

# FAA Response to NTSB Information Request 14-289

Questions regarding 14 CFR 25.679

ERA14MA271



# Federal Aviation Administration

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## Memorandum

Date: AUG 29 2014

To: Tony Fazio, Director, Office of Accident Investigation and Prevention, AVP-1

From: Jeffrey E. Duven, Manager, Transport Airplane Directorate, ANM-100 [REDACTED]

Prepared by: Mary Schooley, Safety Recommendations Program Manager, ANM-117

Subject: National Transportation Safety Board (NTSB) Information Request 14-289

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This Memorandum is in response to AVP Information Request 14-289 dated August 6, 2014 from Ms. Roberta Toth of AVP-100. The request is regarding Title 14, Code of Federal Regulations (14 CFR) 25.679 item (2) "Limit the operation of the airplane so that the pilot receives unmistakable warning at the start of takeoff." Ms. Toth requested that we provide answers to two questions:

Question 1: Could the FAA provide their formal interpretation of the item (2) requirement? Does this only apply to the primary flight controls or would it also include limiting power lever movement to a position such that a certain level of Engine Pressure Ratio (EPR) cannot be obtained? What is the limit?

Question 2: Could the FAA provide a formal definition of the wording "unmistakable warning" as it would be related to the installation of a gust lock system?

AVP requested clarification on the FAA's interpretation of Title 14, Code of Federal Regulations (14 CFR) 25.679. There were two questions contained in AVP's request. The two questions and answers to each are provided below:

Question 1: Could the FAA provide their formal interpretation of the item (2) requirement? Does this only apply to the primary flight controls or would it also include limiting power lever movement to a position such that a certain level of Engine Pressure Ratio (EPR) cannot be obtained? What is the limit?

Answer 1: Subsection 14 CFR 25.679(2) states: With respect to gust lock engagement, "Limit the operation of the airplane so that the pilot receives unmistakable warning at the start of takeoff." This is a performance based requirement and an applicant can use any means at their disposal, so long as it shows compliance with the rule. To comply with this paragraph applicants use various means to limit the operation. Examples include gust locks that when they are engaged, also prevent throttle lever/actuator advance. Some airplanes incorporate gust locks that hold the nose wheel offset such that if throttles are advanced the airplane will tend to circle on the ground. Both of these means of compliance limit the operation of the airplane. The FAA emphasizes the rule language that states, "must—(2) Limit the operation of the airplane" to prevent pilots from ignoring or mistaking visual and aural take off warnings.

Question 2: Could the FAA provide a formal definition of the wording "unmistakable warning" as it would be related to the installation of a gust lock system?

Answer 2: We consider the examples given above as unmistakable warnings in that they limit the operation of the airplane. With respect to 25.679, the FAA considers an "unmistakable warning" to be a warning that physically limits the operation of the airplane to prevent an unsafe takeoff.



# Federal Aviation Administration

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Question 2: Could the FAA provide a formal definition of the wording "unmistakable warning" and how it would be related to the installation of a gust lock system?