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Ur Release:

David Garrett Headquarters, Washington, D.C. (Phone: 202/755-3090)

IMMEDIATE

Bob Gordon Johnson Space Center, Houston, Texas (Phone: 713/483-5111)

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## SHUTTLE ORBITER FERRY TEST FLIGHTS BEGIN

Four ferry test flights of the Space Shuttle Orbiter <u>Enterprise</u>, mated to the Boeing 747 Shuttle Carrier Aircraft (SCA), began this week Nov. 15 and continue Nov. 16, 17 and possibly 18 at NASA's Dryden Flight Research Center, Edwards, Calif.

Flights will measure the performance of the mated combination with a three degree forward angle between them. Previous flights were flown with a six degree angle.

(NASA-News-Release-77-233) SEUTTLE ORBITER N78-70074 5, 1977 FERRY TEST FIIGHTS BEGIN (National Aeronautics and Space Administration) 3 p Unclas 00/16 53242 Data gathered will be used for planning the first ferry flight, now scheduled for March 1978, when Orbiter Vehicle 101 (the <u>Enterprise</u>) will be transported atop the 747 to NASA's Marshall Space Flight Center, Huntsville, Ala., for ground vibration tests.

Subsequent ferry flights will transport future Orbiters to NASA's Kennedy Space Center in Florida where they will be launched into space following their construction at the Rockwell International facility, Palmdale, Calif. After the first four orbital flights, which will be recovered at Dryden Center, the Orbiter used in those tests will also be returned to Kennedy atop the SCA.

In subsequent flights, Orbiters will return and land at Kennedy Center.

In addition to determining what the best speed and altitudes are for ferry flight configuration, other test conditions to be explored include holding pattern performance and engine-out performance, both in cruise and the landing/ takeoff pattern. The first flight primarily examined buffet and flutter effects on the SCA's horizontal tail.

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-2-

Maximum speed for the series of four ferry flights should be approximately 724 kilometers per hour (450 miles per hour), peak altitude will be 7,925 meters (26,000 feet) and top takeoff weight will be 322,050 kilograms (710,000 pounds).

Crew for the 747 will be Fitzhugh Fulton, SCA commander, and Tom McMurtry, SCA pilot. Flight engineers will be Victor Horton and Skip Guidry. The four were members of the prime crew who flew most of the approach and landing test flights, completed Oct. 26, 1977.

NASA's Johnson Space Center, Houston, Texas, is responsible for the design, development and testing of the Space Shuttle Orbiter.

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