

Asteroid & L-5 Numbers

The Whorl list — 2 messages, 1 voices, 08 Oct 1997

<https://urth.darkrealm.vip/thread/whorl/453>

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m.driussi — 08 Oct 1997, 01:19

Reply: Item #7581861 from WHORL at LISTS.BEST.COM@INET02#

Nope, the idea that the whorl was carved from an asteroid (rather than being built up from beams and ship plate) did not arise outside of the text in the minds of overeager readers--rather, it was told specifically by an old chem soldier to someone else in the text. This was also the point where the weather-related rationale for the tunnels was divulged, I believe. Somebody else can find it, no doubt.

Re: 9.80616 m/sec^2 as being equal to "78,986 miles per hour per hour," hmmm. This looks odd, because Earth's escape velocity is "7 miles/sec, or 25,000 mph" (Adams, SPACEFLIGHT, 1958, p. 177).

I believe the question with a simulated g (as in a spinning cylinder) is not so much overcoming the simulated g-force as it is in overcoming the rotational speed. [. . . well . . . see later.]

THE SCIENCE IN SCIENCE FICTION (p. 19) offers a few L-5 space colony models that might be of interest here:

	Length	Dia.	RPM	Population	max
Model 1	0.62	0.12	2.85	10,000	
Model 2	2.0	0.4	1.67	200,000	
Model 3	6.2	1.2	0.95	2,000,000	
Model 4	20	4	0.53	20,000,000	

(simplified chart, using only miles. RPM = Revolutions per minute to create a simulated 1 g at the surface.)

Now let's look at the biggest one, No. 4. Dia = 4 miles, thus circumference = 12.56 miles; RPM of 0.53 therefore translates into 6.66 miles/minute or 400 miles per hour.

In contrast, No. 3's Dia = 1.2 means Circ = 3.76 miles; RPM 0.95 => 214 miles per hour.

Well hey, that's pretty much what John Eric Ivancich came up with!
So nevermind my initial doubts, we agree on this much! (BTW, Welcome aboard John Eric Ivancich.)

In addition to all this, which still looks like a formidable speed to overcome, there is the fact that a human being, a child even, can actually jump up from the Earth. Compared to a child jumping on the whorl, the floater has two vectors: one horizontal (the "go" vector) and one vertical (the "float" vector); as the simulated g force is reduced (by travelling in the direction of rotation with the go vector) the float vector faces less resistance. The floater suddenly has the uplifting

capacity of a micro-helicopter (but not the aerodynamic shape, nor control surfaces for true air flight).

So then, assuming my calculations above are close enough, we'll say that 400 mph will cancel out 1 g(sim) in model colony 4.

Now, doesn't that imply that if we can reach 200 mph we will have only .5 g(sim) "holding us down"? And at 100 mph we'd have only .75 g(sim)?

A blower that can hover a vehicle, and provide brief pop-ups of six to eight feet to clear obstacles (as Grissom showed Silk that Blood's civilian floater could do), such a blower could probably really loft a vehicle that only weighs three-fourths as much, I'm thinking.

But yeah, yeah, Ringworld's a-going down, boys--everybody into the lifeboats and let's pray that the rubber band powered warp drives can holdout until we can get back to the green hills of Earth! :)

=mantis=

m.driussi — 08 Oct 1997, 05:38 · follows m.driussi

Reply: Item #9713026 from WHORL at LISTS.BEST.COM@INET03#

Uh, make that "moving =against= the direction of rotation rather than with it." That is, if I understand it correctly, the rotation is from south to north, so that when one drives to the south one is subtracting from the very velocity vector that provides the simulated gravity.

=mantis=