§ 29.681  Limit load static tests.

(a) Compliance with the limit load requirements of this part must be shown by tests in which—
   (1) The direction of the test loads produces the most severe loading in the control system; and
   (2) Each fitting, pulley, and bracket used in attaching the system to the main structure is included;
   (b) Compliance must be shown (by analyses or individual load tests) with the special factor requirements for control system joints subject to angular motion.

§ 29.683  Operation tests.

It must be shown by operation tests that, when the controls are operated from the pilot compartment with the control system loaded to correspond with loads specified for the system, the system is free from—
   (a) Jamming;
   (b) Excessive friction; and
   (c) Excessive deflection.

§ 29.685  Control system details.

(a) Each detail of each control system must be designed to prevent jamming, chafing, and interference from cargo, passengers, loose objects, or the freezing of moisture.

(b) There must be means in the cockpit to prevent the entry of foreign objects into places where they would jam the system.

(c) There must be means to prevent the slapping of cables or tubes against other parts.

(d) Cable systems must be designed as follows:
   (1) Cables, cable fittings, turnbuckles, splices, and pulleys must be of an acceptable kind.
   (2) The design of cable systems must prevent any hazardous change in cable tension throughout the range of travel under any operating conditions and temperature variations.

§ 29.687  Spring devices.

(a) Each control system spring device whose failure could cause flutter or other unsafe characteristics must be reliable.

(b) Compliance with paragraph (a) of this section must be shown by tests simulating service conditions.