

# Space Shuttle returns home with jumbo piggyback ride

The Space Shuttle *Endeavour* will hitch a ride on the back of a specially modified Boeing 747 as it returns to Kennedy Space Center from its California landing site – at a cost to NASA of \$1.8 million

## SHUTTLE CARRIER AIRCRAFT

**Tip fins:** On horizontal stabilizers to improve directional stability

**Tail cone:** Lessens aerodynamic drag at shuttle rear

## SPACE SHUTTLE

Powered-down and empty.  
**Weight:** 80 tonnes

**4,000km flight**  
Takes two days, includes several refuelling stops

**California**  
Shuttle landed at Edwards Air Force Base on November 30



**Florida:** Shuttle's usual landing at Kennedy Space Center was prevented by storms

## Attach mounts

Shuttle secured with bolts.  
Fuselage interior strengthened where struts attach to aircraft

**Higher thrust engines:** Overcome extra drag created by carrying Shuttle

**Crew:** At least four

## BOEING 747 PERFORMANCE

	Standard airliner (747-100)	Shuttle carrier
Max. weight (tonnes)	333	322*
Speed (km/h)	895	463
Range (km)	9,800	1,850
Altitude (m)	13,700	5,000
Fuel (tonnes)	147	143



**Mate / Demate Device:** Giant metal crane hoists Shuttle on and off aircraft

**Interior:** Totally stripped to save weight, allowing extra fuel to be carried

Pictures: NASA  
Sources: Boeing, NASA

\*Includes shuttle  
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