

## Re: SPACE PRIZE

**Source:** <http://sci.tech-archive.net/Archive/sci.space.policy/2004-07/2365.html>

---

**From:** Joann Evans (*bondage\_at\_frontiernet.net*)

**Date:** 07/22/04

Date: Thu, 22 Jul 2004 03:48:56 GMT

Renee Keller wrote:

>

> *If we are really going to get into space commercially and otherwise, then a number of things must be true.*

>

> *1. It must be a popular and well supported by the public.*

There was a time when 'the public' had to get used to the transition from prop driven aircraft to jets....

You design for economy and safety. Not popularity. And again I believe the public will ride anything they can afford and both *\*is\** safe, and *\*percieved\** as safe.

> *2. It must be huge advancements over the age old rockets. or we will still be sputtering 50 years from now.*

Sorry, but that's the only system that works in a vacuum, within known physics.

But if you mean a hypersonic airbreather to orbit, there's a whole set of technical challenges there that you have to surmount just in order to look like an airplane. And it will *\*still\** need rockets toward the end of ascent, it's only a matter of how much.

> *3. Production and turn around time MUST become efficient.*

Absolutely.

> *4. It must become common. almost as much as Air travel.*

How well it accomplishes 3 will dictate 4 to a large extent. No one initially stipulated that air travel 'must' become common, it was simply successful enough to work out that way.

> *Rockets are old (although proven) technology. But the public is tired of that. They are use to seeing airplanse take off, and similar types of space ships in the movies. They want that now. This is the reason the VTOL is*

> *not generally supported.*

By whom?

> *Although if it actually looked like something other  
> than a stupid cone, it might be more popular.*

What's wrong with cones? Do people mind that their PCs don't look like mainframes with big tape drives and flashing lights? To many, that's what a computer is 'supposed' to look like.

> *Aerospike engines are nice advancements, but I think fully developed air  
> breathing engines would be a substantial improvement in technology.*

Heavier than rocket engines of the same thrust, subject to drag for a longer part of the ascent (an airbreather, by definition, must stay in the air for as much of its acceleration as possible), major thermal problems that come with doing so, etc. You pay a \*lot\* for that carrot of free oxidizer.

Lox is cheap. Look in the back of any major hospital. Lox isn't the cause of high space flight costs, anymore than it's responsible for high medical costs.

And once in a vacuum...it's still back to rockets and vertical ascent/descent. Espically if these pople can go on to the Moon, a'la '2001.'

Hypersonic airbreathing will be useful for a number of sustained atmospheric flight applications, but I believe it will have a niche application (mostly military), at best, to orbital access.

> *Paying thousands of people refit and reconstruction time for a craft is too  
> costly. It needs to be done quickly, like a regular aircraft, and we have  
> the facilities to support that already. An assembly line type construction  
> may reduce cost on construction if there are enough on order.*

Yes, but that will be true, regardless of the means by which the ship gets to orbit.

> *When it becomes common, the price will come down, and services will  
> diversify.*

Indeed.

> > *That you should not limit the solution to "takes off like a plane" and  
> > "lands like a plane". What have you got against VTVL (vertical take-off,  
> > vertical landing) or VTHL (vertical take-off, horizontal landing)  
> > vehicles?  
> >  
> > *Furthermore, why the SSTO limitation? If someone can come up with a**

sci.space.policy: Re: SPACE PRIZE

> > *reusable TSTO, why would you not give them the prize?*

I prefer VTVL SSTO, but I'll ride whatever works...

--

You know what to remove, to reply....