By Cecil Adams

I recently read in your online archive about the origin of "hoist with his own petard," in which you say that a petard was a small explosive whose name came from the French word for *fart*. That made me think: what kind of PSI are we talking about to lift oneself off the ground with flatulence? Assuming you had the precision of Le Petomane and could make a seal in a seated position, what would it take to get, say, a 180-pound man airborne? Could an equation be formulated to determine the amount of baked beans needed to reach liftoff? –Kfraser34

You realize, K., that this question is idiotic. However, that's never stopped us before, and there's no doubt that from a scientific perspective the subject has its points of interest. So I assigned the job to my assistant Una, a professional engineer, who quickly obtained the relevant thrust equations from NASA and got to work computing the necessary forces. While Una and I found the results enlightening, for you—assuming you're the 180-pound man here—it wasn't such a good day. Rocket science works impressively when embodied in the space shuttle, but I'm here to tell you that on a personal scale it makes a real mess.

The thing is, the digestive system isn't optimally configured for propulsion. Our first problem is the shape of your sphincter. All you've got to work with is a pretty slender ring of muscle; no matter how good your control, it's not going to be able to direct and contain the flow of gas like a rocket nozzle. I suppose one could find some sort of attachment for this on the Internet, but we'll leave that to you.

The more immediate challenge is handling the necessary pressure buildup. Una devised an ingenious spreadsheet that factored in sphincter diameter, molar mass of gas, and other matters that nobody but your doctor needs to know about. We learned that getting you aloft—and I don't mean putting you in orbit, I mean just budging you off the launchpad—would require 800 newtons. Your basic fart generates 0.2 newtons. Hoisting's going to take a lot more petard than that.

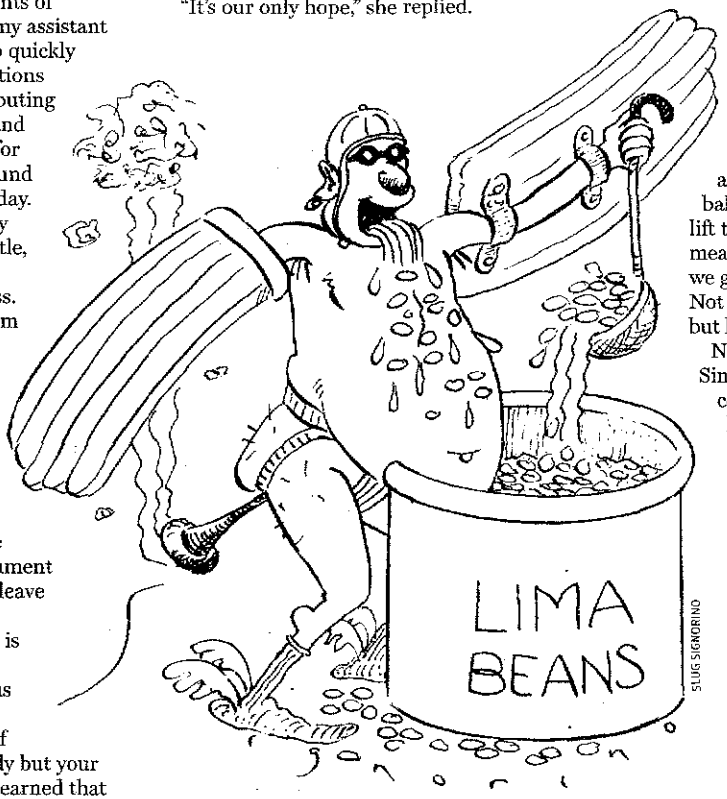
It was time, you should pardon the expression, to turn up the gas. Assuming 375 milliliters of flatus per emission, we computed the necessary exit pressure at 3,680 pounds per square inch. Problem is, your gut will rupture somewhere north of four pounds per square inch. Alternatively, if we took four PSI as our limit and instead ramped up the propellant volume, we discovered we needed 500,000 liters of gas. The observed volume of the human intestine is on the order of five liters.

"I don't think he's got it in him," Una concluded sadly.

She wasn't about to give up, though. She resumed tapping away at her keyboard. I looked over her shoulder and saw a document entitled "Combustion of Fart Table."

"Una," I gasped. "You're not suggesting . . . ?"

"It's our only hope," she replied.



I'll spare you the details—you probably remember the basics from college anyway. Una ran various scenarios. At one point we had the internal pressure up to 250 atmospheres, the combustion temperature at 3,600 degrees Kelvin, and exhaust gas exit velocity at 12,000 feet per second. It wasn't pretty, K. It also didn't work, unless we were willing to accept catastrophic failure of the containment vessel—I'm sure you've heard the expression *flaming asshole*? It's fine giving your all for science, but you want to leave 'em something for the wake.

We'll let you think about it. In the meantime, you asked about beans. The most potent kind we know about are mature lima beans, which produce about 552 milliliters of gas per pound ingested. So if your lower GI tract were somehow magically able to accommodate the volume, at four PSI you'd need 453 tons of lima beans to generate the requisite 500,000 liters of flatus. Most of this would be carbon dioxide, but 30 percent would be hydrogen and 16 percent methane. Should you actually try to consume all those beans, for God's sake don't smoke.

We advise a less spectacular but more practical approach. Think you can pump out a steady two PSI? If so, we'll hook you up to an air jack—essentially a superstrong balloon that uses compressed air to lift things. If you're sitting on a jack measuring a foot square, at two PSI we get 288 pounds of lifting power. Not the most glamorous way to travel, but hey, you're up.

Not good enough? Here's plan B. Since flatus is lighter than air, you could save up enough to inflate a hot-air-type balloon. Assuming 180 pounds for you plus 20 pounds of apparatus, to get off the ground you'll need to fill a balloon 30 feet in diameter—a slow but sustainable approach to transportation. Resources don't get much more renewable, and you'll be sequestering greenhouse gases, too. ■

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