Federal Aviation Administration, DOT

§ 29.497  Ground loading conditions: landing gear with tail wheels.

(a) General. Rotorcraft with landing gear with two wheels forward and one wheel aft of the center of gravity must be designed for loading conditions as prescribed in this section.

(b) Level landing attitude with only the forward wheels contacting the ground. In this attitude—

(1) The vertical loads must be applied under §§ 29.471 through 29.475;

(2) The vertical load at each axle must be combined with a drag load at that axle of not less than 25 percent of that vertical load; and

(3) Unbalanced pitching moments are assumed to be resisted by angular inertia forces.

(c) Level landing attitude with all wheels contacting the ground simultaneously. In this attitude, the rotorcraft must be designed for landing loading conditions as prescribed in paragraph (b) of this section.

(d) Maximum nose-up attitude with only the rear wheel contacting the ground. The attitude for this condition must be the maximum nose-up attitude expected in normal operation, including autorotative landings. In this attitude—

(1) The appropriate ground loads specified in paragraph (b)(1) and (2) of this section must be determined and applied, using a rational method to account for the moment arm between the rear wheel ground reaction and the rotorcraft center of gravity; or