

Global Aerospace Corporation (GAC) is a California company with a mission. If they get their way, hopefully one day it will become a space mission.

They want to establish a system of "rapid transit" by putting into place their version of plans for a human transportation system between Earth and Mars. Their plan is radically different than the one proposed by the National Commission on Space (NCOS) back in 1985. If things are done their way, they insist that they can get this job done with the amount of propellant needed reduced by an amazing factor of sixty. These significant savings in cost and in resources extend throughout every aspect of their proposal.

The difference in propellant mass for conventional chemical propulsion compared to their proposed expense, which uses solar-electric powered vehicles, is more than significant. The savings would be more than twice the amount needed to build one of the main transports, which they have dubbed "Astrotel vehicles" (a clever combination of "astronaut" and "hotel"-the journey from point "A" to point "B" will take approximately 5 months under their plan).

Global Aerospace is not concerned about the effect of zero gravity on the occupants of their Astrotels because they point to both the Russian (one year) and US (six months) ventures into space that demonstrate that a healthy person can cope with weightlessness for at least six months at a time without suffering any long-term effects.

In addition to saving on propellant with the use of solar-electric powered Astrotels and other propellant-saving measures and the reduction in total mass under their plan, they also propose to cut the number of necessary trips for crews in half by making the vehicles almost fully automated and capable of self-correction.

By using highly automated on-board systems, they feel certain they can reduce the number of crew needed to make the trip. Reducing the size of crew and reducing the duration of their time spent in space reduces the size of the space vehicle and its complexity as well as the amount of logistics supporting the daily needs of the crew. In addition, by eliminating crew on long flight legs, they would also eliminate the need for additional Taxis for return to Spaceports; reducing the number required by one half.

This new plan supports the assumption of the original NCOS estimate that there would be a crew of 20 humans on a sustained Mars base by the year 2035 who would require transportation on and off the planet, as well as the delivery of various resources, supplies and equipment. Global Aerospace contends that since their plan uses so much less resources and has a significantly lower cost of operation than the NCOS plan, using it would allow the Mars base to become a feasible concept and a reality instead of a plan far sooner than other ideas.

Perhaps most significantly, the company points out that their plan supports the four goals outlined by NASA's Enterprise for Human Exploration and Development of Space (HEDS):

- Preparing to conduct human exploration missions to planetary and other bodies in the solar system
- Expanding human knowledge
- Providing safe and affordable access to space

■ Establishing a human presence in space

Source: Global Aerospace Corporation

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