

aerospace notes

AIR RESCUE

Sheath to Protect Downed Flyers

A plastic sheath like a "big inverted flower petal" is being considered for addition to a rescue seat now deployed from helicopters to haul downed airmen up through the jungle growth of Southeast Asia. The sheath would enclose both the seat and its passengers to prevent them from becoming fouled on branches or vines.

The seat, nicknamed Sweet Chariot by airmen, was developed by Kaman Aircraft division of Kaman Corp., Bloomfield, Conn. It is in service with the Air Force, Army, Marines and most recently, the Navy. When folded, the seat is roughly cylindrical to prevent its snagging on the way down through the trees; opened on the ground, it can hold three persons. Capacity is 1,800 pounds.

The flower-petal sheath will be submitted to the armed forces for tests this month.

ASTRONAUTS

First Manned Saturn 5 Crews Named

The space agency has picked the astronaut crews for the first and second manned flights of the giant Saturn 5 moon rocket, which made its maiden voyage Nov. 9 (SN: 11/25).

Commanding the first flight, now planned for late 1968, will be James A. McDivitt, who was command pilot for the second manned Gemini flight (Gemini 4) in June 1965. His crewmen will be Gemini 8 veteran David R. Scott and civilian rookie Astronaut Russell L. Schweickart.

Frank Borman, commander of Gemini 7 in December 1965, will head the team for the second manned Saturn 5 mission early in 1969. His second in command will be Michael Collins, who was also No. 2 man for Gemini 10; the remaining crewman will be rookie William A. Anders.

The crew for the first manned Apollo flight, which will not use the Saturn 5, was named in May. It includes Astronauts Walter M. Schirra, R. Walter Cunningham and Donn F. Eisele. The flight is scheduled for next summer.

SPACE FOOD

Keeping the Protein Down

To provide food from human wastes on long-term space flights, chemical as well as biological methods may be necessary, a NASA researcher says.

Over long periods of time, such as a 600-to-700-day round trips to Mars, a purely biological system in which bacteria are used to break down wastes could introduce undesirable amounts of protein into the diet. The normal diet in the United States includes from 15 to 20 percent protein; an all-biological waste processing system could raise this amount to between 60 and 80 percent, according to E. G. Lyman of NASA's Ames Research Center in California.

Excess protein could force space crewmen on long flights to consume great quantities of water in order to clear accumulated nitrogen from their systems. It might also cause a tendency toward gout.

Chemical or hybrid biochemical systems, involving

processes such as distillation and catalytic action, show promise in keeping protein intake down to acceptable levels. NASA is also looking for ways of controlling protein production in purely biological systems.

Solutions to such problems, Lyman told the American Institute of Chemical Engineers in New York, may also be applicable to the more immediate problems of world food supply.

WEAPONS

Phoenix Missile Tests

The Phoenix missile system, prime weapon-to-be on the Navy's F-111B fighter (SN: 10/21), is due for the first test this month of its ability to guide one of its missiles to one target while simultaneously hunting for another.

The Phoenix is designed to be able to evaluate up to 18 incoming targets, then launch and guide missiles to the six most dangerous ones.

If the test is successful, the first multiple launch of two Phoenix missiles against separate targets may be tried late this winter. The tests will take place at Pt. Mugu, Calif., on the Pacific Missile Range.

AIR SAFETY

CAT Testing Resumed

Flight testing has been resumed by Pan American World Airways of an experimental device that shows promise of detecting invisible Clear Air Turbulence, or CAT.

Developed by North American Rockwell Corp.'s Autonetics division, Anaheim, Calif., the device was first flight tested by Pan Am last summer. During those tests, made aboard a Boeing 707, the system actually proved too sensitive, responding to the aircraft's turns as though there were turbulence ahead.

Following that test series the system was returned to Autonetics, where it has been modified so that it automatically becomes less sensitive during turns. Still under development is the display system, which was so complicated in the first flight version that an engineer had to go along to read it. In addition, engineers are seeking a way to make the device work efficiently even when flying toward the sun, whose heat tends to confuse the infrared sensor.

The device can scan as far as 60 miles ahead of the aircraft, giving pilots four minutes or more to take evasive action if necessary. Tests of the current version are expected to end in February.

X-15

Rocket Planes Grounded After Crash

The two remaining X-15 rocket planes have been temporarily grounded, following the first crash in 191 flights of the hypersonic craft.

The crash, for which no cause has yet been determined, occurred on Nov. 15, taking the life of the pilot, Air Force Major Michael J. Adams. "We haven't turned up anything in our investigation that is making us ground the plane," said a NASA spokesman a week after the accident. "It's just that we want a little time to re-examine the flight."