

# Re: Mopping up Space Junk

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Andy Lee Robinson wrote:

On May 11, 6:07 pm, Hipupchuck <[hipupch...@xxxxxxxxxxxxxxx](mailto:hipupch...@xxxxxxxxxxxxxxx)> wrote:

Snip.

All you need is a satellite with a targeting laser blaster on it. Have it seek and disintegrate space junk or slow it down so it falls to earth.

Nice idea.. but difficult.. molten space junk is still space junk, and fragments of space junk is yet more space junk, and may even take longer to decay if cross-sectional area decreases, eg, a breaking up a flat panel into tiny fragments.

Breaking up a flat panel into tiny fragments won't prolong the orbital life of the pieces. You could have part of the space junk stay up longer by cutting off pieces with lower mass to cross-sectional area ratio. For instance if you cut off solar arrays to a satellite, the solar arrays will de-orbit relatively fast and the rest of the satellite will be up there longer. It isn't obvious to me what is best, having a smaller satellite (e.g. satellite without solar arrays) staying up there longer or a larger satellite coming down faster, but I would think that in most cases you are better off leaving the solar arrays on the satellite so it deorbits faster.

For "normal" objects, you can't prolong the life of a satellite by cutting it into pieces. If you increase the mass to cross-sectional area ratio by cutting the thing you didn't do it by increasing the mass, so you have to do it by reducing the cross-sectional area. Normally, you don't reduce the cross-sectional area by cutting something up, unless you can somehow stack the pieces. That could happen for some objects for instance if you have an umbrella which is open but spring loaded to close, if you cut of a piece that lets it close, you can reduce the cross-sectional area.

Re: Mopping up Space Junk

Alain Fournier

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