CS 25.903 Engines

(a) Engine type certification. (1) reserved (2) Any engine not certificated to CS-E must be shown to comply with CS-E 790 and CS-E 800 or be shown to have a foreign object ingestion service history in similar installation locations which has not resulted in any unsafe condition.

(b) Engine isolation. The powerplants must be arranged and isolated from each other to allow operation, in at least one configuration, so that the failure or malfunction of any engine, or of any system that can affect the engine, will not - (1) Prevent the continued safe operation of the remaining engines; or (2) Require immediate action by any crew member for continued safe operation.

(c) Control of engine rotation. There must be means for stopping the rotation of any engine individually in flight, except that, for turbine engine installations, the means for stopping the rotation of any engine need be provided only where continued rotation could jeopardise the safety of the aeroplane. Each component of the stopping system on the engine side of the firewall that might be exposed to fire must be at least fire resistant. If hydraulic propeller feathering systems are used for this purpose, the feathering lines must be at least fire-resistant under the operating conditions that may be expected to exist during feathering.

(d) Turbine engine installations. For turbine engine installations - (1) Design precautions must be taken to minimise the hazards to the aeroplane in the event of an engine rotor failure or of a fire originating within the engine which burns through the engine case. (See AMC 25.903(d)(1) and AMC 20-128A.) (2) The powerplant systems associated with engine control devices, systems, and instrumentation, must be designed to give reasonable assurance that those engine operating limitations that adversely affect turbine rotor structural integrity will not be exceeded in service.

(e) Restart capability. (1) Means to restart any engine in flight must be provided. (2) An altitude and airspeed envelope must be established for in-flight engine restarting, and each engine must have a restart capability within that envelope. (See AMC 25.903(e)(2).) (3) For turbine engine powered aeroplanes, if the minimum windmilling speed of the engines, following the in-flight shut-down of all engines, is insufficient to provide the necessary electrical power for engine ignition, a power source independent of the engine-driven electrical power generating system must be provided to permit in-flight engine ignition for restarting.

*Certification Basis Synopsis