Subject: Re: Subwoofer project update
Posted by Wayne Parham on Thu, 01 Apr 2004 11:26:51 GMT
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I know the vent can be made too big, and reduce velocity to the point where airflow isn't good. My gut feeling is that would be a pretty large vent, and not really an issue here. But I'm wondering what size becomes too small, given the displacement of the piston which then translates to the swept volume of the pumped air.There's also the issue of vent and/or plenum resonance, causing a sort of ram-charge effect that increases pressure/vacuum cycles at resonance. But putting that aside for a moment, I'm wondering where the onset of non-linear distortion happens from compression/rarefaction asymmetry. Do you happen to know of any references to reliable experimental data on this subject? There must be some, 'cause compression non-linearity is discussed in other areas of engineering and science. I expect someone has done a pretty good study on it. Do you know where?It would be really good if your hunch that 0.75" was large enough at maximum pressure delta. I'll ask Jerry if Eminence has any means to measure pressure in the vent at various frequencies and excursions. That might provide some important information in this matter.