



# Federal Aviation Administration

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## Memorandum

Date: June 25, 2015

To: Manager, Chicago Aircraft Certification Office, ACE-115C

From: Manager, Small Airplane Directorate, ACE-100

Prepared by: Wess Rouse, Propulsion and Program Management Branch, ACE-118C

Subject: INFORMATION: Equivalent Level of Safety (ELOS) Finding for Cirrus Aircraft Corporation, Model Vision SF50 Jet, Cockpit Control Knob Shape, Project #: TC6444CH-A

ELOS Memo #: ACE-15-14

Regulatory Ref: 14 CFR 23.781(b)

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This memorandum informs the certificate management aircraft certification office of an evaluation made by the Accountable Directorate on the establishment of an equivalent level of safety finding for the shape of the power (thrust) control knob to be used on the Cirrus Aircraft Corporation (Cirrus) Model Vision SF50 jet.

### **Background:**

Cirrus proposes the use of a power control knob that does not strictly meet the cylindrical shape requirement in § 23.781(b). The intent of the regulation is to easily differentiate, by shape, various types of control knobs in a cockpit. Therefore, it is necessary to document an equivalent level of safety to certify the design.

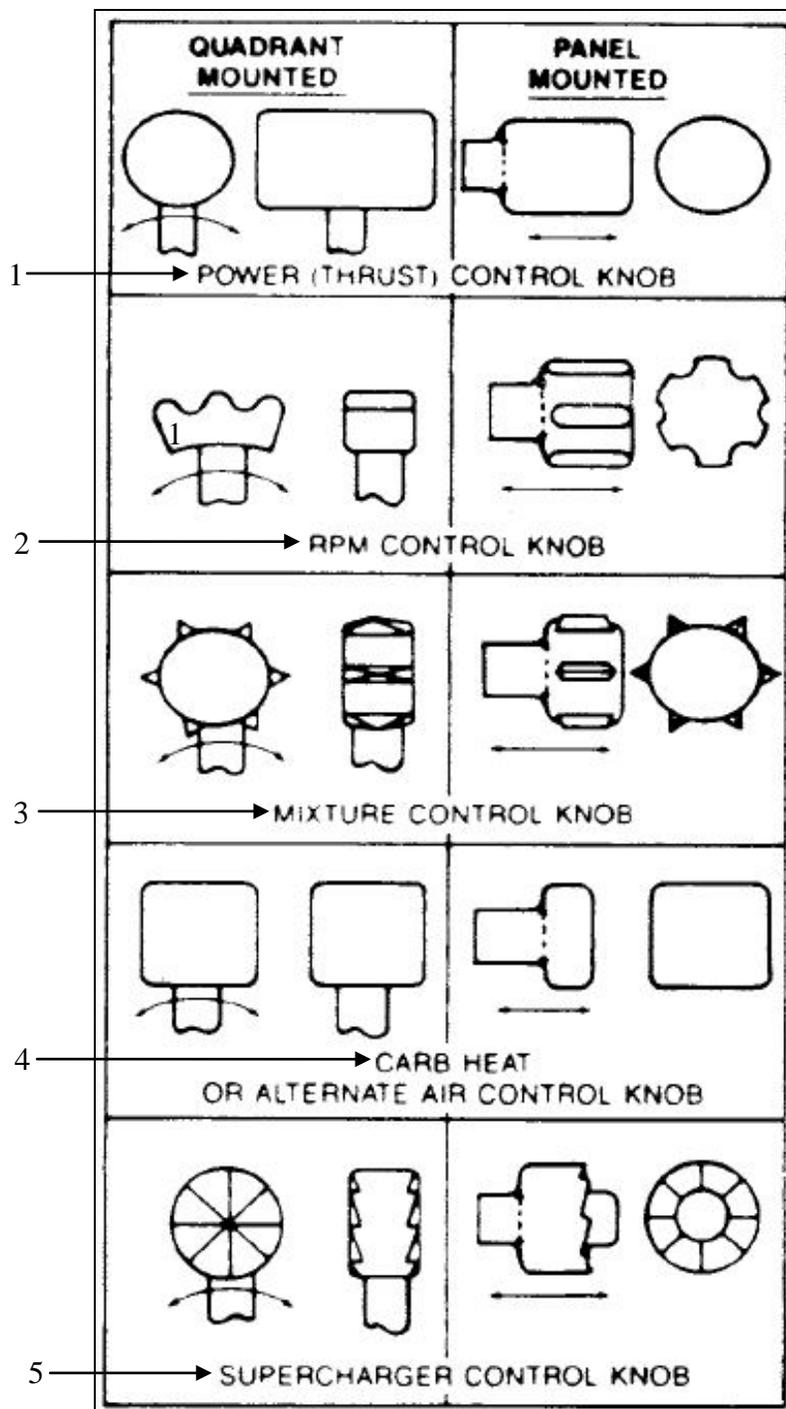
### **Applicable regulation:**

14 CFR 23.781(b)

### **Regulation requiring an ELOS finding:**

Section 23.781(b) states the following:

“Powerplant control knobs must conform to the general shapes (but not necessarily the exact sizes or specific proportions) in the following figure:”



**Description of compensating design features or alternative Methods of Compliance (MoC) which allow granting of the ELOS (including changes, limitations, or equipment needed for equivalency):**

In the Model Vision SF50 jet installation, the gear and flap knobs comply with § 23.781 and are installed in a different location or with a different sense of motion from the powerplant controls. In addition, there is only one powerplant control in the center control console: the thrust lever.

The SF50 thrust control knob is egg shaped in cross section and has rounded ends. This round shape could be interpreted to meet the “. . . general shapes . . .” as displayed for power levers (1) in § 23.781(b), since it is round and smooth without protrusions. Its cross-sectional shape is not far enough from round to confuse anyone as to its intended function. There are no other powerplant controls installed near the thrust control knob and the proposed thrust lever shape does not have any features similar to other standard powerplant control knobs, such as RPM (2), Mixture (3), Carb Heat (4), and Supercharger (5) as illustrated in the preceding § 23.781 figure. Control knob recognition is not compromised because the SF50 jet does not have any of these additional controls.

**Explanation of how design features or alternative Methods of Compliance (MoC) provide an equivalent level of safety to the level of safety intended by the regulation:**

The Model Vision SF50 jet thrust control knob shape is distinctive and is the only engine control knob on the SF50 jet. Therefore, the potential for pilot confusion over lever function due to control knob design is minimized.

**FAA approval and documentation of the ELOS finding:**

The FAA has approved the aforementioned equivalent level of safety finding in project issue paper P-4. This memorandum provides standardized documentation of the ELOS finding that is non-proprietary and can be made available to the public. The Accountable Directorate has assigned a unique ELOS Memorandum number (see front page) to facilitate archiving and retrieval of this ELOS. This ELOS Memorandum number should be listed in the Type Certificate Data Sheet under the Certification Basis section Type Certificate (TC) and Amended Type Certificate (ATC) or in the Limitations and Conditions section of the Supplemental Type Certificate (STC). An example of an appropriate statement is provided below.

Equivalent Level of Safety Findings have been made for the following regulation:

14 CFR 23.781(b) Cockpit control knob shape  
(documented in ELOS Memo ACE-15-14)

//SIGNED//

June 25, 2015

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Earl Lawrence, Manager, Small Airplane Directorate,  
Aircraft Certification Service

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Date

ELOS Originated by: Chicago ACO, Wess Rouse	Manager, Chicago ACO: Timothy P. Smyth	Routing Symbol: ACE-115C
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