Boeing 747-136, G-BBPU

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Aircraft Type and Registration:	Boeing 747-136, G-BBPU
No & Type of Engines:	4 Pratt & Whitney JT9D-7A turbofan engines
Year of Manufacture:	1974
Date & Time (UTC):	8 February 1998 at 0001 hrs (1901 hrs local)
Location:	On take off from J F Kennedy Airport, USA
Type of Flight:	Public Transport
Persons on Board:	Crew - 18 - Passengers - 220
Injuries:	Crew - None - Passengers - None
Nature of Damage:	Landing Gear Bay
Commander's Licence:	Airline Transport Pilot's Licence
Commander's Age:	48 years
Commander's Flying Experience:	13,483 hours (of which 644 were on type) Last 90 days - 185 hours Last 28 days - 55 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot plus telephone enquiries

The Boeing 747's main landing gear trucks (bogies) must be tiltedbefore gear retraction to allow the gear to fit into the retractionwells. A lever latch prevents the landing gear lever from beingmoved to the UP position until all the TILT sensors indicate thatthe trucks are tilted. However, the lever latch can be manuallymoved allowing the gear to be retracted in an emergency. Annunciatorlights on the flight engineer's panel provide additional indicationsof gear, door and truck tilt status.

The aircraft was departing from Runway 13L which requires a low-altitudeturn at 300 feet agl to avoid a noise sensitive area. After lift-offthe commander, who was handling, instructed the co-pilot to raisethe landing gear whilst concentrating on flying an accurate turnat night. The co-pilot attempted to raise the gear lever butit would not move up beyond the OFF position because the latchwas engaged. Without consulting the commander, the flight engineer,or the aircraft manuals, the co-pilot immediately withdrew thegear lever latch and raised the gear lever to the UP position.

The landing gear retracted but one red gear light remained ONand one gear door stayed open. The commander decided to climbto medium altitude, jettison fuel, lower the landing gear andreturn to JFK airport. The landing was uneventful and beforeclearing the runway the aircraft was inspected and the gear downlocksfitted before it was taxied to the stand.

The co-pilot had intially been unable to raise the landing gearlever because one of the mainwheel trucks had not tilted sufficientlyto trigger the TILT sensor. Consequently, this leg did not fullyretract and it damaged the gear bay.

The co-pilot was very experienced and could not explain why hereacted as he did, which was out of character. The commanderthought that the crew headsets may have been a small contributoryfactor. The crew were wearing ANR (Active Noise Reduction) headsetswhich, although they reduce ambient noise, apparently make itmore difficult for crew members to hear each other on intercom. The operator is aware of this problem and is conducting trialsof a different type of ANR headset.