

New era of exploration is here

Space shuttle revitalizes NASA

CAPE CANAVERAL, Fla. (AP) — The space shuttle and a new era of exploration is at hand, and it can't come soon enough for the people here whose job is dispatching men into the cosmos.

It's been nearly 10 years since Americans first set foot on the moon and four years since the United States last sent men into space. The launch pads of Mercury and Gemini and Apollo and Skylab are silent now, many gone, their girders sold for scrap.

The shuttle is a reusable vehicle capable of making 100 or more round-trips into space. It will be used to carry satellites into space, repair satellites in orbit and perhaps eventually lead to the first stations where man can live and work in space.

The work force at the Kennedy Space Center here was at 27,000 in the Apollo heyday. It is now down to 10,600. Those left have watched with envy as the Russians have regularly launched men into space, breaking all American endurance records.

America's last manned space flight was a joint mission with the Soviets in 1975. Since then, 12 Soyuz craft, bearing a total of 24 cosmonauts, have rocketed into orbit.

While watching the Soviets, the National Aeronautics and Space Administration has been developing a new manned craft — the shuttle.

That program reaches a milestone tomorrow when a Boeing 747 jet sets down here. Perched on its back will be Columbia, the first shuttle earmarked for space. It is being ferried cross-country from the Rockwell International plant at Palmdale, Calif.

Thousands of workers and their families are expected to turn out to greet it. "They're excited; you can feel a great increase in the pulse here," center director Lee Scherer said in an interview.

"Their job is putting men in space, and finally, they're going to get another manned vehicle to work on," he said. "They can't wait to get their hands on the damn thing."

Months of work lie ahead before the shuttle is ready to fly. The main engines have to be tested, delivered and installed. Thermal tiles must be positioned to protect Columbia from searing re-entry heat. Booster rockets and fuel tanks must be readied.

The launch is scheduled Nov. 9. But Scherer conceded NASA is working on a "success-oriented" schedule. He said:

"If there's a problem of any magnitude, it could cause a delay. We'll have a better handle on how we're doing after a couple months. We're dealing with a very sophisticated machine that is pushing the state of the art, and we won't launch until we are ready."

The shuttle is a space plane — a hybrid of rocket, spacecraft and airplane. After each flight into space, it will glide back to a landing on a three-mile long runway and be towed to a hanger to be readied for another trip within two weeks or so.

Each of the four shuttles approved by Congress will be capable of making 100 or more roundtrips into space.

The main engine, the most advanced rocket power plant ever, is made to burn super-cold liquid hydrogen and liquid oxygen. Pressures inside the chamber are four times greater than those in the engines that drove Apollo's Saturn V rocket.

Columbia's first flight will be relatively brief, a 54-hour orbital test. The astronauts will be John Young, a veteran of four space trips, including a moon walk, and Robert Crippen, a rookie spaceman.

Five or six test flights are planned before Columbia is operational, probably in 1981. Then it will be ready to do things never tried before in space. The first 28 flights are sold out to government agencies, industry and others who want to put payloads into orbit.

The shuttles will put satellites in space for research, weather forecasting, communications, and military reconnaissance. They will carry up a small European Space Agency station called Spacelab.

The space planes will have a capacity of hauling up to 65,000 pounds and, once in orbit, also will launch probes bound for other planets.

Each shuttle will carry up to seven people, some of them women. Six women currently are in training. Crews will be able to repair an ailing satellite in orbit or bring it back to Earth for maintenance, cutting costs and considerably extending the lives of many payloads.

Eventually, the shuttle fleet may ferry people and parts for building solar

satellites, space factories, moon bases and habitats for colonies far from Earth. "The more we fly the shuttle, the more things we'll discover to do with it," Scherer said.

To prepare for an expected 40 to 50 launches a year in the 1980s, shuttle bases are being built here and in California.

Dick Lyon, chief of the project engineering office here, said wherever possible, NASA is modifying Apollo facilities for the shuttle. "About the only things we've had to build are the 15,000-foot runway and two orbital processing facilities," he said. The latter are hangars where shuttles will be refurbished after missions.

After servicing, the shuttle will go to one of the world's largest buildings to be fitted with two booster rockets and a fuel tank. From there it will be off to one of the extensively modified Apollo launch pads.

The Apollo launch control center also will be used, but gains in computer technology means the facility can be run by 45 persons, one-tenth the 450 needed for Apollo. The final countdown also will be slashed — from Apollo's 28 hours to 2½ hours.

The preparation of shuttle facilities is being done at a cost of about \$900 million, Lyon said.

"Because of tight budgets, we had to really watch our costs," he said. "It's not like Apollo, where we had a national commitment and if you needed money to do something, it was pull out all the stops."



HAVE YOU HAD MONO?
(In the last 3 months)

Sera Tec Biologicals is in need of donors who have made antibodies to mononucleosis. We will pay \$50.00 per donation to anybody who passes the antibody level test.
Call 237-5761

Sera Tec Biologicals
120 S. Allen
(Behind Rite-Aid)

BUMBLEBEE
Believes in —
Calvin Klein Jeans



BUMBLEBEE
214 E. College Ave.

THIS WEEK ON CAMPUS...

"A TERRIFICALLY ENTERTAINING WHODUNIT!"

—Vincent Canby, New York Times

"Great and glorious entertainment! Definitely not to be missed!"

—Aaron Schindler, FamilyCircle

"Movie magic! The most entertaining evening of the year!"

—CBS-TV



PARAMOUNT PICTURES CORPORATION IN ASSOCIATION WITH NAT COHEN PRESENTS
A JOHN BRADBOURNE-RICHARD GOODWIN PRODUCTION

AGATHA CHRISTIE'S

"MURDER ON THE ORIENT EXPRESS"

COLOR - PRINTS BY MOVIELAB - AN EMI PRODUCTION
PG PARENTS STRONGLY CAUTIONED

A PARAMOUNT RELEASE

121 SPARKS
Fri/Sat/Sun

\$1.25
7:30/9:45

In color from Saliva Films
Pink Flamingos
AN EXERCISE IN POOR TASTE

"Written and directed with pure joy and a new kind of nonsense" Robert Downey.
"Goes beyond pornography... The nearest American film to Bunuel's Andalusian Dog" New York Magazine.
"Pink Flamingos is the sickest movie ever made. And one of the funniest" Interview.
"Pink Flamingos is ten times more interesting than Last Tango in Paris" Jonas Mekas, Village Voice.

DIRECTED BY JOHN WATERS

STARRING: DIVINE

10 SPARKS
Fri/Sat/Sun

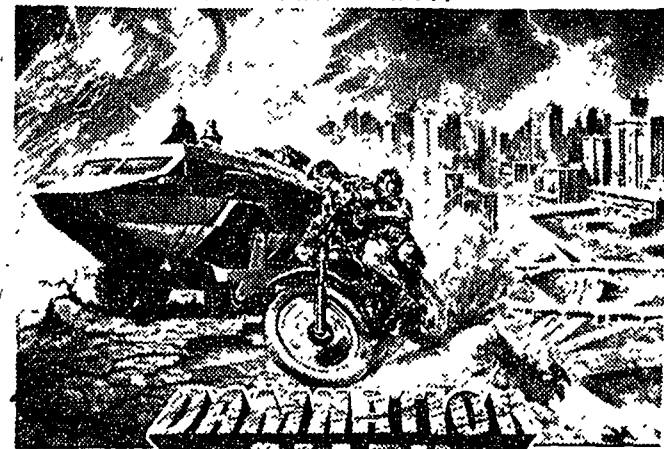
\$1.25
7:30/9:15/11:00

A JEM Production for the USG

U-034

ARHS MOVIES

The magnificent epic of five people who survived the nuclear holocaust...



George Peppard

Jan-Michael Vincent

More than a movie. An adventure you'll never forget.

POLLOCK \$1.25
Pollock Rec Room

Fri, Sat - 7, 9, 11
Sun - 7:30 & 9:30

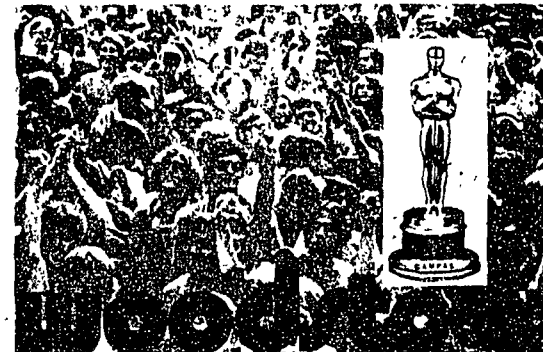
CLINT EASTWOOD THE OUTLAW JOSEY WALES

...an army of one



NORTH \$1.25
105 Forum

Fri, Sat, Sun
7:30, 10



WEST \$1.25
Waring Lounge

Fri, Sat, Sun
7, 10

It's not nice to fool with Mother Nature... It can be horrifying.

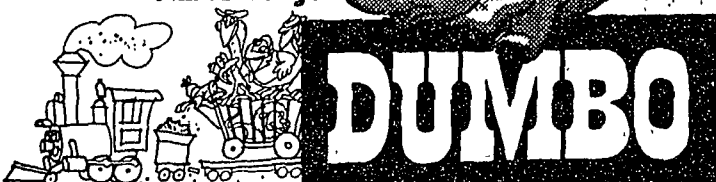


THE MUTATIONS

CENTRE
108 Forum

\$1.25 Fri, Sat-8:30
Sun-7:30, 9:30

IT'S THE BIG TOP OF WONDERTAINMENT!
Walt Disney's



SOUTH \$1.25
119 Osmond

Fri, Sat - 7, 8:30
Sun-7:30, 9:30

special double feature



"THIS FILM REPRESENTS DISNEY ANIMATION AT ITS HEIGHT..." 1.25

FRI + SAT
108 FORUM

DUMBO-10:30
MUTATIONS -12:00

ARHS

U-113