

(b) *Automatic Takeoff Thrust Control System—(ATTCS)*. The Embraer Model ERJ-170 series ATTCS is defined as the entire automatic system available in takeoff when selected by the pilot and always in go-around mode; including all devices, both mechanical and electrical, that sense engine failure, transmit signals, and actuate fuel controls or power levers or increase engine power by other means on operating engines to achieve scheduled thrust or power increases and to furnish cockpit information on system operation.

(c) *Critical Time Interval*. The definition of the Critical Time Interval in appendix I, § I25.2(b) shall be expanded to include the following:

(1) When conducting an approach for landing using ATTCS, the critical time interval is defined as 120 seconds. A shorter time interval may be used if justified by a rational analysis. An accepted analysis that has been used on past aircraft certification programs is as follows:

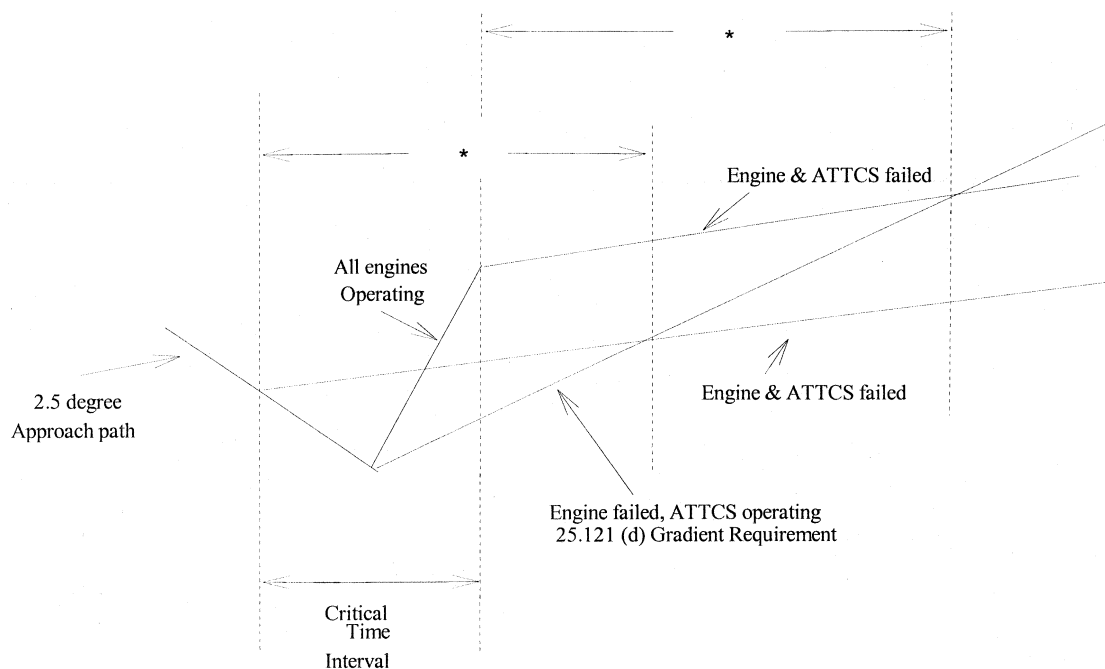
(i) The critical time interval begins at a point on a 2.5 degree approach glide path from which, assuming a simultaneous engine and ATTCS failure, the resulting approach climb flight path intersects a flight path originating at a later point on the same approach path corresponding to the part 25 one-engine-inoperative approach climb gradient. The period of time from the point of simultaneous engine and ATTCS failure to the intersection of these flight paths must be no shorter than the time interval used in evaluating the critical time interval for takeoff, beginning from the point of simultaneous engine and ATTCS failure and ending upon reaching a height of 400 feet.

(ii) The critical time interval ends at the point on a minimum performance, all-engines-operating go-around flight path from which, assuming a simultaneous engine and ATTCS failure, the resulting minimum approach climb flight path intersects a

flight path corresponding to the part 25 minimum one-engine-inoperative approach-climb-gradient. The all-engines-operating go-around flight path and the part 25 one-engine-inoperative, approach-climb-gradient flight path originate from a common point on a 2.5 degree approach path. The period of time from the point of simultaneous engine and ATTCS failure to the intersection of these flight paths must be no shorter than the time interval used in evaluating the critical time interval for the takeoff beginning from the point of simultaneous engine and ATTCS failure and ending upon reaching a height of 400 feet.

(2) The critical time interval must be determined at the altitude resulting in the longest critical time interval for which one-engine-inoperative approach climb performance data are presented in the Airplane Flight Manual (AFM).

(3) The critical time interval is illustrated in the following figure:



The engine and ATTCS failed time interval must be no shorter than the time interval from the point of simultaneous engine and ATTCS failure to a height of 400 feet used to comply with I25.2(b) for ATTCS use during takeoff.

## 2. Performance and System Reliability Requirements.

The applicant must comply with the following performance and ATTCS reliability requirements:

(a) An ATTCS failure or combination of failures in the ATTCS during the critical time interval:

(1) Shall not prevent the insertion of the maximum approved go-around thrust or power or must be shown to be an improbable event.

(2) Shall not result in a significant loss or reduction in thrust or power or must be shown to be an extremely improbable event.

(b) The concurrent existence of an ATTCS failure and an engine failure

during the critical time interval must be shown to be extremely improbable.

(c) All applicable performance requirements of part 25 must be met with an engine failure occurring at the most critical point during go-around with the ATTCS system functioning.

(d) The probability analysis must include consideration of ATTCS failure occurring after the time at which the flightcrew last verifies that the ATTCS is in a condition to operate until the beginning of the critical time interval.