



**Aviation Safety Council
Taipei, Taiwan**

**The Rod End of the Aft Red Lead-Leak
Blade Damper Fractured During
Landing In TaiTung/Fengn in Airport,
Provisional Office of National Airborne
Service Corps. Ministry of Interior
Aircraft Type B-234, Registration No.
NA-603**

Executive Summary

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On November 7, 2005, one helicopter of Provisional Office, National Airborne Service Corps, Ministry of the Interior (abbreviated as Airborne Service Corps), registration no. NA-603, aircraft type B-234. At 1230 Taipei local time, departed from Taitung/Fengnin Airport to perform its schedule high mountain operating training, which located at Beinan Mountain on 300 bearings, 25 NM to the airport.

The Captain no.1 was Pilot Flying (PF) seated on the right side, an expatriate flight instructor was Pilot Monitor (PM) seated on the left seat (hereinafter called First Officer no. 1) and he instructed the PF conduct takeoff/landing training on an occlusion site of the high mountain. Another Captain seated on the observation seat according to the Aircraft Operation Manual (hereinafter called First Officer no.2.) and assisted in checking instruments and search for flight information during flight.

About 1350, the aircraft landed at Taitung/Fengnin Airport. At 1357, during the shutdown procedure was completed, after the Auxiliary Power Unit shutdown, while the main rotors were approaching to the full stop, an impact sound was heard inside the cockpit. After the external examination, the rod end of the aft red lead-leak blade damper broke and hit the left-upper side of the fuselage, its skin and structure had damaged. The front green blade, after red blade, upper left aft pylon and oil canning deformed.

Three pilots, 3 flight engineers, 2 special rescuers, expatriate flight instructor and 1 maintenance rescuer, and 1 English translator

on board were no injury.

Findings related to the probable causes

1. The joint damage of the rod end of the aft red lead-leak blade damper was due to atmospheric corrosion, the metal fatigue gradually expanded, resulting in the component joint strength lower than operating stress and fractured.
2. The accident aircraft did not comply with the FAA's airworthiness directives AD91-03-01 to conduct scheduled inspections has exceeded 600 flight hours, which revealed the airworthiness inspection failure of the Airborne Service Corps.

Findings Related to the Risks

1. The First Office no. 1 who did not possess the qualification of the aircraft type and as a flight instructor.
2. The flight crews did not perform an alcohol test according to the regulation.
3. The damaged of the rod end of the aft red lead-leak blade damper did not contain the *Serviceable Tag*, it causing airworthiness concerns and control difficulties of the schedule inspections and replacements.
4. In early 2004, when Air Asia Company Limited discovered that the required inspection items of AD 91-03-01 which had taken effect for years were not executed, active measures were not adopted in time, which showed that the internal safety management mechanism was not complete.
5. Before passing the approval procedures, which including

schedule inspection and replacement items of AD 91-03-01, Air Asia Company Limited did not continuously control the AD.

6. The relevant business contacts provided by Airborne Service Corps, the control mechanism of schedule inspection and replacement items of ADs was not complete.
7. Airborne Service Corps delayed the amendment procedures of schedule inspection and replacement items of ADs lists in the Aircraft Maintenance Control Manual. Its relevant flight safety management mechanism could not discover in time and effectively corrected.
8. After the establishment of Airborne Service Corps, the arrangements which members of the flight, maintenance units, etc. had to adjunct work for flight safety management tasks could affect the business executing results of the flight supervision, flight safety investigation or flight safety report, which had to maintain neutral and objective. Current flight safety management organization still did not exert the functions of flight safety management systems completely.
9. The airworthiness task of public aircraft at the repair station of Air Asia Company Limited lacked for dedicated personnel to inspect and supervise, the airworthiness quality was limited.

Other Findings

1. The aircraft was operated within allowable weight and balance limitations; the accident had no relations with the flight operation, ATC and meteorological factors.
2. The Captain and FOs worked and rested normally 72 hours

before the accident; No evidence indicated that the crew had any physical or psychological problems, nor any use of alcohol or drugs.

3. The “Aircraft Flight Operation Regulations” of Airborne Service Corps or other relevant flight operation manuals did not include relevant flight or airworthiness information examining procedures of service bulletin or airworthiness directives.

Interim Flight Safety Bulletin

On November 25, 2005 and June 14, 2006, the Aviation Safety Council had published “Interim Flight Safety Bulletin” twice to Airborne Service Corps, the recommendations were as following:

1. Review the control procedures and regulations of airworthiness directives, and implement indeed. (ASC-IFSB-05-11-001)
2. Establish relevant standards of flight safety policies, dedicated safety organizations, responsibilities, plans and operating procedures for organizations as soon as possible, to complete flight safety management mechanism and enhance flight safety. (ASC-IFSB-05-11-001)
3. Execute special inspection to current conditions, implement the establishment, amendment, and publish management and abolishment operations of relevant manuals according to “Aircraft Flight Operation Regulations”. (ASC-IFSB-06-06-001)

Safety Recommendations

To National Airborne Service Corps, Ministry of the Interior

1. Review and strengthen the control and management

mechanism of relevant airworthiness directives.
(ASC-ASR-07-07-001)

2. Set up professional inspection procedures or regulations of flight operation related airworthiness directives, service bulletin, US army flight safety bulletin, aviation safety bulletin and maintenance related schedule inspection and replacement items checklist amendments, contents should include qualifications of inspector, inspection methods, procedures and dead time, etc. (ASC-ASR-07-07-002)
3. Review relevant flight operation manuals to comply with the requirements of "Aircraft Flight Operation Regulations".
(ASC-ASR-07-07-003)
4. Review the professional and dedicating requires of the flight safety officer, and strengthens the supervising mechanism of the relevant task... (ASC-ASR-07-07-004)

To Air Asia Company Limited

1. Review and strengthen the control and handling mechanism of airworthiness directives. (ASC-ASR-07-07-005)

Ministry of the Interior

1. Establish the inspection mechanism of outsourcing repair station for belonged aircraft as soon as possible to enhance airworthiness quality. (ASC-ASR-07-07-006)

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