that compliance with the requirements has been established with the device functioning.

(5) Objects that are accepted by the Administrator may be substituted for birds when conducting the bird ingestion tests required by paragraphs (b), (c) and (d) of this section.

(6) If compliance with the requirements of this section is not established, the engine type certification documentation will show that the engine shall be limited to aircraft installations in which it is shown that a bird cannot strike the engine, or be ingested into the engine, or adversely restrict airflow into the engine.

(b) *Large single bird.* Compliance with the large bird ingestion requirements shall be in accordance with the following:

(1) The large bird ingestion test shall be conducted using one bird of a weight determined from Table 1 aimed at the most critical exposed location on the first stage rotor blades and ingested at a bird speed of 200-knots for engines to be installed on airplanes, or the maximum airspeed for normal rotorcraft flight operations for engines to be installed on rotorcraft.

(2) Power lever movement is not permitted within 15 seconds following ingestion of the large bird.

(3) Ingestion of a single large bird tested under the conditions prescribed in this section may not result in any condition described in §33.75(g)(2) of this part.

(4) Compliance with the large bird ingestion requirements of this paragraph may be shown by demonstrating that the requirements of §33.94(a) constitute a more severe demonstration of blade containment and rotor unbalance than the requirements of this paragraph.

TABLE 1 TO §33.76—LARGE BIRD WEIGHT REQUIREMENTS

Engine Inlet Throat Area (A)—Square-meters (square-inches)	Bird weight kg. (lb.)
1.35 (2,092)>A	1.85 (4.07) minimum, unless a smaller bird is determined to be a more severe demonstration.
1.35 (2,092)≤A<3.90 (6,045)	2.75 (6.05)
3.90 (6,045)≤A	3.65 (8.03)

(c) *Small and medium flocking bird* Compliance with the small and medium bird ingestion requirements shall be in accordance with the following:

(1) Analysis or component test, or both, acceptable to the Administrator, shall be conducted to determine the critical ingestion parameters affecting power loss and damage. Critical ingestion parameters shall include, but are not limited to, the effects of bird speed, critical target location, and first stage rotor speed. The critical bird ingestion speed should reflect the most critical condition within the range of airspeeds used for normal flight operations up to 1,500 feet above ground level, but not less than V_1 minimum for airplanes.

(2) Medium bird engine tests shall be conducted so as to simulate a flock encounter, and will use the bird weights and quantities specified in Table 2. When only one bird is specified, that bird will be aimed at the engine core primary flow path; the other critical locations on the engine face area must be addressed, as necessary, by appropriate tests or analysis, or both. When two or more birds are specified in Table 2, the largest of those birds must be aimed at the engine core primary flow path, and a second bird must be aimed at the most critical exposed location on the first stage rotor blades. Any remaining birds must be evenly distributed over the engine face area.

(3) In addition, except for rotorcraft engines, it must also be substantiated by appropriate tests or analysis or both, that when the full fan assembly is subjected to the ingestion of the quantity and weights of bird from Table 3, aimed at the fan assembly's most critical location outboard of the primary core flowpath, and in accordance with the applicable test conditions of this paragraph, that the engine can comply with the acceptance criteria of this paragraph.

(4) A small bird ingestion test is not required if the prescribed number of medium birds pass into the engine rotor blades during the medium bird test.

(5) Small bird ingestion tests shall be conducted so as to simulate a flock encounter using one 85 gram (0.187 lb.) bird for each 0.032 square-meter (49.6 square-inches) of inlet area, or fraction