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Subject: Off topic - Air compression linearity

Posted by [Wayne Parham](#) on Thu, 01 Apr 2004 11:16:09 GMT

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Hey, Tom - What do you make of this? Do you have any references for research data that shows the onset of air compression non-linearity? I assumed it must be somewhere between 1.5 and 2 atmospheres for a sinusoidal piston motion that creates alternating compression and rarefaction. I also would guess that plenums, vents and other resonant chambers would have certain frequencies where they were more sensitive due to resonant conditions. At frequencies where a vent or plenum is resonating, we'll get a ram-charge effect where critical pressures are reached at lower piston excursions. But putting resonance aside, I wonder where air rarefaction/compression starts becoming noticeably asymmetrical, causing non-linear distortion. Kinda thought you might know a reference or two.

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