

FINAL REPORT

Safety Recommendation Number:	43 of 2004
AAIU Event Reference:	2004-0014
Date of Publication of Safety Recommendation:	9 Dec 2004
Safety Recommendation Status:	Implemented, Closed

Safety Recommendation:

That the USA FAA, Transport Canada, and EASA, being the main certification authorities for helicopter manufacturers, develop a combined initiative to have, where appropriate, information pertaining to LTE included in helicopter Flight Manuals.

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Response:

Transport Canada Informed the AAIU that it does not support this safety recommendation, stating :*"Loss of Tail Rotor Effectiveness (LTE) is not unique to the Bell 206 helicopter. Bell Helicopter Information Letter 206-84-41 (included in the Draft Report as Appendix C), last sentence of the first paragraph states, "These characteristics...apply to all single rotor helicopters." Various other flight conditions and/or pilot actions can place a helicopter at risk and are not all discussed in Rotorcraft Flight Manuals.*

LTE is a condition resulting from poor management of important flight parameters such as indicated airspeed, power, wind direction, yaw rate, etc. In Canada, LTE is discussed during initial training and student pilots are taught how to avoid conditions leading to LTE, as well as proper recovery techniques. Information on LTE can be found in both the Canadian, Flight Instructor Guide – Helicopter 1995 (TP4818) and the Canadian, Private and Commercial Pilot Licences, including Aeroplane to Helicopter Pilot Licences – Helicopter (TP 2476) student study and reference guide. These documents are available at Transport Canada's Internet site: www.tc.gc.ca."

A follow-up response from Transport Canada (through TSB of Canada) informed the Investigation that, "Transport Canada remains committed that the issues dealing with flight anomalies such as LTE are not appropriate for inclusion in the Aircraft Flight Manual (AFM). Rather, the factors that could lead to flight conditions conducive to a loss of tail rotor effectiveness, the avoidance of these conditions, and the recovery techniques are training issues that should be addressed in appropriate training manuals and programs. In addition other safety communications, like the Bell Helicopter Safety Bulletins, are educational media that could help to increase awareness of the risk of LTE and to further mitigate the risks."

EASA informed the AAIU that the agency partially accepts this recommendation. *"We believe that LTE parameters vary on a number of environmental/helicopter factors, with different helicopter types having different LTE sensitivity, and some are possibly more prone than others to fall into LTE conditions. The Agency will write to TCCA*

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requesting further information pertaining to LTE be added to the Bell 206 models rotorcraft flight manual "

EASA in a subsequent letter to the AAIU dated 19 March 2010 stated : "EASA informed the AAIU by letter dated 19 March 2010 that: "The original front seats, identified by Eurocopter as bucket seats, have been verified and approved during the certification against Federal Aviation Administration Regulation (FAR) 27 at amendment. 10 (in particular against 27.561) requirements which is the certification basis for AS350. During the Type Certificate process the strength of seats and their attachment has been found compliant and in excess of the standard prescribed in the above mentioned certification requirements.

The Report and the Safety Recommendation do not question FAR 27.561 at amendment 10 as the applicable certification airworthiness requirement as well as compliance shown against these requirements. The Report confirms that there is no obligation for the AS350 series of helicopters to meet the more stringent current requirements as set out in CS27 amendment 2. In the Report there are no arguments towards an unsafe condition existence in the affected aircraft or in the AS350 fleet.

EASA finds no substantiation to mandate, through an Airworthiness Directive (AD), incorporation of front seat modifications on the AS350 fleet in order to increase the safety level in this particular aircraft type significantly above the applicable certification standard. EASA considers that the status of these modifications should remain "recommended". By issuing Safety Information Bulletin No. 2010-05 (Correction), dated 26 February 2010 EASA has promoted incorporation of these improvements by the operators."

The FAA informed that AAIU that:" We have evaluated the safety recommendation to include information in helicopter flight manuals about the loss of tail rotor effectiveness (LTE).

LTE is a critical, low speed aerodynamic flight characteristic unrelated to maintenance malfunction that may occur in varying degrees in all single main rotor helicopters. Dealing with basic aerodynamic phenomena such as LTE is inappropriate for inclusion in the helicopter flight manual.

LTE is discussed during the initial training and student pilots are taught how to avoid conditions leading to LTE, as well as proper recovery techniques. The FAA includes published information on LTE in documents, such as FAA-H-8083-21, "Rotorcraft Flying Handbook", Advisory Circular 90-95, "Unanticipated Right Yaw in helicopters." Also, the helicopter manufacturers publish LTE information about specific model helicopters.

We anticipate no further action and recommend closure of Safety Recommendation 43 of 2004".

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