(1) The term $0.01[\alpha(i) - \alpha(i)_0]QK$ is the adjustment for the effect of the change in sound attenuation coefficient, and $\alpha(i)$ and $\alpha(i)_0$ are the coefficients for the test and reference atmospheric conditions respectively, determined under section A36.7 of this appendix;

(2) The term $0.01\alpha(i)_0(QK - Q_rK_r)$ is the adjustment for the effect of the change in the noise path length on the sound attenuation;

(3) The term $20 \log(QK/Q_rK_r)$ is the adjustment for the effect of the change in the noise path length due to the inverse square law;

(4) QK and Q_rK_r are measured in meters and $\alpha(i)$ and $\alpha(i)_0$ are expressed in dB/100 m.

A36.9.3.2.1.1 *PNLT Correction.*

(a) Convert the corrected values, $SPL(i)_r$, to $PNLT_r$;

(b) Calculate the correction term Δ_1 using the following equation:

$$\Delta_1 = PNLT_r - PNLTM$$

A36.9.3.2.1.2 Add Δ_1 arithmetically to the EPNL calculated from the measured data.

A36.9.3.2.2 If, during a test flight, several peak values of PNLT that are within 2 dB of PNLTM are observed, the procedure defined in section A36.9.3.2.1 must be applied at each peak, and the adjustment term, calculated according to section A36.9.3.2.1, must be added to each peak to give corresponding adjusted peak values of PNLT. If these peak values exceed the value at the moment of PNLTM, the maximum value of such exceedance must be added as a further adjustment to the EPNL calculated from the measured data.

A36.9.3.3 *Adjustments to duration correction.*

A36.9.3.3.1 Whenever the measured flight paths and/or the ground velocities of the test conditions differ from the reference flight paths and/or the ground velocities of the reference conditions, duration adjustments must be applied to the EPNL values calculated from the measured data. The adjustments must be calculated as described below.

A36.9.3.3.2 For the flight path shown in Figure A36–6, the adjustment term is calculated as follows:

$$\Delta_2 = -7.5 \log(QK/Q_rK_r) + 10 \log(V/V_r)$$

(a) Add Δ_2 arithmetically to the EPNL calculated from the measured data.

A36.9.3.4 *Source noise adjustments.*

A36.9.3.4.1 To account for differences between the parameters affecting engine noise as measured in the certification flight tests, and those calculated or specified in the reference conditions, the source noise adjustment must be calculated and applied. The adjustment is determined from the manufacturer's data approved by the FAA. Typical data used for this adjustment are illustrated in Figure A36–8 that shows a curve of EPNL versus the engine control parameter μ, with the EPNL data being corrected to all the other relevant reference conditions (airplane mass, speed and altitude, air temperature) and for the difference in noise between the test engine and the average engine (as defined in section B36.7(b)(7)). A sufficient number of data points over a range of values of μ_r is required to calculate the source noise adjustments for lateral, flyover and approach noise measurements.

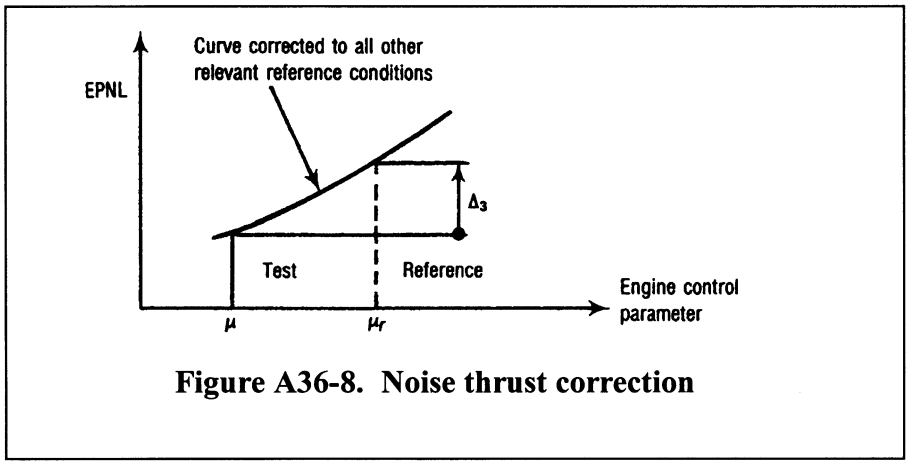

Figure A36-8. Noise thrust correction

A36.9.3.4.2 Calculate adjustment term Δ_3 by subtracting the EPNL value corresponding to the parameter μ from the EPNL value corresponding to the parameter μ_r. Add Δ_3