

Re: Size of the proposed "new" space vehicle?

Source: <http://sci.tech--archive.net/Archive/sci.space.shuttle/2005-10/msg00156.html>

- *From:* "tomcat" <jlavine@xxxxxxxxxxxxxx>
 - *Date:* 8 Oct 2005 17:23:32 -0700
-

>> Delta Clipper had a problem with the fuel tanks, one that could easily
>> have been solved if NASA had tried.
>>
>> Let's not make building a spaceplane out to be more than what it is.
>> The hard R&D work has been done with the Space Shuttle.
>>
>> The Shuttle proved the waverider concept, the H₂/lox SSME, glideslope
>> technology, crew adaptability to space, and general space engineering.
>>
>> When SSTO HTOL's were first being designed, during the 70's, everything
>> was up in the air. So, financial backing was lacking. These SSTO HTOL
>> designs didn't fail -- they were never built.
>>
>> Was hypersonic plasma really hot? Will waveriders really ride the
>> wave? Can rocket engines be relied on? Should jets, scram jets, and
>> then rockets be used sequentially? Can pilots really fly hypersonic
>> vehicles? Will there be surprises in Outer Space?
>>
>> In addition a lot of technology was lacking in the 70's. Titanium
>> could not be easily worked or machined. Computers were crude by
>> today's standard. (In fact, the Apollo capsules used coded paper tape
>> instead of computers to save weight.) Composite was unheard of outside
>> classroom speculation. Fly by wire technology didn't exist until the
>> F-16.
>>
>>
>> Today, we can build everything except the surface skin using tried and
>> true off-the-shelf technology. Not a small advantage over the 70's!
>> And, with regard to surface skin, we can always fall back on ballistic
>> nose cone technology: Corelle on top of reinforced carbon carbon, over
>> metal plate. Add a vacuum bottle design, a little cryogenic cooling
>> with a Nomex interior and the heat problem should be solved.
>>
>> There are several things going on at NASA and elsewhere in the
>> government that muddies up the water. The 'rocket people' are fighting
>> the 'aircraft people'. The 'military people' are fighting the 'NASA
>> civilians'. And, everyone wants to keep their jobs.
>>
>> Some view NASA as a spectator sport like baseball and football. They

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>> believe people want to watch the roman candles lift off from gantrys,
>> not take off from runways. Most influential people don't see
>> interplanetary voyages, or even Moon missions, as practical. Just so
>> much showmanship to be kept at a slow, economical pace.
>>
>> Then you have the 'Deep Black' Generals hidden deep within mountain
>> bunkers, separating America's 'real' technology from the . . . NASA
>> circus acts.
>>
>> Controlling technology so great that even Aliens shake and shiver,
>> these 'shadow czars' rule with an iron fist, slowly turning America
>> into a double country: the Eloi, and the Morlocks. The Eloi dance
>> around in innocence while morlocks lurk beneath the surface making all
>> manner of . . . deals.
>>
>> Heaven forbid you ever meet these shadows. You might offend one and
>> burst into flames, leaving only a stain on the concrete. Note: See
>> "Men In Black" by Steven Spielberg.
>>
>> What is true here and what is fiction I don't know. But the
>> performance of the X-33 doesn't mean diddly, or say anything about
>> America's technology. Best to use good common sense.
>>
>> If you can build something with off-the-shelf tried and true parts --
>> then go ahead and build it because it is bound to work.
>>
>
> OK, dude. You've had your chance. This isn't the space fantasy group.
> **plonk** (Another bites the dust...)

I prefer that critics point out the specific details that they criticize. It is difficult to deal with blanket "This isn't the space fantasy group" kind of critiques.

Perhaps some things mentioned seemed to you to be fantasy. Other than some 'meant to be humorous' political guesses as to rocket program problems, my remarks are not fantasy at all.

What, back in the 70's, seemed impossible -- namely the building of a SSTO HTOL -- is very possible today. Great strides in technology have happened over the past 30 years.

* Hydrogen slush tanks that would allow a spaceplane to hold much more fuel in the same amount of space. Very important: it avoids the use of jets, then scrams, then rockets, with all the weight these unnecessary engines would add.

* Proven waverider design, not simply the theoretical concept of waveriding like it was in the 70's.

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- * Fully developed, tried and true, Hydrogen/Lox SSME engines.
- * Knowledge of the silica tile problems with Corelle and nanotube solutions.
- * New metal and composite technology allowing extensive use of titanium alloys and extremely heat resistant composites.
- * Lighter and better computers.
- * Development of thrust vectoring for better space maneuvering.
- * Knowledge of the medical effects of weightlessness for long periods.
- * A much more 'practical' financial situation because of today's extensive use of satellites for business and military purposes. Very important: no money, no spaceplane.

tomcat

• ***Follow-Ups:***

- ◆ ***Re: Size of the proposed "new" space vehicle?***
◇ *From:* Brad Guth

• ***References:***

- ◆ ***Re: Size of the proposed "new" space vehicle?***
◇ *From:* Mike Dennis
- ◆ ***Re: Size of the proposed "new" space vehicle?***
◇ *From:* tomcat
- ◆ ***Re: Size of the proposed "new" space vehicle?***
◇ *From:* Jeff Findley
- ◆ ***Re: Size of the proposed "new" space vehicle?***
◇ *From:* tomcat
- ◆ ***Re: Size of the proposed "new" space vehicle?***
◇ *From:* Mike Dennis

- Prev by Date: ***Re: How many times did space shuttles retrieve satellites from orbit?***
- Next by Date: ***Re: ET foam***
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