reaching a height of 35 feet above the
takeoff surface in accordance with
§ 23.57(c)(2).

(3) For any given set of conditions,
such as weight, altitude, temperature,
and configuration, a single value of \( V_R \)
must be used to show compliance with
both the one-engine-inoperative take-
off and all-engines-operating takeoff
requirements.

(4) The takeoff safety speed, \( V_2 \), in
terms of calibrated airspeed, must be
selected by the applicant so as to allow
the gradient of climb required in § 23.67
\((c)(1)\) and \((c)(2)\) but must not be less
than 1.10 \( V_{MC} \) or less than 1.20 \( V_{S1} \).

(5) The one-engine-inoperative take-
off distance, using a normal rotation
rate at a speed 5 knots less than \( V_R \), es-
tablished in accordance with paragraph
\((c)(2)\) of this section, must be shown
not to exceed the corresponding one-
engine-inoperative takeoff distance,
determined in accordance with § 23.57
and § 23.59(a)(1), using the established
\( V_R \). The takeoff, otherwise performed
in accordance with § 23.57, must be con-
tinued safely from the point at which
the airplane is 35 feet above the takeoff
surface and at a speed not less than the
established \( V_2 \) minus 5 knots.

(6) The applicant must show, with all
engines operating, that marked in-
creases in the scheduled takeoff dis-
tances, determined in accordance with
§ 23.59(a)(2), do not result from over-ro-
tation of the airplane or out-of-trim
conditions.

[Doc. No. 27807, 61 FR 5184, Feb. 9, 1996]

§ 23.55 Accelerate-stop distance.

For each commuter category air-
plane, the accelerate-stop distance
must be determined as follows:

(a) The accelerate-stop distance is
the sum of the distances necessary to—

(1) Accelerate the airplane from a
standing start to \( V_{EF} \) with all engines
operating;

(2) Accelerate the airplane from \( V_{EF} \)
to \( V_1 \), assuming the critical engine
fails at \( V_{EF} \); and

(3) Come to a full stop from the point
at which \( V_1 \) is reached.

(b) Means other than wheel brakes
may be used to determine the accel-
erate-stop distances if that means—

(1) Is safe and reliable;

(2) Is used so that consistent results
can be expected under normal oper-
ating conditions; and

(3) Is such that exceptional skill is
not required to control the airplane.

[Amdt. 23–34, 52 FR 1826, Jan. 15, 1987, as
amended by Amdt. 23–50, 61 FR 5185, Feb. 9,
1996]

§ 23.57 Takeoff path.

For each commuter category air-
plane, the takeoff path is as follows:

(a) The takeoff path extends from a
standing start to a point in the takeoff
at which the airplane is 1500 feet above
the takeoff surface at or below which
height the transition from the takeoff
to the enroute configuration must be
completed; and

(1) The takeoff path must be based on
the procedures prescribed in § 23.45;

(2) The airplane must be accelerated
on the ground to \( V_{EF} \) at which point the
critical engine must be made inoper-
ative and remain inoperative for the
rest of the takeoff; and

(3) After reaching \( V_{EF} \), the airplane
must be accelerated to \( V_2 \).

(b) During the acceleration to speed
\( V_2 \), the nose gear may be raised off the
ground at a speed not less than \( V_R \).
However, landing gear retraction must