



# NATIONAL CHAMPIONSHIP AIR RACES®

RENO AIR RACING ASSOCIATION, INC.

Michael J. Houghton, President and CEO  
Reno Air Racing Association

2012

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July 9, 2012

Via Email ([correspondence@ntsb.gov](mailto:correspondence@ntsb.gov))

Deborah A. P. Hersman  
Chairman  
National Transportation Safety Board  
Washington, D.C. 20594

Re: Safety Recommendations A-12-13 through -17

Dear Chairman Hersman,

On April 10, 2012, the National Transportation Safety Board, as part of the on-going investigation of the September 16, 2011, accident which occurred at the Reno National Championship Air Races (NCAR) in Reno, Nevada, issued Safety Recommendations A-12-13 through -17 directed to the Reno Air Racing Association ("RARA").

The letter containing the Recommendations has several pages of discussion relating to the on-going investigation. Our purpose in sending this letter is not to comment upon that discussion, nor to indicate whether we agree or disagree with it. The sole purpose of this letter is to provide a response addressing the actions RARA has taken or intends to take regarding the Recommendations.

For ease of reference, we have restated each of the Recommendations, followed by our response.

### **A-12-13:**

***Require aircraft owners, as a condition of eligibility to participate in the Reno National Championship Air Races, to provide an engineering evaluation that includes flight demonstrations and analysis within the anticipated flight envelope for aircraft with any major modification, such as to the structure or flight controls. (A-12-13)***

September 12-16, 2012

For the past several years, RARA has worked closely with the Reno Flight Standards District Office of the Federal Aviation Administration to identify those aircraft which have undergone major changes and/or repairs/modifications as defined by 14 C.F.R. 1.1 § 21.93, since the last time they raced in the NCAR or in the previous twelve months as specified in the Official Rules of Competition. RARA queries each owner/operator in writing as part of the race entry process to determine whether or not a major repair/modification affecting weight, balance, structural strength, performance, power plant operation, flight characteristics, or other qualities affecting airworthiness has been performed in the specified time period.

Entries identified as having undergone a major repair/modification are reviewed by both RARA and the FSDO to ensure there has been compliance with current FAA requirements regarding the specific major repair/modification, that the operating limits issued by the FAA reflect the current aircraft configuration, and that all required flight testing, as specified by the involved FSDO, are appropriately documented and signed off in the aircraft log book.

RARA intends to work with the FAA and each of the classes of racing to make the above-referenced review an item of special emphasis in connection with the 2012 NCAR for any aircraft identified pursuant to the above stated criteria. Moreover, RARA, working with both the FAA and representatives of each class of racing, is undertaking a review of its existing processes/procedures in order to determine if they can be more effectively implemented in a manner consistent with the FARs

#### **A-12-14**

***Evaluate the design of the unlimited class course and safety areas to minimize maneuvering near and potential conflicts with spectators; if warranted by the results of the evaluation, implement changes to the race course. (A-12-14)***

RARA accepts this recommendation. RARA has, as it does annually, evaluated the design of the unlimited class course and safety areas to minimize maneuvering near and potential conflicts with spectators. Based on this evaluation:

- 1) RARA has moved the racers and the race course further North than it was located in 2011 to create and maintain a greater distance from the racers to the primary spectator viewing area, and
- 2) RARA has established a Race Course Show Line 500 feet East

of the West Airport Boundary because this area had become a secondary viewing area due to a large increase in spectators on the private property adjacent to the airport.

**A-12-15:**

***Take the following actions to raise the level of safety for spectators and personnel near the race course: (1) to relocate the fuel truck away from the ramp area and (2) in front of any area where spectators are present, install barriers more substantial than those currently in place. (A-12-15)***

RARA accepts this recommendation. The large fuel tanker will be relocated away from the ramp area to the southeast side of the airfield (approximately one and one-half miles from the primary spectator area) effective at the 2012 NCAR.

In addition to the K Rails currently positioned to the north side of the taxiway on the west end of runway 08, additional and more substantial barriers will be located along the entire primary spectator viewing area from the west end of the pits, east through the box seats to the general admission grandstands.

**A-12-16:**

***Provide high g training to pilots, including techniques to mitigate the potential effects of high g exposure, as part of preparations before the Reno National Championship Air Races (NCAR) and during daily briefs at the NCAR. (A-12-16)***

RARA accepts this recommendation. All pilots participating in the 2012 NCAR will receive formal "G" loss of consciousness training prior to racing. This training will include training packages mailed to them pre-race and a formal briefing provided by a qualified military flight surgeon prior to flight participation. Additionally, "G" loss awareness will be briefed in the Air Boss's daily flight briefing and pilots will be required to fly four to six laps prior to attempting to qualify to improve "G" tolerance and awareness.

**A-12-17**

***Evaluate the feasibility of requiring pilots to wear g suits when racing at the Reno National Championship Air Races; if the evaluation determines it is feasible, implement a requirement. (A-12-17)***

RARA has evaluated the feasibility of requiring pilots to wear "G" suits when racing at the NCAR with subject matter experts, including the

FAA Civil Aeromedical Institute, National Aeronautics and Space Administration, Air Force Research Lab, flight surgeons and current/former fighter pilots. Based on these discussions, the benefit of a G suit is of limited, if any, value on a race course designed for short duration 3.5 G turns. The limited aid to "G" tolerance which a G suit provides in a sustained high "G" environment does not enhance "G" tolerance on a race course designed for short duration 3.5 "G" turns such as those encountered during the NCAR. Moreover, a "G" suit would be ineffective in an environment where there is a virtually instantaneous buildup of G forces such as those encountered by a rapid pitch up of an aircraft. Therefore, RARA will leave "G" suit usage to the discretion of the pilot rather than mandating "G" suit implementation and will focus its efforts on educating pilots regarding "G" tolerance and awareness.

RARA appreciates the opportunity to respond to the Board's recommendations and looks forward to the process as it moves forward.

Sincerely,

A handwritten signature in black ink, which is partially obscured by a black rectangular redaction box. The signature appears to be "Michael J. Houghton".

Michael J. Houghton  
President and CEO



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July 12, 2012

Via Email (correspondence@ntsb.gov)

Deborah A. P. Hersman  
Chairman  
National Transportation Safety Board  
Washington, D.C. 20594

Re: Safety Recommendation A-12-13

Dear Chairman Hersman,

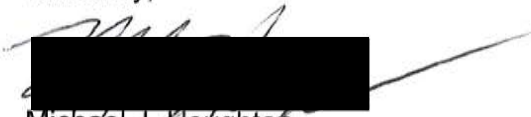
On July 9, 2012, the Reno Air Race Association, Inc. ("RARA") sent its responses to the April 10, 2012, recommendations made by the NTSB to RARA.

On July 11, 2012, the FAA released the draft of Advisory Circular ("AC") 43-209A, entitled "Recommended Inspection Procedures for Former Military Aircraft." It is noted in paragraph one of that draft AC that it "provides recommendations for the development of inspection program requirements for the certificates of former military aircraft in the experimental category for the purpose(s) of exhibition and air racing that operate in the United States in accordance with Title 14 of the Federal Code of Regulations (14 C.F.R.) Part 21, §21.191(d) and (e)." The FAA has asked for comments on the draft by August 9, 2012.

Inasmuch as the draft AC was not issued until after we sent our responses to the recommendations of the NTSB, particularly A-12-13, RARA did not have the benefit of having reviewed and/or commented on it in the context of our response. However, the NTSB should be assured that RARA will, as part of its ongoing review of its procedures and processes, consider the draft AC and extent to which the information/recommendations contained therein should be implemented by RARA.

Thank you for permitting RARA to participate in this important undertaking.

Sincerely,

  
Michael J. Houghton  
President and CEO

September 12-16, 2012