

**NATIONAL TRANSPORTATION SAFETY BOARD
OFFICE OF AVIATION SAFETY
WASHINGTON, D.C. 20594**

March 13, 2002

Aircraft Maintenance Records Group Chairman's Factual Report

LAX-01-MA-272

A: ACCIDENT

Location: Outside the Grand Canyon, 60 miles east of Las Vegas, Nevada

Date: August 10, 2001

Time: 1430 Mountain Standard Time (MST)

Aircraft: Papillon Airways' Eurocopter AS350B2, Serial number 2477.

B: MAINTENANCE/RECORDS GROUP

Chairman: Stephen M. Carbone
National Transportation Safety Board
Washington, D.C.

Member: Jeffrey Rich
National Transportation Safety Board
Los Angeles, CA

Member: Dean Brandt
Papillon Airways
Las Vegas, NV

Member: Eric West
Federal Aviation Administration, AAI-100
Washington, D.C.

C: SUMMARY

On August 10, 2001, at about 1430 MST, a Eurocopter AS350B2, tail number N169PA, owned and operated by Papillon Airways, crashed during a sightseeing tour outside the Grand Canyon. The pilot and five occupants received fatal injuries, while one occupant was hospitalized with critical injuries. The helicopter struck terrain and was subsequently destroyed.

D: DETAILS OF MAINTENANCE RECORDS INVESTIGATION

The helicopter was manufactured on April 1, 1991. Eurocopter, Papillon Airways, Heliquip International Ltd, Turbomeca, and the former owner in Japan, K. R. Kikaku Co. Ltd supplied maintenance records to the National Transportation Safety Board (NTSB) Washington office. Interpreters were used to convert the Japanese records to English.

Chiba Hideki, Engineering Section Chief in the Japanese Civil Aeronautics Board (JCAB) informed the Safety Board by an e-mail message that on August 12, 2000, a ground resonance event occurred at Yao airport, Japan. The event was not treated as an accident and no formal accident report exists (attachment). The helicopter was removed from service and inspected with no further flight.

On September 20, 2000, J. M. Lambert of Eurocopter developed a structure examination report describing necessary repairs (attached). As per the e-mail from Chiba Hideki, JCAB, the K. R. Kikaku Co. determined that repair costs were "not economically feasible". The helicopter "was exported to New Zealand as a 'scrap' ".

On August 21, 2001, a fax from Atsuhiko Wataki, General Investigator for the Ministry of Land, Infrastructure and Transport for the Aircraft Accident Investigation Commission of Japan to the Safety Board stated that there is no record of an Export Airworthiness Certificate out of Japan being applied for. The helicopter was sold to a broker, K-R Aircraft, Inc of San Bernardino, CA. Wataki stated that damage was limited to the broken main rotor hub (Starflex) and deformation to the lower fuselage frame. (attached).

The Airworthiness Certificate for the helicopter was effective from September 3, 1999 to September 9, 2000, in Japan. A renewal application was originally submitted on July 25, 2000, filed on July 27, 2000, but withdrawn on January 29, 2001. The JCAB accepted the withdrawal on April 3, 2001. The helicopter was officially removed from Japanese registry on January 4, 2001, following its sale (attached). The last Journey log entry from Japan shows 1307.48 hours of operation on the aircraft (attached).

A fax dated August 23, 2001, from Greg McLaren of Eurocopter in New Zealand (attached) shows the relationship that K-R Aircraft is the Broker and that Heliquip is the Repair Facility.

In a response memo to Eurocopter, Peter Gits of Heliquip International, Ltd of New Zealand, stated that he was made aware of the resonance event prior to the sale. He noted damage to two forward cantilever beams and a cracked starflex flange. No written report was available (attached). Peter Gits inspected the helicopter on December 13, 2000.

Job number H1083 shows that Heliquip performed inspections and repairs including: the replacement of the two longitudinal right and left center beams, the replacement of the starflex, outer spherical bearings, and thrust bearing bolts. Heliquip performed a major "C" and "T" check, by January 3, 2001 with 1307.8 hours. Heliquip completed its inspection, tests, and repairs on April 4, 2001 (attachment). Final flight inspections were completed on April 14, 2001.

Per an interview with Papillon's Maintenance Supervisor, Dean Brandt, the helicopter was purchased Papillon from Heliquip in April, 2001 (attached). Prior to final sale from Heliquip, the helicopter was inspected for Papillon by Helicopters (NZ) Ltd on April 12, 2001 (attachment).

On April 5, 2001, Heliquip informed Papillon (by memo) of the ground resonance problems that occurred in Japan (attachment). On Maintenance Record 02075 the Civil Aviation Authority of New Zealand completed an initial survey and awarded both an Airworthiness Certificate and an Export Certificate on April 17, 2001 (attachment). The new helicopter Registration Number was ZK-HXT.

The helicopter was deregistered from New Zealand registry on April 24, 2001 (attached). Transfer of ownership to Papillon Airways occurred on April 25, 2001. The accident helicopter was packed in container number OOLU5070137 and shipped to Papillon (attachment).

The Federal Aviation Administration certified the helicopter for use in the United States on August 2, 2001 (attached).

By July 20, 2001, Papillon performed the series of inspections and maintenance that included: a 1000-hour (T-2), 2000-hour (T-4), 2500-hour (T-5), engine 100-hour, a Bi-annual, an Annual and Service Bulletins. The main gearbox was replaced with an overhauled unit, items 18 and 19 on Work Order #7120.A helicopter reconfiguration, was complied with on July 27, 2001. A FAA form 337 for approved alterations was accomplished (attached). All required Airworthiness Directives were accomplished (attached).

The helicopter began on Papillon's line on August 2, 2001, with 1318.4 hours of operation, starting with log page #03106 (attached). The helicopter operated on the line for one week before it was involved in the accident.

Maintenance Records indicate that Dean Brandt, Chief Inspector, and Rick Kirkpatrick, Lead Inspector, had worked simultaneously as technicians and inspectors on the accident helicopter. Signatures of both were found in mechanic and inspector columns of the maintenance inspection sheet, work order #7120, page 2 of 8 (attached). Dean Brandt's name was also found on the Inspector line at the bottom of the sheet. The mechanic who accomplished the work performed a crucial inspection, item 58 - Main Rotor flight control rig.

As per Papillon's training records (attached) no training documentation was found for Dean Brandt or Rick Kirkpatrick for the Eurocopter AS350-B2, or the Turbomeca Arriel 1D1.

Airframe Information

American Eurocopters AS 350-B2, Serial Number: 2477
Total Time: 1356.0 hours since manufacture, 1679 flight cycles.

Engine Information

Turbomeca Arriel 1D1, Serial number: 9155*, 712 Shaft Horsepower.

Total Time	Previous Overhauls	Cycles Ng**	Cycles Np ***
1356 hours	0	1696.55	1698

- * Original engine installed at manufacture
- ** Ng – Gas Generator Module
- *** Np – Power Turbine Module

Flight Time

Last 30 days: 37.6 hours
Last 60 days: 37.6 hours
Last 90 days: 39.0 hours

Stephen Carbone
Maintenance Group Chairman