

## APPENDIX G TO PART 23—INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

G23.1 *General.* (a) This appendix specifies requirements for the preparation of Instructions for Continued Airworthiness as required by § 23.1529.

(b) The Instructions for Continued Airworthiness for each airplane must include the Instructions for Continued Airworthiness for each engine and propeller (hereinafter designated 'products'), for each appliance required by this chapter, and any required information relating to the interface of those appliances and products with the airplane. If Instructions for Continued Airworthiness are not supplied by the manufacturer of an appliance or product installed in the airplane, the Instructions for Continued Airworthiness for the airplane must include the information essential to the continued airworthiness of the airplane.

(c) The applicant must submit to the FAA a program to show how changes to the Instructions for Continued Airworthiness made by the applicant or by the manufacturers of products and appliances installed in the airplane will be distributed.

G23.2 *Format.* (a) The Instructions for Continued Airworthiness must be in the form of a manual or manuals as appropriate for the quantity of data to be provided.

(b) The format of the manual or manuals must provide for a practical arrangement.

G23.3 *Content.* The contents of the manual or manuals must be prepared in the English language. The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:

(a) *Airplane maintenance manual or section.* (1) Introduction information that includes an explanation of the airplane's features and data to the extent necessary for maintenance or preventive maintenance.

(2) A description of the airplane and its systems and installations including its engines, propellers, and appliances.

(3) Basic control and operation information describing how the airplane components and systems are controlled and how they operate, including any special procedures and limitations that apply.

(4) Servicing information that covers details regarding servicing points, capacities of tanks, reservoirs, types of fluids to be used, pressures applicable to the various systems, location of access panels for inspection and servicing, locations of lubrication points, lubricants to be used, equipment required for servicing, tow instructions and limitations, mooring, jacking, and leveling information.

(b) *Maintenance instructions.* (1) Scheduling information for each part of the airplane and its engines, auxiliary power units, propellers, accessories, instruments, and equipment that provides the recommended periods at

which they should be cleaned, inspected, adjusted, tested, and lubricated, and the degree of inspection, the applicable wear tolerances, and work recommended at these periods. However, the applicant may refer to an accessory, instrument, or equipment manufacturer as the source of this information if the applicant shows that the item has an exceptionally high degree of complexity requiring specialized maintenance techniques, test equipment, or expertise. The recommended overhaul periods and necessary cross reference to the Airworthiness Limitations section of the manual must also be included. In addition, the applicant must include an inspection program that includes the frequency and extent of the inspections necessary to provide for the continued airworthiness of the airplane.

(2) Troubleshooting information describing probable malfunctions, how to recognize those malfunctions, and the remedial action for those malfunctions.

(3) Information describing the order and method of removing and replacing products and parts with any necessary precautions to be taken.

(4) Other general procedural instructions including procedures for system testing during ground running, symmetry checks, weighing and determining the center of gravity, lifting and shoring, and storage limitations.

(c) Diagrams of structural access plates and information needed to gain access for inspections when access plates are not provided.

(d) Details for the application of special inspection techniques including radiographic and ultrasonic testing where such processes are specified.

(e) Information needed to apply protective treatments to the structure after inspection.

(f) All data relative to structural fasteners such as identification, discard recommendations, and torque values.

(g) A list of special tools needed.

(h) In addition, for commuter category airplanes, the following information must be furnished:

(1) Electrical loads applicable to the various systems;

(2) Methods of balancing control surfaces;

(3) Identification of primary and secondary structures; and

(4) Special repair methods applicable to the airplane.

G23.4 *Airworthiness Limitations section.* The Instructions for Continued Airworthiness must contain a section titled Airworthiness Limitations that is segregated and clearly

distinguishable from the rest of the document. This section must set forth each mandatory replacement time, structural inspection interval, and related structural inspection procedure required for type certification. If the Instructions for Continued Airworthiness consist of multiple documents, the section required by this paragraph must be included in the principal manual. This section must contain a legible statement in a prominent location that reads: "The Airworthiness Limitations section is FAA approved and specifies maintenance required under §§ 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved."

[Amdt. 23-26, 45 FR 60171, Sept. 11, 1980, as amended by Amdt. 23-34, 52 FR 1835, Jan. 15, 1987; 52 FR 34745, Sept. 14, 1987; Amdt. 23-37, 54 FR 34329, Aug. 18, 1989]

APPENDIX H TO PART 23—INSTALLATION OF AN AUTOMATIC POWER RESERVE (APR) SYSTEM

H23.1. General.

(a) This appendix specifies requirements for installation of an APR engine power control system that automatically advances power or thrust on the operating engine(s) in the event any engine fails during takeoff.

(b) With the APR system and associated systems functioning normally, all applicable

requirements (except as provided in this appendix) must be met without requiring any action by the crew to increase power or thrust.

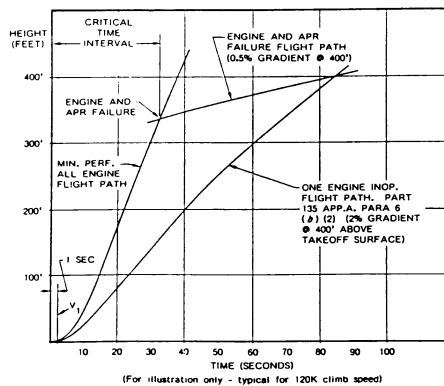
H23.2. Definitions.

(a) *Automatic power reserve system* means the entire automatic system used only during takeoff, including all devices both mechanical and electrical that sense engine failure, transmit signals, actuate fuel controls or power levers on operating engines, including power sources, to achieve the scheduled power increase and furnish cockpit information on system operation.

(b) *Selected takeoff power*, notwithstanding the definition of "Takeoff Power" in part 1 of the Federal Aviation Regulations, means the power obtained from each initial power setting approved for takeoff.

(c) *Critical Time Interval*, as illustrated in figure H1, means that period starting at  $V_1$  minus one second and ending at the intersection of the engine and APR failure flight path line with the minimum performance all engine flight path line. The engine and APR failure flight path line intersects the one-engine-inoperative flight path line at 400 feet above the takeoff surface. The engine and APR failure flight path is based on the airplane's performance and must have a positive gradient of at least 0.5 percent at 400 feet above the takeoff surface.

FIGURE H1 - CRITICAL TIME INTERVAL ILLUSTRATION.



H23.3. Reliability and performance requirements.

(a) It must be shown that, during the critical time interval, an APR failure that increases or does not affect power on either en-

gine will not create a hazard to the airplane, or it must be shown that such failures are improbable.

(b) It must be shown that, during the critical time interval, there are no failure modes