

Re: It's In-Line (Shuttle Derived)

Source: <http://sci.tech-archive.net/Archive/sci.space.policy/2005-06/msg00900.html>

- *From:* gherbert@xxxxxxxx (George William Herbert)
 - *Date:* Sat, 25 Jun 2005 16:31:36 -0000
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Ed Kyle <edkyle99@xxxxxxxxxxxx> wrote:

>Henry Spencer wrote:

>> Ed Kyle <edkyle99@xxxxxxxxxxxx> wrote:

>> >I think it is a sound opinion, considering that

>> >the Mars reference missions call for 200 to 800 tonnes

>> >of payload to low earth orbit for each Mars mission...

>>

>> That puts a big priority on being able to launch it *cheaply*, since

>> there's so much of it.

>>

>> When somebody needs 200 tons of machinery installed in a new factory, they

>> do not start looking for a 200-ton truck.

>

>That's because trucks are reusable. If each

>truck could only make one trip before its

>destruction, buyers would find themselves

>wanting fewer, bigger trucks because that

>would be the cheapest solution.

The actual situation we find ourselves in is either buying a large quantity of expendable Ford F-250s at retail cost, significantly more expensive Big Rig trucks whose factories are now producing at most a dozen units a year due to falling demand of shipment of 40-foot intermodal containers, or cheering for the Government Truck Factory Giant Truck Projekt, which will produce our 200-ton payload trucks at a rate of two or three per year, and require most of the Truck industry's workers and current spending to get going.

Advertised Falcon V price is \$3 million per metric ton to LEO, plus or minus epsilon.

Do you believe that the new Shuttle Derived HLV will cost less than \$350 million per flight, including its development cost amortization and all the government overhead and the like, at flight rates of 2-3 per year

and a 10 year development cycle?

Do you believe that it will cost less than \$700 million per flight? Less than \$1 billion? \$1.4 billion?

A reasonable estimate including the R&D cost amortization is going to be in the range of a billion plus, which is only 3–4 times what the launch cost would be on Falcon V rockets.

There's going to be more cost in an orbital facility for propellant collection and storage with Falcon, true, but it's not going to be billions of dollars a year more, which is the cost differential.

This is all back-of-the-envelope, but the costing exercises have been done before, and HLV at these prices is not attractive.

–george william herbert
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• ***References:***

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