

## Re: 100 megaton bombs atop Saturn V rockets

**Source:** <http://sci.tech-archive.net/Archive/sci.space.history/2004-07/3350.html>

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**From:** Derek Lyons (*fairwater\_at\_gmail.com*)

**Date:** 07/20/04

Date: Tue, 20 Jul 2004 16:46:38 GMT

"Paul F. Dietz" <dietz@dls.net> wrote:

>Allen Thomson wrote:

>

>> *FWIW, a while back there was discussion of such matters on  
>> alt.war.nuclear, and the conclusion generally agreed with yours:  
>> a touch more than 10 kt/kg seems to be within the state of the art,  
>> but not more. At least for more or less conventional large two/  
>> multi-stage weapons.*

>

>A 'sufficiently large' device should be able to do better, I think,  
>since it could be made to work without compression.

Without compression? Huh?

>In the limit of extreme size the device mass would be dominated by  
>the mass of fusion fuel.

Probably not, a) because fusion fuel is pretty light, and b) because the real yield multiplier is the final fission step of the fission-fusion-fission cycle. The third step is often deemphasized in order to reduce the weight and volume of a warhead and to make it 'cleaner' by getting the bulk of it's yield from fusion.

When designing an 'extreme' weapon for asteroid defense, this last consideration clearly does not apply.

D.

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Touch-twice life. Eat. Drink. Laugh.