

the pilot with a clear indication of any engine failure during takeoff.

The part 25 standards for ATTCS, contained in § 25.904 (Automatic takeoff thrust control system (ATTCS)) and Appendix I, specifically restrict performance credit for ATTCS to takeoff. Expanding the scope of the standards to include other phases of flight, such as go-around, was considered at the time the standards were issued, but flight crew workload issues precluded further consideration. As stated in the preamble to amendment 25-62:

In regard to ATTCS credit for approach climb and go-around maneuvers, current regulations preclude a higher thrust for the approach climb [§ 25.121(d)] than for the landing climb (§ 25.119). The workload required for the flightcrew to monitor and select from multiple in-flight thrust settings in the event of an engine failure during a critical point in the approach, landing, or go-around operations is excessive. Therefore, the FAA does not agree that the scope of the amendment should be changed to include the use of ATTCS for anything except the takeoff phase." (Refer to 52 FR 43153, November 9, 1987.)

The ATTCS incorporated on the Bombardier Model BD-100-1A10 airplane allows the pilot to use the same power setting procedure during a go-around, regardless of whether or not an engine fails. In either case, the pilot obtains go-around power by moving the throttles into the forward (takeoff/go-around) throttle detent. Since the ATTCS is permanently armed, it will function automatically following an engine failure, and advance the remaining engine to the ATTCS thrust level. Therefore, this design adequately addresses the pilot workload concerns identified in the preamble to amendment 25-62.

Accordingly, these special conditions will require a showing of compliance with those provisions of § 25.904 and Appendix I that are applicable to the approach climb and go-around maneuvers.

The definition of a critical time interval for the approach climb case, during which time it must be extremely improbable to violate a flight path based on the gradient requirement of § 25.121(d), is of primary importance. That gradient requirement implies a minimum one-engine-inoperative flight path capability with the airplane in the approach configuration. The engine may have been inoperative before initiating the go-around, or it may become inoperative during the go-around. The definition of the critical time interval must consider both possibilities.

### Applicability

As discussed above, these special conditions are applicable to the Bombardier Model BD-100-1A10 airplane. Should Bombardier apply later for a change to the type certificate to include another model incorporating the same novel or unusual design feature, these special conditions would apply to that model as well under the provisions of § 21.101(a)(1), Amendment 21-69, effective September 16, 1991.

### Conclusion

This action affects only certain novel or unusual design features on the Bombardier Model BD-100-1A10 airplane. It is not a rule of general applicability and affects only the applicant that applied to the FAA for approval of these features on the airplane.

The substance of these special conditions has been subjected to the notice and public comment process in several prior instances, and has been derived without substantive change from those special conditions previously issued. It is unlikely that prior public comment on this action would result in a significant change from the substance contained in this document. For this reason, and because a delay would significantly affect the certification of the airplane, which is imminent, the FAA has determined that prior public notice and comment are unnecessary and impracticable. The FAA is requesting comments to allow interested persons to submit views that may not have been submitted in response to the prior opportunities for comment described above.

### List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

■ The authority citation for these special conditions is as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701, 44702, 44704.

### The Special Conditions

■ Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for the Bombardier Model BD-100-1A10 airplane.

1. *General.* An Automatic Takeoff Thrust Control System (ATTCS) is defined as the entire automatic system, including all devices, both mechanical and electrical that sense engine failure, transmit signals, actuate fuel controls or power levers, or increase engine power by other means on operating engines to achieve scheduled thrust or power

increases and furnish cockpit information on system operation.

2. *ATTCS.* The engine power control system that automatically resets the power or thrust on the operating engine (following engine failure during the approach for landing) must comply with the following requirements stated in paragraphs 2.a, 2.b, and 2.c:

a. *Performance and System Reliability Requirements.*

(1) 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.

(2) The propulsive thrust obtained from the operating engine after failure of the critical engine during a go-around used to show compliance with the one-engine-inoperative climb requirements of § 25.12(d) may not be greater than the lesser of:

(i) The actual propulsive thrust resulting from the initial setting of power or thrust controls with the ATTCS system functioning; or

(ii) 111 percent of the propulsive thrust resulting from the initial setting of power or thrust controls with the ATTCS system failing to reset thrust or power and without any action by the crew to reset thrust or power.

b. *Thrust or Power Setting.*

(1) The initial thrust or power setting on each engine at the beginning of the takeoff roll or go-around may not be less than any of the following:

(i) That required to permit normal operation of all safety-related systems and equipment dependent upon engine thrust or power lever position; and

(ii) That shown to be free of hazardous engine response characteristics and not to result in any unsafe aircraft operating or handling characteristics when thrust or power is increased from the initial takeoff or go-around thrust or power to the maximum approved takeoff thrust or power.

(2) For approval of an ATTCS system for go-around, the thrust or power setting procedure must be the same for go-arounds initiated with all engines operating as for go-arounds initiated with one engine inoperative.

c. *Powerplant Controls.* In addition to the requirements of § 25.1141, no single failure or malfunction, or probable combination thereof, of the ATTCS, including associated systems, may cause the failure of any powerplant function necessary for safety. The ATTCS must be designed to:

(1) Apply thrust or power on the operating engine(s), following any one engine failure during takeoff or go-around, to achieve the maximum