

UNITED STATES OF AMERICA  
DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION  
KANSAS CITY, MISSOURI 64106

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In the matter of the petition of \*  
\*  
CAPRONI VIZZOLA COSTRUZIONI \*  
AERONAUTICHE S.p.A. \*  
\*  
for an exemption from § 23.677(b)(2) \*  
of the Federal Aviation Regulations \*  
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Regulatory Docket No. 062CE

GRANT OF EXEMPTION

By letter dated March 2, 1988, Mr. Marcello Puppi, on behalf of Caproni Vizzola Costruzioni Aeronautiche S.p.A., Vizzola Ticino (Varese), Italy, petitioned for an exemption from § 23.677(b)(2) of the Federal Aviation Regulations to permit certification of the Caproni Model C22J without a directional trim tab. Caproni submitted additional supportive information by letter dated October 24, 1989.

Section of the FAR affected:

Section 23.677(b)(2) requires that multiengine airplanes be designed with a directional trim tab.

The petitioner's supportive information is as follows:

The petitioner states that the Model C22J is an acrobatic two-place airplane powered by two small jet engines located in the vicinity of the airframe centerline. The petitioner states that the directional controllability of the airplane is the same on one engine as it is on two engines and notes that a directional trim tab is not required on a single engine airplane. Further, the petitioner submits report 22-556, dated May 19, 1989, entitled "Directional Control Forces Measurement C22J Aircraft", which contains rudder pedal force measurements in various flight conditions.

Comments to published petition summary:

A summary of this petition was published in the FEDERAL REGISTER for public comment on December 20, 1989, (54 FR 52083). The comment period closed January 9, 1990. No comments were received.

The Federal Aviation Administration's (FAA) analysis is as follows:

To obtain the exemption, the petitioner must show, as required by § 11.25(b)(5) of the Federal Aviation Regulations, that: (1) granting the request is in the public interest; and (2) the grant of the exemption would not adversely affect safety, or that a level of safety will be provided which is equal to that provided by the rule from which the exemption is sought.

The FAA has carefully reviewed all of the information contained in the petitioner's request for exemption and the intended operation of this airplane.

The § 23.677 (b)(2) requirement applies to multiengine airplanes to assure that the sustained directional control forces expected during single-engine operation can be reduced with trim. The low thrust values resulting from the small jet engines chosen by Caproni on their Model C22J airplane, combined with the location of the engines near the centerline of the airplane, result in low rudder pedal forces during single engine operation. The FAA has compared the force values of Caproni report 22-556 with the force values of FAA report FAA-AM-73-23, dated December 1973, entitled "Study of Control Force Limits for Female Pilots". The FAA finds that the directional forces required by Caproni are below those forces that can be sustained by reduced-strength pilots.

In consideration of the foregoing, I find that a grant of exemption is in the public interest. Pursuant to the authority contained in §§ 313(a) and 601(c) of the Federal Aviation Act of 1958, as amended, delegated to me by the Administrator (14 CFR 11.53), Caproni Vizzola Costruzioni Aeronautiche S.p.A. is hereby granted an exemption from § 23.677(b)(2) of the Federal Aviation Regulation (FAR) to the extent necessary to permit certification of the Model C22J airplane without a directional trim tab.

Issued in Kansas City, Missouri on January 11, 1990.



Don C. Jacobsen, Acting Manager  
Small Airplane Directorate  
Aircraft Certification Service