Subject: Re: Martin, I agree totally!!!!
Posted by Martin on Fri, 04 Aug 2006 15:34:11 GMT
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Yes, I started as an engineer before the wide spread use of desktop computers. My first calculator came as a freshman in college. In high school I used a slide rule. Punched card input decks, handwritten memos and calculations, using Roark's Stress and Strain book of tables a lot, and writing your own programs in FORTRAN because Excel did not exist. You had to understand the problem and be very efficient in what you wanted to include in the solution to even stand a chance of getting a usable result.Today I see young engineers pointing and clicking as they analyze simple cantilever beams with 3D finite element models. They don't even get a course in programming anymore in some colleges. I even had one young engineer argue with me that his finite element analysis of a test set-up was correct even though the calculated result was not close to the measured value from the test, my simple calculation in MathCad was much closer. Did not matter to him, we (me and the test) were both wrong.While computers have made good engineers even better, they have also masked understanding of a problem and thinking by the inexperienced engineers. You have to really understand to boil a problem down to something simple and elegant. I worked with another gray haired guy who used to say that if an engineer could not explain in simple terms what he/she was working on in five minutes, chances are they did not know what they were working on. Martin