

Precision Port™ Port Kit for Jim Holtz's Statements

For the 3" Diameter Precision Port™ Kit from Parts Express (268-350), the following will calculate the inner tube and overall port length for Jim Holtz's Statements:

From the Precision Port™ directions:

$$L_v = \frac{8466.4R^2}{(V_b)F_b^2} - 1.463R$$

Where:

L_v = Port Length in Inches

V_b = Volume of the box in cubic feet

F_b = Tuning frequency

R = Radius of port (1/2 diameter)



In the case of the Statements design and 3-inch port:

$$V_b = 3.74 \text{ ft}^3$$

$F_b = 24 \text{ hz}$ (from Curt's website – noted approximate)

$$R = 1.5 \text{ in}$$

Which Yields:

$$L_v = \frac{8466.4(1.5)^2}{(3.74)24^2} - 1.463(1.5)$$

Solving for L_v :

$$L_v = 6.65 \text{ Inches}$$

Inner Tube Length (lets call this L_t for Length of Tube):

$$L_t = L_v - 5$$

$$L_t = 6.65 - 5 = 1.65 \text{ Inches}$$

(This is just 1/40th of an inch larger than 1 5/8")

The total length of the port assembly is the inner tube length (L_t) plus the length of both end flares which I measured to be 3" each. This yields an **overall length of 7.65 inches**. This correlates directly to the check measure in the directions which indicate that the overall length will be 1" longer than the L_v calculated.

