Re: Burt Rutans plans for a manned mission to Mars

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- *From*: "Alex Terrell" <alexterrell@xxxxxxxxx>

- *Date*: 12 May 2006 12:28:53 −0700

royls@xxxxxxxxx wrote:

> On Fri, 12 May 2006 03:34:02 GMT, Fred J. McCall
> <fmccall@xxxxxxxxxxxxx> wrote:
>
> > "steve" <stephen.colbourne@xxxxxxxxxxxxxxx> wrote:
> >
> > :There is one potentially cheap way of getting into orbit that is just
> > :about possible to achieve with current materials and that is the
> > :rotating space elevator. This requires a long cable approx 1000km
> > :length attached to either a large mass at one end in low Earth orbit or
> > :twice the length without the mass (double ended).
> > :This cable rotates at such a speed that even though at the Cg is at
> > :orbital speed the lower end is travelling at a much slower speed
> > :allowing sub−orbital craft and even potentially aircraft to transfer
> > :mass which will then be transported upto orbital speed by the cable.
> > :Powering the whole cable, could be achieved by electro means or plasma
> > :drives.
> > :
> > :This will be built within the next decade I believe.
> >
> > Yeah? How do you think they'll get it up?
>
> It would most likely be constructed in space, from lunar or asteroidal
> materials −− so a decade does seem rather optimistic.
>
> However, sending it up by a bootstrap process is not as far−fetched as
> you might imagine. The rotating elevator has one great, overwhelming
> advantage over rockets: positive feedback. You can start with a very
> small modular system that can't lift very much and requires the
> payload to be boosted to near orbital speed before it hooks it; but if
> the payload is more elevator modules, the system quickly becomes more
> powerful, able to lift more payload and/or from a lower boost speed.
>
> Because even the very small initial system's lifting capacity is

> enormously larger than any contemplated rocket−based system −− it can lift a payload several times a _day_ −− if it is initially devoted entirely to strengthening itself, in a very short time it would be able to lift a 10−ton payload from the back of a subsonic aircraft. A short time after that, it would be able to lift a standard 40−foot shipping container full of stuff right off the ground. More arms can then be added to make a "pinwheel," tripling or quadrupling its lifting capacity, to thousands of tons per day.

You're confusing an elevator with a rotovator.

An interesting point about rotovators is that they're not good for reaching their orbit. They're very good at reaching higher orbits. In fact, with a rotovator operating, Low Earth Orbit would be pretty much abandoned.

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