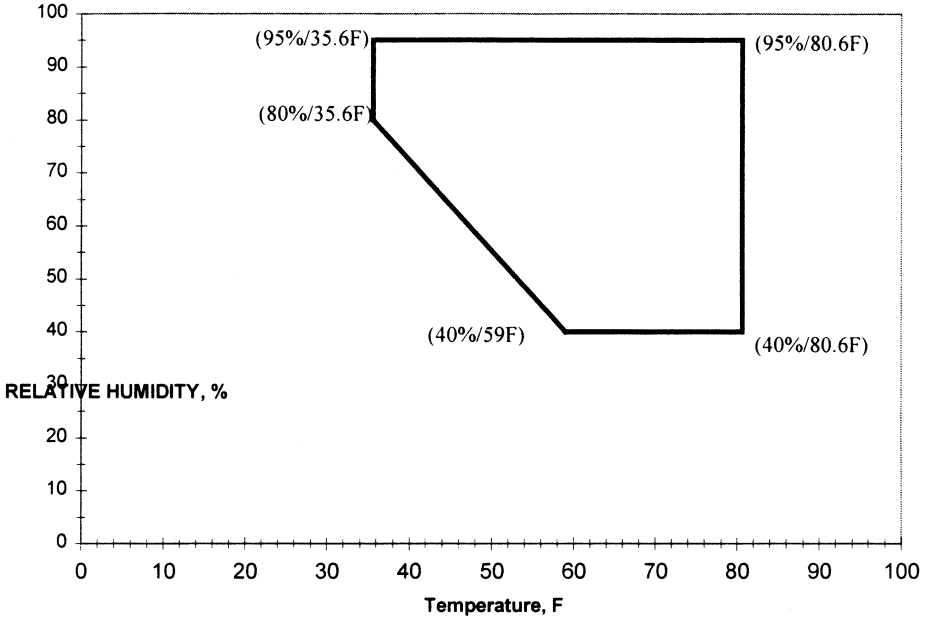
MEASUREMENT WINDOW FOR NO ABSORPTION CORRECTION Figure G1



(c) No corrections for helical tip Mach number variation need to be made if the propeller helical tip Mach number is:

(1) At or below 0.70 and the test helical tip Mach number is within 0.014 of the reference helical tip Mach number.

(2) Above 0.70 and at or below 0.80 and the test helical tip Mach number is within 0.007 of the reference helical tip Mach number.

(3) Above 0.80 and the test helical tip Mach number is within 0.005 of the reference helical tip Mach number. For mechanical tachometers, if the helical tip Mach number is above 0.8 and the test helical tip Mach number is within 0.008 of the reference helical tip Mach number.

(d) When the test conditions are outside those specified, corrections must be applied by an approved procedure or by the following simplified procedure:

(1) Measured sound levels must be corrected from test day meteorological conditions to reference conditions by adding an increment equal to

Delta (M) = (H_T α—0.7 H_R)/1000

where H_T is the height in feet under test conditions, H_R is the height in feet under reference conditions when the aircraft is directly over the noise measurement point and α is the rate of absorption for the test day conditions at 500 Hz as specified in SAE ARP 866A, entitled ''Standard Values of Atmospheric Absorption as a function of Temperature and Humidity for use in Evaluating Aircraft Flyover Noise'' as incorporated by reference under §36.6.

(2) Measured sound levels in decibels must be corrected for height by algebraically adding an increment equal to Delta (1). When test day conditions are within those specified in figure G1:

Delta (1) = 22 log (H_T/H_R)

where H_T is the height of the test aircraft when directly over the noise measurement point and H_R is the reference height.

When test day conditions are outside those specified in figure G1:

Delta (1) = 20 log (H_T/H_R)

(3) Measured sound levels in decibels must be corrected for helical tip Mach number by algebraically adding an increment equal to:

Delta (2) = k log (M_R/M_T)

where M_T and M_R are the test and reference helical tip Mach numbers, respectively. The constant ''k'' is equal to the slope of the line obtained for measured values of the sound level in dB(A) versus helical tip Mach number. The value of k may be determined from approved data. A nominal value of k = 150 may be used when M_T is smaller than M_R. No correction may be