



# National Transportation Safety Board

Washington, DC 20594

## Safety Recommendation

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**Date:** May 6, 2013

**In reply refer to:** A-13-7 through -13,  
A-06-14, and A-09-87  
and -88

The Honorable Michael P. Huerta  
Administrator  
Federal Aviation Administration  
Washington, DC 20590

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On April 9, 2013, the National Transportation Safety Board (NTSB) adopted its report concerning the August 26, 2011, accident in which a Eurocopter AS350 B2 helicopter, N352LN, crashed following a loss of engine power as a result of fuel exhaustion near the Midwest National Air Center, Mosby, Missouri.<sup>1</sup> Additional information about this accident and the resulting recommendations may be found in the report of the investigation, which can be accessed at our website, <http://www.nts.gov>, under report number AAR-13/02.

As a result of this investigation, the NTSB reiterated Safety Recommendations A-06-14 and A-09-87; reiterated and reclassified Safety Recommendation A-09-88; and issued nine new recommendations, including two to Air Methods Corporation and the following seven recommendations to the Federal Aviation Administration (FAA):

### A-13-7

Prohibit flight crewmembers in 14 *Code of Federal Regulations* Part 135 and 91 subpart K operations from using a portable electronic device for nonoperational use while at their duty station on the flight deck while the aircraft is being operated.

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<sup>1</sup> National Transportation Safety Board, *Crash Following Loss of Engine Power Due to Fuel Exhaustion, Air Methods Corporation, Eurocopter AS350 B2, N352LN, Near Mosby, Missouri, August 26, 2011*, AAR-13/02 (Washington, DC: National Transportation Safety Board, 2013).

A-13-8

Require all 14 *Code of Federal Regulations* Part 121, 135, and 91 subpart K operators to incorporate into their initial and recurrent pilot training programs information on the detrimental effects that distraction due to the nonoperational use of portable electronic devices can have on performance of safety-critical ground and flight operations.

A-13-9

Require all 14 *Code of Federal Regulations* Part 121, 135, and 91 subpart K operators to review their respective general operations manuals to ensure that procedures are in place that prohibit the nonoperational use of portable electronic devices by operational personnel while in flight and during safety-critical preparatory and planning activities on the ground in advance of flight.

A-13-10

Inform pilots of helicopters with low inertia rotor systems about the circumstances of this accident, particularly emphasizing the findings of the simulator flight evaluations, and advise them of the importance of simultaneously applying aft cyclic and down collective to achieve a successful autorotation entry at cruise airspeeds.

A-13-11

Revise the *Helicopter Flying Handbook* to include a discussion of the entry phase of autorotations that explains the factors affecting rotor rpm decay and informs pilots that immediate and simultaneous control inputs may be required to enter an autorotation.

A-13-12

Require the installation of a crash-resistant flight recorder system on all newly manufactured turbine-powered, nonexperimental, nonrestricted-category aircraft that are not equipped with a flight data recorder and a cockpit voice recorder and are operating under 14 *Code of Federal Regulations* Parts 91, 121, or 135. The crash-resistant flight recorder system should record cockpit audio and images with a view of the cockpit environment to include as much of the outside view as possible, and parametric data per aircraft and system installation, all as specified in Technical Standard Order C197, "Information Collection and Monitoring Systems."

A-13-13

Require all existing turbine-powered, nonexperimental, nonrestricted-category aircraft that are not equipped with a flight data recorder or cockpit voice recorder and are operating under 14 *Code of Federal Regulations* Parts 91, 121, or 135 to be retrofitted with a crash-resistant flight recorder system. The crash-resistant flight recorder system should record cockpit audio and images with a view of the cockpit environment to include as much of the outside view as possible, and parametric data per aircraft and system installation, all as specified in Technical Standard Order C197, “Information Collection and Monitoring Systems.”

The NTSB also reiterated two previously issued recommendations to the FAA:

A-06-14

Require emergency medical services operators to use formalized dispatch and flight-following procedures that include up-to-date weather information and assistance in flight risk assessment decisions.  
Classified “Open—Acceptable Response”

A-09-87

Develop criteria for scenario-based helicopter emergency medical services (HEMS) pilot training that includes inadvertent flight into instrument meteorological conditions and hazards unique to HEMS operations, and determine how frequently this training is required to ensure proficiency.  
Classified “Open—Unacceptable Response”

In addition, the NTSB reiterated and reclassified the following recommendation to the FAA:

A-09-88

Once the actions recommended in Safety Recommendation A-09-87 are completed, require helicopter emergency medical services pilots to undergo periodic FAA-approved scenario-based simulator training, including training that makes use of simulators or flight training devices.

This safety recommendation is now classified “Open—Unacceptable Response.”

These safety recommendations are derived from the NTSB’s investigation and are consistent with the evidence we found and the analysis we performed. Chairman HERSMAN, Vice Chairman HART, and Members SUMWALT, ROSEKIND, and WEENER concurred in these recommendations.

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate receiving a response from you within 90 days detailing the actions you have taken or intend to take to implement them. When replying, please refer to the safety recommendations by number. We encourage you to submit your response electronically to [correspondence@ntsb.gov](mailto:correspondence@ntsb.gov).

*[Original Signed]*

By:  
Deborah A.P. Hersman  
Chairman

Safety Recommendation Reiteration List

SR Number	Reiteration Number	Report Number	Report Date	Accident Description	Accident City	Accident State	Accident Date
A-13-012	1	AAR-17-01	3/28/2017	Loss of Control at Takeoff Air Methods Corporation Airbus Helicopters AS350 B3e, N390LG, Frisco, Colorado, July 3, 2015	Frisco	Colorado	7/3/2015
A-13-012	2	AAR-17-01	4/25/2017	Collision with Terrain, Promech Air, Inc., de Havilland DHC-3, N270PA, Ketchikan, Alaska, June 25, 2015	Ketchikan	Alaska	6/25/2015
A-13-012	3	AAR-18-02	4/26/2018	Collision with Terrain Hageland Aviation Services, Inc. dba Ravn Connect Flight 3153 Cessna 208B, N208SD	Togiak	Alaska	10/2/2016
A-13-012	4	AAR-20-01	6/8/2020	Helicopter Air	Zaleski	Ohio	1/29/2019

SR Number	Reiteration Number	Report Number	Report Date	Accident Description	Accident City	Accident State	Accident Date
				Ambulance Collision with Terrain Survival Flight Inc. Bell 407 Helicopter N191SF near Zaleski, Ohio			

Safety Recommendation Reiteration List

SR Number	Reiteration Number	Report Number	Report Date	Accident Description	Accident City	Accident State	Accident Date
A-13-013	1	Transmittal letter issuing Safety Recommendations A-14-096 through -099	10/23/2014	A-13-013 was reiterated with the issuance of A-14-096 through -099, which address operational training and checklist usage for Mitsubishi MU-2B series airplanes. They are derived from the NTSB's investigation of a November 10, 2013 Mitsubishi MU-2B-25 airplane accident in Owasso, Oklahoma.	Owasso	Oklahoma	11/10/2013
A-13-013	2	AAR-17-01	3/28/2017	Loss of Control at Takeoff Air Methods Corporation Airbus Helicopters AS350 B3e, N390LG, Frisco,	Frisco	Colorado	7/3/2015

SR Number	Reiteration Number	Report Number	Report Date	Accident Description	Accident City	Accident State	Accident Date
				Colorado, July 3, 2015			
A-13-013	3	AAR-17-01	4/25/2017	Collision with Terrain, Promech Air, Inc., de Havilland DHC-3, N270PA, Ketchikan, Alaska, June 25, 2015	Ketchikan	Alaska	6/25/2015
A-13-013	4	AAR-18-02	4/26/2018	Collision with Terrain Hageland Aviation Services, Inc. dba Ravn Connect Flight 3153 Cessna 208B, N208SD, Togiak, Alaska	Togiak	Alaska	10/2/2016
A-13-013	5	AAR-20-01	6/8/2020	Helicopter Air Ambulance Collision with Terrain Survival Flight Inc. Bell 407 Helicopter N191SF near Zaleski, Ohio	Zaleski	Ohio	1/29/2019
A-13-013	6	AAR-21-01	2/25/2021	Rapid Descent Into	Calabasas	CA	1/26/2020

SR Number	Reiteration Number	Report Number	Report Date	Accident Description	Accident City	Accident State	Accident Date
				Terrain Island Express Helicopters Inc. Sikorsky S-76B, N72EX Calabasas, California January 26, 2020			