green Beans; Carrots; Au Gratin Potato. Standard Daily Items: Roast Beef; Baked Ham; Fried Fish; Chopped Sirloin. Selection of Salads, Sandwiches and Pies.

TUESDAY: Tomato Soup; Potato Baked Chicken; BBQ Spare Ribs; Mexican Dinner (Special); Squash; Ranch Beans; Spanish Rice; Broccoli.

WEDNESDAY: Clam Chowder; Baked Turkey; Liver & Onions; BBQ Ham Steak; Baked Meatloaf w/creole sauce (Special); Beets; Brussel Sprouts; Green Beans; Whipped Potatoes.

THURSDAY: Beef & Barley Soup; Chicken & Dumplings; Corned Beef w/cabbage; Smothered Steak w/cornbread dressing (Special); Spinach; Cabbage; Cauliflower au gratin; Parsley Potato.

FRIDAY: Seafood Gumbo; Pork Chop w/Yam Rosette; Creole Baked Cod; Tuna & Salmon Croquette (Special); Brussel Sprouts; Green Beans; Buttered Corn; Whipped Potatoes.

Week of June 25 - 29

MONDAY: Cream of Celery Soup; Braised Beef Ribs; Chicken a la King; Enchiladas w/chili; Italian Cutlet (Special); Brussel Sprouts; Navy Beans. Standard Daily Items: Roast Beef; Baked Ham; Fried Chicken; Fried Fish; Chopped Sirloin. Selections of Salads, Sandwiches & Pies.

TUESDAY: Beef & Barley Soup; Turkey & Dressing; Country Style Steak; Beef Ravioli; Stuffed Cabbage (Special); Corn Coblette; Okra & Tomatoes; French Beans.

WEDNESDAY: Clam Chowder; Catfish w/hush puppies; Roast Pork w/dressing; 8 oz T Bone Steak; Chinese Pepper Steak (Special); Broccoli; Macaroni w/cheese; Stewed Tomatoes.

THURSDAY: Cream of Tomato Soup; Beef Tacos; BBQ Ham Slice; Hungarian Goulash; Chicken Fried Steak (Special); Spinach; Pinto Beans; Beets.

FRIDAY: Seafood Gumbo; Liver w/onions; Deviled Crabs; Roast Beef w/dressing; Seafood Platter; Tuna & Noodle Casserole (Special); Whipped Potatoes; Peas; Cauliflower.

JSC veteran Packham dies

Leonard E. Packham, assistant chief of JSC Tracking and Communications Development Division until his retirement from NASA service in 1974, died June 3.

Packham joined the NASA Space Task Group (ancestor of MSC/JSC) in 1959 and was assigned to planning facilities and equipment for the Mercury tracking network. He earlier had

been a telemetry design engineer with A. V. Roe Aircraft, Ltd. of Canada in aircraft and missile projects.

Packham remained in the telemetry and communications field throughout his NASA career. He was born in Saskatoon, Saskatchewan, and served in the Royal Canadian Air Force in England during World War II.

Roundup Swap Shop

Property & Rentals

Lease: Middlebrook 3-2-2, fireplace, wet-bar, refrigerator w/ice-maker, grill, porch, fenced, landscaped, add'l furniture if necessary, \$550/month plus deposit, 1 year lease. 488-2913.

Beach front cottage on Gulf at Port Bolivar, \$35/day with \$50 security deposit. Horton x3734.

Rent: Waterfront vacation retreat by marina at Cape Royale on Lake Livingston, new 3 bdrm, tennis, pool, golf, boat launch, by week. 488-3746.

Rent: Beautiful 2 bdrm apt on 9th floor of Galveston beachfront hi-rise condo, completely furnished, cable TV, tennis, pool, \$55/day, \$285/week. 488-4276.

Vacation Lake Livingston Cape Royale. Enjoy charming custom 3-2-1, compl. furn home nestled among trees by the water, rent by wk/mo/yr. 488-4487.

Fannin Co. Texas vet tracts and ranchettes. 554-2780 after 5.

Rent: Bacliff mobile home, 2 bdrm, bath, patio, a/c, heat, washer, dryer, stove, refrig, no children, no pets, \$200 deposit, \$225/month 339-1216.

Carpools

Wanted: Carpool from SW Freeway at Westpark to JSC for the 7:30 to 4:00 shift. Carol Keskitalo x4696 or 496-4945.

Looking for Carpool, Non-smokers, Gulf Freeway (Monroe exit) to JSC, 8-4:30 shift. Have Pontiac Sunbird. Thompson x5441.

Have the gas tank green? Live around Sagement/Beverly Hills Area Two attractive charming girls need you to carpool. x2407 8:30-5

Rider needs transportation from Calhoun (near U of H. main campus) 8-4:30 or 8:30-5 shift. Esther x3230 or 748-4229.

Opening for a 4th person to carpool from West University to JSC, 8:00 to 4:30, starting in July. Krpec, x3284, Gremillion x4271.

Need ride from Pearland, near 518 & Dixie Farm Rd., to JSC. 7:30-4. Jack x5011 or x2564.

Would like non-smoking carpool member from Edgebrook (A.B. Freeman Elementary School) Area 7:30-4 shift x4721 or 944-5615 after 5 pm.

Miscellaneous

Icom 230 two-meter synthesized ham receiver w/touch-tone & new mobile antenna, \$310.00 Dave x3194 or 485-6407 after 6.

Galvanized swing set w/2 swings, teeter-totter, trapeze bar w/chair. 9 ft. legs. 1/2 price \$120 333-3789.

2 white cornice boards for living room/dining room area (93" and 121" long) 488-2913. Gary McCollum x5031

Fresh local honey. Pints \$1.65, quarts \$2.75, Gallons \$10. Ward x4976.

4 24" doors, 3 paneled w/frames, \$20 each, 1 hollow core \$5. Frosted glass table top, 42" diameter \$15. 334-3370.

Locking gas-cap for 73 Ford LTD. Like new \$3. Bartosh x4039.

There will be no Swap Shop ads in the July 13 issue of *Roundup*. That issue will be a special edition for the tenth anniversary of the lunar landing July 20 Space Day.

"Left-hand, bolt-action, Savage .22-250 varmit/deer rifle w/2x7 variable power Leopold scope, mounts, case. \$300. 534-4603 after 6 pm.

5,000 BTU AK, \$80. Gas Dryer \$100 Webcor Tape Recorder (Statesman) \$35 946-4311 Ted Lapko x3054.

5' by 4' Wards metal storage shed, \$35. 485-6423

Cycles

77 Yamaha 750, shaft drive, fairing, back-rests, etc, exc cond. Parked behind Bldg. 5. Mark x3551 or 333-5150.

76 Kawasaki, 900cc, top cond, accessories, one adult owner, \$1900. Annexstad x3274 or 534-4338.

Musical Instruments

Guitar, acoustic, steel string, adult size, Kamico, great for beginner, \$40. Zrubek, 333-2549 after 5:30.

Ludwig symphony snare drum, exc cond, asking \$125. Tony x5547 or 334-3346 after 5.

Boats & Planes

Brand new Sunfish sailboat, save \$100 off retail. Graham x4471.

78 Mariah jet boat, 360, custom trailer, low hours, economical on gas, \$5500. Cheryl Farley 422-2752

Fisherman, duck hunter, 12 ft. Sears fiberglass boat, 10 hp Evinrude highlander trailer, exc cond, owner moving, \$675. 522-4670 or 488-3497.

IFR home study course material. Jeppesen Instrument Rating course, Acme pilot exams, FAA instrument flying handbook, \$30. Millican x4354.

77 Marquis 15 1/2" ski boat with 70 hp Mercury skipper B trailer, tachometer and speedometer, exc cond, \$2800. Bob Brady 488-0515 after 6.

Outboard motor, Wards 7 1/2 hp, forward/neutral, integral tank/external connection, no salt water, under 30 hours, \$160. Erickson x3528 or 649-0396.

Cars & Trucks

77 Dodge Santana vancamper, low mileage, seldom used, deluxe options, 13 mpg, 28K miles, cream puff, \$10,000. Bowser X4471 or 434-2987.

Pickup cover, red on white, exc cond, \$150. Granger x6357 or 482-6638 after 6.

72 Ford Galaxy 500, 4-dr, V8, PS, PB, a/c, auto, reg gas, radio \$700. Bullock x4361 or 482-6401

73 International Travelall, 3/4 ton, a/c, fully equipped for trailering. 333-3644 after 5.

75 Ford Elite, one owner, PS, PB, a/c, AM/FM stereo, 67,000 miles, very good reliable car. Betty x2073 or 488-4755

70 Cadillac Sedan Deville, loaded, \$895. 488-2913

76 Chevy van, a/c, power, 38,000 miles, versatile interior, other extras, good mpg, top cond, \$4,200. Steve x3087 or 554-2435.

76 Monte Carlo, low mileage, exc cond, many extras, \$4195/best offer. 488-1042.

75 Ford LTD SW, fully loaded, 49,000 miles, exc cond, \$2300. Frank x4477.

76 Chevy 5/8-ton PU, 49K miles, tilt wheel, AM/FM cassette stereo, CB, a/c, PS, PB, mags with 6-ply raised white letter tires, \$4350. 471-0520 after 6.

Car of the year - 78 Toyota Celica ST Hatchback, 5-speed, a/c, showroom cond, almond w/blue interior, large discount. Horton 334-2360.

Wanted

Camaro or Chevelle with good body, interior and a/c, engine cond not important, will pay up to \$1000. 481-3900.

Black and white photographic film developing and printing equipment suitable for a beginner. Jim Shannon x3148 or 485-1398 after 6.

Pets

Need good home for spayed female dog (small). Is used to being around lots of other dogs, cats, and kids. Call Glenn at x4231 or 474-3941 after 5:30.

Boxer puppy, AKC registerable, flashy fawn male. V. Bailey 337-2855.

Dog boarding and limited grooming at my home. 332-4854.



HAVE YOU SENT YOUR COST REDUCTION REPORT ON JSC FORM 1150 TO COST REDUCTION OFFICE BG-3 ?

Cartoon by Russ Byther

Monitoring man's adaptation to space

"Roll up your pant leg," says Patty Ryan.

She attaches electrodes in a triangular pattern just below the Achilles tendon of the test subject's leg. He then walks around the zero-G office drinking coffee with wires dangling from his legs until it's time to board the plane.

Onboard the KC135 at Ellington, the subject lies on a stretcher and Ryan hooks the electrodes to an oscilloscope. "Hold still now," she says. "We're taking baseline data."

With a stimulus probe, she searches for the tibial nerve to evoke the Hoffman reflex. She touches different spots around the back of his knee. An electric current excites the nerve, carrying a signal to the spine and down the leg. His shoulder twitches.

"That's it," says Joe Baker, reading the waves on the oscilloscope screen.

Patty tapes the electrode to that spot, and the subject goes to the back of the plane to strap in for takeoff.

Mill Reschke has been flying test subjects (JSC employees who volunteer for three years), researching causes of disorientation in weightlessness. In space, astronauts have felt a kind of physiological confusion. There is no up or down, the Earth may be over your head, visual clues don't

match up, your inner ear struggles to find the center of balance, fluids shift, your stomach starts to churn. . .

Not the ideal state to be in while performing orbit procedures during a Shuttle flight.

Trying to reduce the problem for Space Shuttle astronauts, JSC scientists have developed an experiment to fly on Spacelab One that will test the effects of weightlessness on the otolith system (the inner ear) and how they relate to adaptation problems such as motion sickness.

"In other words, you have normal signals coming from the skin, the canals, and the eyes—and abnormal signals from the otolith. This confusion in the central nervous system may be responsible for disorientation and sickness," Reschke says.

Postflight studies from Apollo and Skylab missions showed that prolonged exposure to weightlessness affected some crewmembers' ability to maintain balance and posture for up to seven days. Little is known about postural reflex behavior during sustained weightlessness, scientists concluded, and a Spacelab experiment was developed.

Principal Investigator is Millard Reschke, Ph.D., of JSC's Neurophysiology Lab, with Jerry Homick, Ph.D., and David Anderson, Ph.D., as co-investigators. Homick is head of the Neurophysiology Lab, and Anderson is from the University of Michigan.

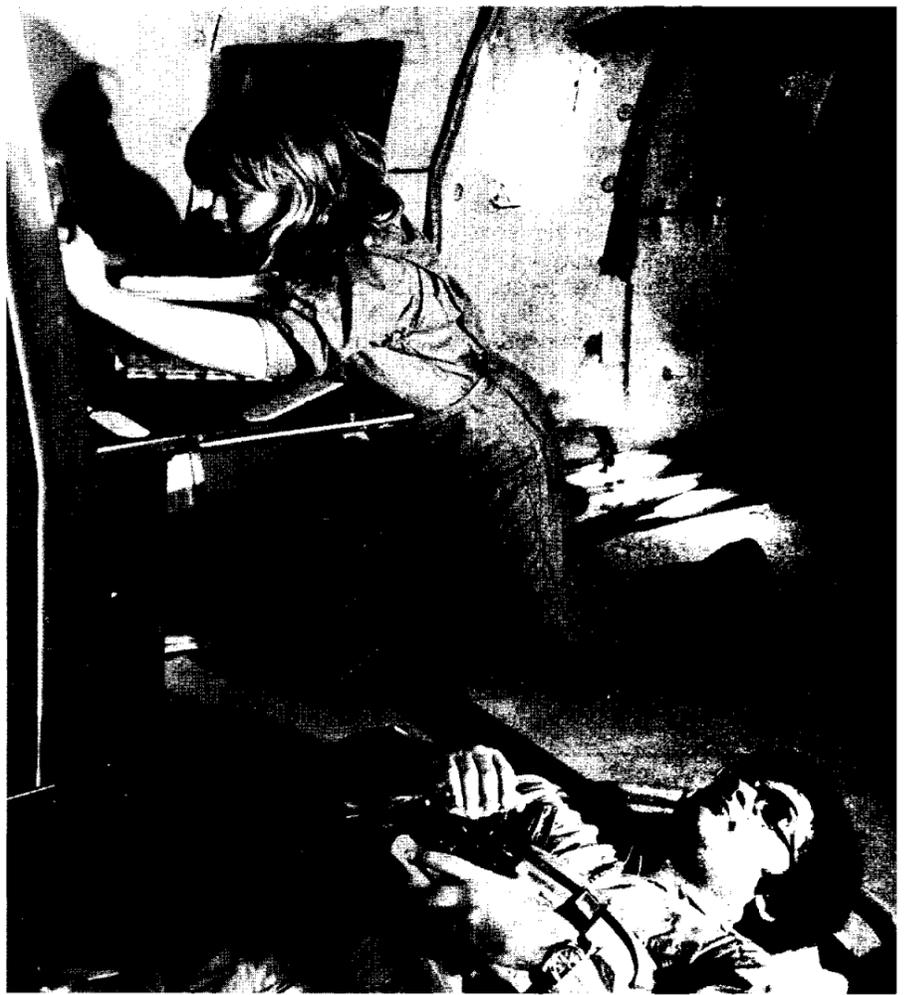


Photo by Kay Ebeling

A present objective is to fly as many subjects as possible with NASA's parabolic aircraft to get preliminary data. Astronauts on Spacelab One will then continue the experiment on orbit.

The KC135 reaches its airspace over the Gulf and the JSC subject is strapped in, enthused and excited. He is about to experience weightlessness for the first time in his life.

"Hold still now, we're taking baseline data," Reschke says. One millisecond square wave shocks run through the subject's nerves every three seconds. He lifts up his head, curious about the activity of crews from other experiments on the plane.

"Hold your head still," Ryan says. The plane surges and goes into the 30-second weightlessness of a flight parabola. Ryan grabs hold of the oscilloscope and her legs fly out from under her as she records data. The subject, curiosity getting the better of him, raises his head to watch the scientists, engineers, photographers, and technicians floating around the plane.

"You have to hold your head still," says Bryant McPherson, another of Reschke's assistants.

The subject looks a little disappointed. Negative g's push him up

against the straps. His arms float up, limp. Every three seconds jolts twitch through his nervous system. He doesn't move his head, even as astronaut candidates float by. Not the three hours of almost being in space he was counting on.

But 27 parabolas and hundreds of shockwaves later, Reschke gives in and lets him free-float. Everyone wants to free-float—at least once in a KC135 flight.

So next parabola the subject pushes off from the stretcher and flies like Superman across the plane, a four-inch grin on his face.

Preliminary conclusions from this experiment show that weightlessness increases the H-response, while hyper-g (the 1.8 g felt when the plane ascends for each parabola) inhibits and, in some cases, eliminates the H-reflex response.

"One theory is that the sickness is caused by sensory conflict," Reschke says. "Or sensory 'confusion.' That's a respectable word."

"We're not really looking for motion sickness on Spacelab One," he adds. "If incidentally it occurs, we'll use whatever benefits we get from it."

"It's all a question of adaptation to a unique inertial environment."

KC-135 RESEARCH AIRCRAFT TRAJECTORY

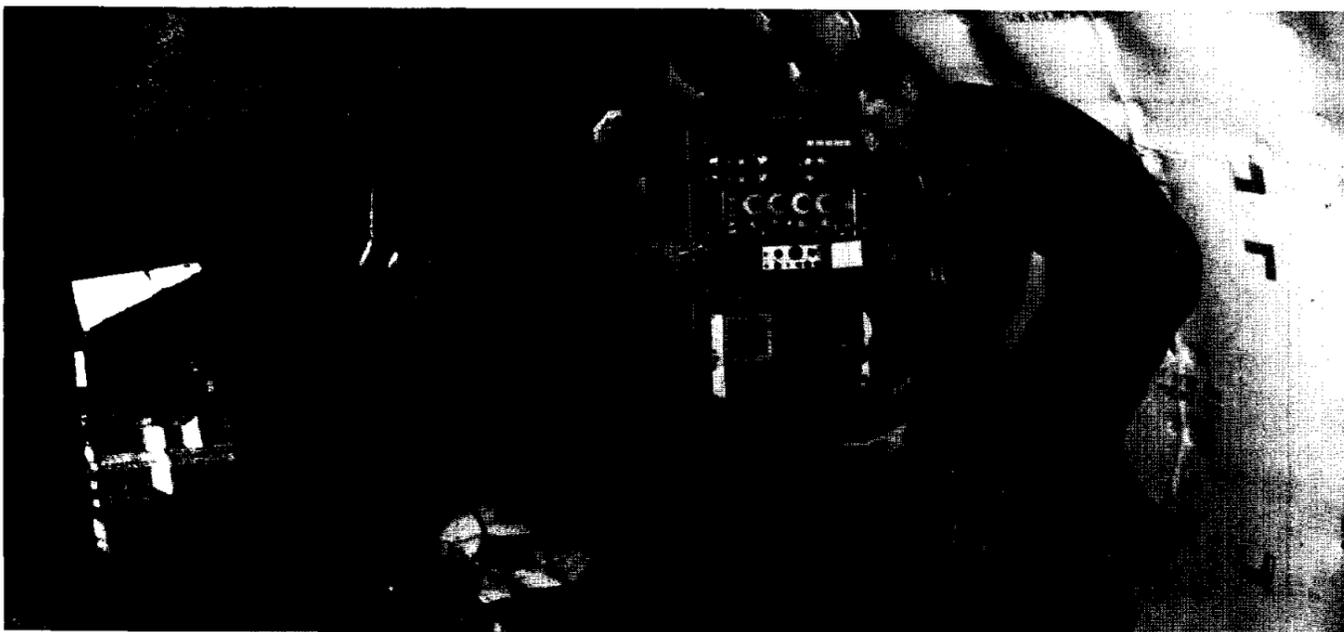
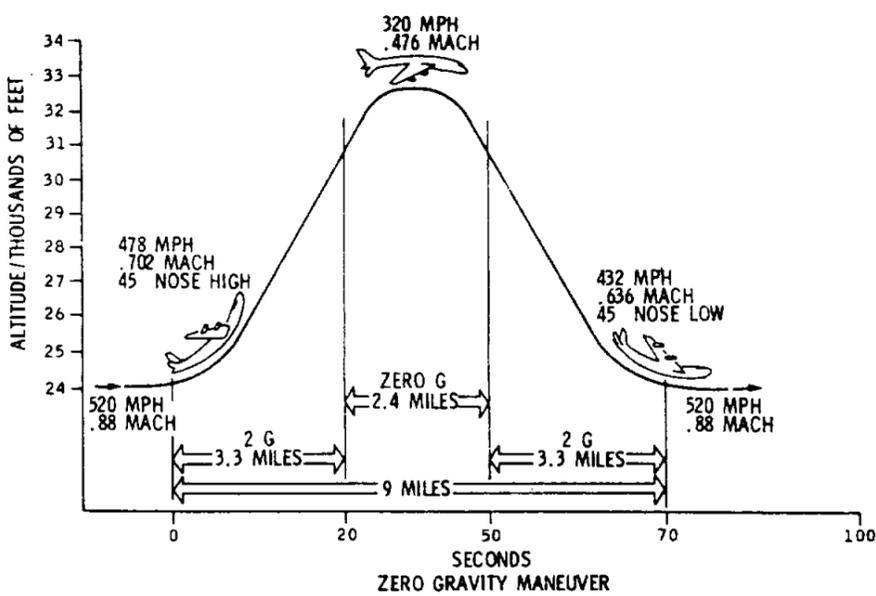


Photo by Terry Slezak

Think Tank Results

Of the 22 solutions received, only five were correct. Our winner is **C. L. Ritterhouse**. Runners up are **Bert Gifford**, **Bob Hinson**, **M. C. Jacoby**, and a person who forgot to tell us his or her name.

Answer: Only one round trip.

Booby prize: for the following entry (name withheld): "Dear Sir: I can do this in one trip. However the explanation is long. If no one else can, contact m.e."

JSC employees attending the Center picnic May 5 at Camp Manison lost two bullhorns and an Omega watch. Anyone with information concerning these lost items is asked to contact the Security Office, Bldg 45, Rm. 212, x-4441.