

## Code of Federal Regulations

**This Section of CFR is No Longer Current.**

▼ **Sec. 25.397**

Part 25 AIRWORTHINESS STANDARDS: TRANSPORT CATEGORY AIRPLANES	
Subpart C--Structure	Control Surface and System Loads

Sec. 25.397

Control system loads.

(a) *General.* The maximum and minimum pilot forces, specified in paragraph (c) of this section, are assumed to act at the appropriate control grips or pads (in a manner simulating flight conditions) and to be reacted at the attachment of the control system to the control surface horn.

(b) *Pilot effort effects.* In the control surface flight loading condition, the air loads on movable surfaces and the corresponding deflections need not exceed those that would result in flight from the application of any pilot force within the ranges specified in paragraph (c) of this section. Two-thirds of the maximum values specified for the aileron and elevator may be used if control surface hinge moments are based on reliable data. In applying this criterion, the effects of servo mechanisms, tabs, and automatic pilot systems, must be considered.

(c) *Limit pilot forces.* The limit pilot forces are as follows:

Control	Maximum forces	Minimum forces
<b>Aileron:</b>		
Stick ----- -----	100 lbs ----- -----	40 lbs.
Wheel* ----- -----	80 <i>D</i> in.-lbs. ** ----- -----	40 <i>D</i> in.-lbs.
<b>Elevator:</b>		
Stick ----- -----	250 lbs ----- -----	100 lbs.
Wheel ----- -----	300 lbs ----- -----	100 lbs.
Rudder ----- -----	300 lbs ----- -----	130 lbs.

\*The critical parts of this aileron control system must be designed for a single tangential

force with a limit value equal to 1.25 times the couple force determined from these criteria.

\*\* $D$ =wheel diameter (inches).