made using the nominal value of k when M_T is larger than M_R. The reference helical tip Mach number M_R is the Mach number corresponding to the reference conditions (RPM, airspeed, temperature) above the measurement point.

(4) Measured sound levels in decibels must be corrected for engine power by algebraically adding an increment equal to

Delta (3) = K_3 log (P_R/P_T)

where P_R and P_T are the test and reference engine powers respectively obtained from the manifold pressure/torque gauges and engine rpm. The value of K_3 shall be determined from approved data from the test airplane. In the absence of flight test data and at the discretion of the Administrator, a value of K_3 = 17 may be used.

Sec. G36.203 Validity of Results.

(a) The measuring point must be overflown at least six times. The test results must produce an average noise level (L_{Amax}) value within a 90 percent confidence limit. The average noise level is the arithmetic average of the corrected acoustical measurements for all valid test runs over the measuring point.

(b) The samples must be large enough to establish statistically a 90 percent confidence limit not exceeding ±1.5 dB(A). No test results may be omitted from the averaging process unless omission is approved by the FAA.

PART D—NOISE LIMITS

Sec. G36.301 Aircraft noise limits.

(a) Compliance with this section must be shown with noise data measured and corrected as prescribed in Parts B and C of this appendix.

(b) For single-engine airplanes for which the original type certification application is received before February 3, 2006 and multi-engine airplanes, the noise level must not exceed 76 dB(A) up to and including aircraft weights of 1,320 pounds (600 kg). For aircraft weights greater than 1,320 pounds, the limit increases from that point with the logarithm of airplane weight at the rate of 9.83 dB (A) per doubling of weight, until the limit of 88 dB (A) is reached, after which the limit is constant up to and including 19,000 pounds (8,618 kg). Figure G2 shows noise level limits vs airplane weight.

(c) For single-engine airplanes for which the original type certification application is received on or after February 3, 2006, the noise level must not exceed 70dB(A) for aircraft having a maximum certificated takeoff weight of 1,257 pounds (570 kg) or less. For aircraft weights greater than 1,257 pounds, the noise limit increases from that point with the logarithm of airplane weight at the rate of 10.75dB(A) per doubling of weight, until the limit of 85dB(A) is reached, after which the limit is constant up to and including 19,000 pounds (8,618 kg). Figure G2 depicts noise level limits for airplane weights for single-engine airplanes.