

SAGITTARIUS EYE

ISSUE
MAY 3304 **9**

GENERATION SHIPS

SOMBRE BEACONS
OF HUMANITY'S
DREAMS

EXPLORATION:
WHERE DO WE GO
FROM HERE?

CONQUERORS OF WORLDS:
THE PLANETARY
CIRCUMNAVIGATION
CLUB

SHIPS YOU DON'T FLY:
ASP SCOUT

...AND OTHER FINE STORIES

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EDITORIAL

Wilfrid Sephiroth

Little more than a year has passed since the death of Kahina Tijani Loren. Much has changed during these twelve months, and much has stayed the same. While the Thargoid threat—and its cover-up by occult powers—which she meant to expose has now become a very tangible reality, the scheming and machinations of politics in the Bubble and beyond continue undeterred and unabated.

Yet we have still to completely appreciate the consequences of her fatal efforts, shining light onto the hidden gears of Galactic power. Perhaps the recent assassination of senator Nestor Cartesius by the so-called League of Reparation can be understood as a 'Salomé-inspired' late reaction by a terrorist group aimed at those who rule our fate from behind closed doors.

In this complex social and political climate, fraught with deception and menace, the task of a news organization like *Sagittarius Eye* is as crucial as it is daunting. Both through the magazine you are now holding in your hands and the video Bulletins we release weekly, we strive to hit a balance between accurate and informative news reporting, in-depth analysis, and coverage of more light-hearted events. Our goal when assembling each issue of this magazine is to offer you trustworthy, no-nonsense content, yet without forgetting how to be entertaining and upbeat when the circumstances allow it.

In the present issue we did not shy away from taking controversial but informed stances on staples of our political landscape. In addition to our investigation of the Pilots Federation, we assessed the validity of recent scientific reports and reconsidered the tragic history of our species' early days of space travel. But we also sent our reporters to partake in more mundane activities, like Louis Calvert's unexpectedly exciting mining adventure and Cmdr Labufon's spirited unveiling of the grievances of a real-life passenger hauler, as well as interviewing daring practitioners of extreme sporting events like the leader of the Planetary Circumnavigation Club.

It would be obtuse for a publication which intends to hold up a dispassionate mirror in front of the complex reality of our interstellar life to limit itself to a single tone or type of content. So, this ninth issue of *Sagittarius Eye* is dedicated to all you, the thieves and peddlers, the rescue operators, the lone miners, the combat pilots, the planetary surveyors, the idealist rebels, and the taxi pilots keeping our corner of the Milky Way bustling with activity—and stories to be told.



CONTENTS



HISTORY

2

Who Are The Pilots Federation?



FEATURE

8

Louis' Big Weekend: Rock'n'Lasers

16

Lifting the Curtain:
The Rant of an Interstellar Taxi Driver



COVER STORY

22

Generation Ships

Sombre Beacons
of Humanity's
Dreams



SCIENCE

30

Where Do We Go From Here?



INTERVIEW

36

Confessions of an Accidental Thief



EXPLORATION

44

Conquerors of Worlds:
The Planetary Circumnavigation Club



SHIPS

52

Ships You Don't Fly: Asp Scout



HOT RODDER

60

The Cosmic Flipper



BAD SCIENCE

66

Flight Assist Off: Health Risk?

68

Bug Down Boogie



WHO ARE THE PILOTS FEDERATION?

From vicious pirates prowling the space lanes in search of hapless traders to those bold explorers who go for weeks or months without seeing another human face, all Commanders have had some interaction with the Pilots Federation (PF).

“The PF has spread into virtually every corner of the Galaxy, and we accept it as a group of helpful philanthropists.”

This group, founded nearly half a millennium ago in 2805, is perhaps the most powerful organization in human-inhabited space with the exception of the three superpowers. One of its most powerful assets is GalNet News, a program which began as a collection of data on ships, wanted Commanders, and star charts, but has expanded to include things like market values and galactic news.

Today, PF systems are fitted as standard on all vessels, and all Commanders are considered members. The services it provides that most Commanders interact with often are the 'ranking' and 'bounty' systems that dictate pilots' status and curb their excesses, respectively, across civilized systems and beyond.

■ The coveted Elite rank is the aspiration of every Commander

The PF has spread into virtually every corner of the Galaxy, and we accept it as a group of helpful philanthropists, assuming they have no personal objectives other than the well-being of their members.

But there is more to this story than charity.

Let's begin with the infamous 'ranking' system, instituted centuries ago after the PF began placing bounties on pirate ships to cut down on crime. Under this system, pilots who destroy a certain number of enemy ships are promoted from combat rank 'Harmless' to 'Mostly Harmless', and so on. This is common knowledge. Similar systems were implemented in 3290 to promote pilots for bringing in cartographic data from exploration or making profits in the galaxy's chaotic marketplace.

All pilots aspire to the elusive 'Elite' ranking, marking them as the best of the best in whichever field in which they have earned the rank. Elite traders control vast financial resources, exceeding the wealth of many small organizations. Elite explorers have seen more stars and planets up close than most people could in ten lifetimes. Pilots ranked Elite in combat can send pirates (or bounty hunters) fleeing at the mere sight of their rank.

This system is designed to promote pilots who are exceptionally good at what they do. It encourages competition, and Commanders are known to spend hour after hour prowling through hazardous resource extraction sites, tearing into thousands of pirates over years to earn that elusive accolade.

“ From the very beginning, Commanders depend on the organization. It is a flawless method of ensuring members' loyalty throughout their careers. ”

These ranks are not merely cosmetic in nature, nor only 'bragging rights'. In addition to earning higher rewards from faction-given missions across civilized space, a pilot who earns Elite status is invited to Shinrarta Dezhra, the only star system (with one important exception to be discussed later) where the PF has put down roots and claimed territory. This star system is home to the legendary Founder's World, the location of which is well-hidden with misinformation and obfuscation. Shinrarta Dezhra is immune to the mechanisms of galactic Powerplay, and is the home of the Orbis station Jameson Memorial. At this station, the best of the best are invited to peruse the PF's complete and comprehensive stock of all available ships and modules, with a respectable discount of 10% from the recommended selling price. There is no better place for the galaxy's finest to purchase and outfit their vessels.

This useful service is open only to a very select few: members of the Elite Federation of Pilots (EFP), a kind of "club" within the PF who control large parts of the organization and enjoy many of its benefits exclusively. While such pilots have unquestionably earned their reputation, the reality of EFP's exclusivity—and, indeed, *elitism*—is undeniable.

Shinrarta Dezhra is, in fact, not the only system in which the PF has a presence. There is one other: LHS 3447, where it is represented by the Pilots Federation Local Branch. This system is where many Commanders begin their long journeys to Elite status, having freshly obtained a TPF licence and borrowed a Sidewinder Mk. II through a loan from the organization. From the very beginning, Commanders depend on the organization. It is a flawless method of ensuring members' loyalty throughout their careers.

■ Jameson Memorial orbits the mysterious Founders World, both restricted to members of the exclusive Elite Federation of Pilots



GalNet

- The Pilots Federation controls our news intake through GalNet which they created and manage

The PF also controls another powerful aspect of galactic life: the bounty system. Namely, members of the PF are held to certain standards of law. Whenever they violate that law, they are targeted by other members of the organization until they have paid restitution for their crimes. Recently, this system was expanded to include all crimes against fellow PF members, including those that take place in anarchic or uncontrolled space (see *Sagittarius Eye's* previous coverage on recent changes to galactic crime and punishment).

In all of this, the organization claims to remain neutral in all things. Historian Sima Kalhana, who has spoken extensively about the PF, says:

The Pilots Federation has always remained politically neutral, avowing that it exists to support pilots rather than nationalities or political factions.

In reality, this means that the PF is free of any constraints that would otherwise be placed on it by galactic superpowers or powers. The PF's neutrality grants it a degree of freedom unparalleled by any other organization of this size.

All of these factors combined mean that the PF has an unparalleled hold on the Galaxy's interstellar life. Through its systematic and constant presence in Commanders' careers, it ensures their complete dependency on, and obedience to, the organization. While the PF has some questionable history of its own—see the infamous 'Dark Wheel'—the problem with this pervasive level of control is not so much a few bad actors within the PF itself, but the mere existence of that control. No organization, no matter how noble its tenets, should be trusted with the level of influence the PF has—especially not one notorious for elitism and secrecy.

“ No organization, no matter how noble its tenets, should be trusted with the level of influence the PF has—especially not one notorious for elitism and secrecy. ”

With vast financial resources at its disposal and the power to influence the Galaxy's perception of the facts through GalNet News, the Pilots Federation has the ability to completely disrupt, alter, or outright destroy the very order of galactic society. So thorough is its network that, if the changes were subtle enough, the average person might never know the difference.

This level of control is dangerous, and the group bows to no rule or guideline. Should they be regulated? Perhaps. But maybe humanity has already reached a point of no return. Society's dependence on what the PF provides is absolute, and we can only hope that those in control of it are as altruistic as they claim to be.

Who Are The Pilots Federation?

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Additional art: 'The Art Of Elite Dangerous' - Frontier Developments, Ian Baristan (Elite logo)

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LAKON

Louis Calvert's

ROCK AND LASERS

Big Weekend

It's easily possible to feel quite alone in the dark of space, despite trillions of humans swarming all over the Bubble and many thousands more spread across the Galaxy as a whole. In this series I set out on something of a personal quest to meet people and take part in whatever it is they're doing, to share a slice of their life for a while and get to know them.

“ You never really understand a person until you consider things from his point of view, until you climb inside of his skin and walk around in it.

Harper Lee, *To Kill a Mockingbird*, 20th Century

Commander Mark P. Dorling is a man of many careers. He's probably most well known for his extensive activities around the Pleiades: mapping the edges of Thargoid expansion around the sector; keeping tabs on the two-hundred plus alien surface structures out there; and being a part of Operation IDA, repairing starports attacked by Thargoids. You'll often find him frequenting the Pilots Federation galactic forums and pitching into whatever project needs some legwork doing.

Today however, he's taking me along on something entirely unrelated to the Octagonal Menace.

Becoming a Rockhopper for the Weekend

Commander Dorling has returned to the Bubble after an extensive trip to the Pleiades. He replied to my initial request by suggesting that we try a little 'relaxing mining', as he put it, and as I'm challenging myself to do new things, this struck me as a great opportunity.

It's old-school lasers and collectors at the ready, just like Granny did it.

Mining is not a common activity for Pilots Federation members. There are of course those that do it, but you'll find far more Commanders that have never tried it, or tried it once but never really got into it. Rumours abound that the Pilots Federation higher-ups are working closely with mineral surveying and extraction corporations to develop new tools and techniques in the coming months. Speculation is that the field will expand rapidly when that happens, but until then, it's old-school lasers and collectors at the ready, just like Granny did it.

Unsurprisingly, mining is simple on the surface but increasingly more complex as you drill down into the finer details. Mark took me on a test run to get me up to speed with the basics. His tips were:

- Get yourself a mining laser, a cargo bay and a Refinery module on (almost) any ship.
- Find yourself an asteroid belt, planetary rings, or something similar.
- Point your laser at a rock and fire, scoop the chunks that get blasted off.
- You're mining!

However, there's mining, and there's Mining. We were planning on the latter—a serious operation. That meant a lot more planning and a surprisingly in-depth methodology. Mark was happy to give me pointers on fitting up my ship. Being relatively new to mining himself he'd recently had many of the same questions as me, and after some discussion I opted for the most part to go with something similar to his set-up—but since my objective was to understand what I was doing, not just go through the motions, I questioned him on them exhaustively.



Scaling It Up Is Not Just Getting a Bigger Ship

While the process of mining is very simple, as Mark began to talk about some of the details I quickly found myself getting lost. My new rockhounding partner was in the process of having his ship engineered when we first got in touch, and I was surprised that even this relatively simple activity had a range of unexpected details.

What ship are you gonna use? I've just been looking at 7A thrusters vs the 5A I have, the 7As are only just under 10% faster pitch! That's it for spending 10s of millions!! WTF!??

This started a discussion that, I'll be honest, mostly consisted of "I don't understand..." on my part. Here's an example:

Same thermal effect, but 7As have 157% higher rated min/opti/max mass, which I guess means it would maintain its speed up to the max mass far better... I know it would be bad news to exceed the max mass, but I don't know how badly affected it would be below that...hmm, turn rate is about 20% faster though with 7As vs 5As...

During this discussion Cmdr Dorling was happy to share what he'd learned, and he suggested a larger ship than my beloved Cobra that I'd showed up in, for our test run. The big ships have enough hardpoints and internal slots to hold all the necessary equipment, including a large cargo bay, limpet controllers, a big refinery and everything else. Ironically it very much feels like the actual mining lasers are the least important part of the setup.

As Mark explained, the ability to scoop the asteroid chunks up before they vanish into space-dust is paramount. Next you need to refine them efficiently so you can keep scooping—more bins in the refinery means

a wider variety of minerals you can refine at once. After that, knowing what you're mining is pretty important, for which prospector limpets are a key bit of kit. To make collection as fast as possible, collector limpets are almost as important.

Despite Mark reminding me—I'd forgotten the actual mining lasers.

Your list should now start something like this:

- Get yourself a large ship. The Anaconda seems to work well if you can afford it.
- Fit it with a large refinery, prospector limpet controller, collector limpet controller, mining laser and fill the rest of the optional slots with Cargo modules.

The seemingly expansive optional bays in my Anaconda, the Long Shot, were filling up fast. On our test run the day before, we'd been attacked by pirates a few times, which my Cobra struggled with as I'd had to replace many modules with mining-specific equipment. Fortunately Mark dealt with those, but I was determined to pull my weight next time, so I intended to take a fighter with me and hire on additional crew.

Mark was more relaxed about it, trading off the fighter bay for a larger refinery and fitting a smaller shield generator to make room for more cargo space. I was tempted to emulate him again, but I had a somewhat romanticised vision of my fighter covering us while we mined.

Location, Location, Location!

We met up at a location which was hotly tipped to hold good resources: HIP 52780, a frontier system on the edge of the Bubble facing the Pleiades. No Thargoids here though. I parked at Goddard Gateway for a little while since—despite Mark reminding me—I'd forgotten the actual mining lasers. Fortunately they're sold in quite a few places so it wasn't too hard to hastily fit them.

MPD: "Found some [lasers]?"

LC: "Yep, all ready to roll, even got a pilot for my fighter." (which I also forgot!)

MPD: "Ah sweet, fighters! I don't have any, want the space for collectors and cargo."

Our Anacondas dropped into the planetary rings and we were presented with one of the more stunning sights in the Galaxy—asteroids, floating in a loose formation. It's a surprisingly exciting yet poetic sight: a vast field of gently spinning rocks, stretching away further than the eye can resolve distance. Most pilots have seen it, but only some have the time to just look at it all.

On our training run we established that I could see the results from Mark's prospector limpets, which was fortunate because I didn't have any at the time. Now, on 'Day Two: The Rockening' I had prospector limpets, so I felt a little bit like less of a dead weight.

The first job was to survey the rocks. This is essentially firing a limpet directly at an asteroid and waiting for it to 'limpet' on and sample the composition. We filled the next few minutes talking about what percentage of what mineral was 'good' and what wasn't worth mining.

I was a little overzealous a couple of times and went for things like silver, but it turns out the percentages were so low it wasn't really worth it. Live and learn. Mark pointed me towards a rock with over 20% platinum, the minimum he was willing to break out his lasers for. There's another quirk of prospector limpets that Mark told me about: not only do they increase your mining yield—by virtue of being able to more accurately extract valuable resources—they also do the same for other people who scan them. This means we could gain the advantage from each other's limpets.

After a few minutes, space around us was filled with whirling limpets and spinning fragments of rock.

Mining with lasers is extremely simple in principle—you point your lasers at the rock and fire. Chunks fly off which you then collect. In reality, there's a finesse to it. Mark demonstrated how to use the lasers at an angle, so when the chunks fly off they go careening into space away from the body of the asteroid. This came into play when the collector limpets seemed to fail to recognise the gigantic asteroid as being an obstacle and frequently rammed into it while trying to scoop a chunk up. Angling our lasers at the edge of the rock helped greatly with this issue, and after a few minutes I was eagerly watching my refinery grind through collected mineral chunks and deposit cargo containers of sellable materials into my cargo hold.

Your list should now have these entries:

- Prospect for suitable rocks. Over 20% is good, and understand what minerals are the best. Mark is a big fan of painite.
- Point lasers at an angle, on the edge of the rock, so that the fragments you chip off fly into open space. Position your ship so that the cargo bay is oriented in the same direction, leaving a clear path between the fragments and your cargo hatch.

The other thing we discovered was that our collector limpets didn't distinguish between the product of my mining lasers and the product of Mark's mining lasers. After a few minutes, space around us was filled with whirling limpets and spinning fragments of rock. These small objects seemed to form an almost solid blob in my scanner, rendering the display essentially useless. It didn't matter to us who was picking up what, but it was clear that in some situations miners might feel more protective over 'their' fragments—Mark had the virtue of a larger collector limpet controller, meaning he was fielding more of the grabby drones, which in turn meant he was scooping the loot faster than me.

After a little while Mark (who was almost preternaturally able to keep tabs on the dozens of fragments we'd generated) realised that the limpets were also non-specific about the order they collected fragments in—meaning that sometimes we were losing the valuable rock-shards to deep space because the limpets were prioritising closer (newer) shards over ones further way. It's possible that such an awkward flaw in the basic systems involved in mining might contribute to the lackluster feelings many Pilots have towards mining. At times it felt like we were fighting against the innate quirks in the system rather than the environmental factors involved with space-mining.

The cloud we'd created was confusing the limpets, so Mark advised that we split up slightly, survey different sets of asteroids close together, mine them for resources, then swap over so we'd each benefit from known 'good' asteroids we'd identified. In principle this process was pretty good. It essentially meant that we were able to maintain a high rate of mineral extraction, and it allowed our limpets to manage the fragments more efficiently, but somehow it cut down on the feeling of camaraderie we'd developed through this process. Rather than feeling like Mark and I were mining together, it felt more like we were just chatting over comms and we could have been light years apart. His Anaconda, *Serenity*, receded to a little glittering needle-shard in the sunlight, and I started feeling oddly alone despite Adrienne Henry, my pilot-for-hire, sitting below decks ready to fire up the fighter at any moment.

It's possible to imagine, maybe at some point in the past, several mining ships doing this — sharing information on 'good' rocks and combining efforts. It was becoming clear to me at this stage is that scaling up mining means investing extremely heavily in equipment in the first place, and I was questioning the financial value in working with someone else.

That was, until pirates arrived.



■ Mark P Dorling's Anaconda *Serenity* in the asteroids of HIP 52780

Pirates Want Our Precious Minerals!

In the peaceful ring I'd been lulled by the beautiful scenery and humming lasers into complacency, and forgotten that there might be less-than-reputable types around waiting for a pair of miners to show up.

"Incoming!"

Mark, as usual, was far more on the ball than I was. While I was taking pictures for this very article using camera drones, he was watching the scanners and generally behaving as a responsible pilot that enjoyed staying alive, fortunately for me.

Later, I was able to dissect what happened and add a more orderly narrative to these events. But at the time I made several mistakes in rapid succession that would likely have resulted in either my death, or at best my having to make an escape out of the asteroids under heavy fire.

Commander Dorling immediately moved to engage the incoming pirates and tied up what I later learned was a *Fer-de-Lance*. The pirates' two wingmates, one in a *Gunship* and the other in an *Eagle*, came after me, filling the comms with demands that I drop my cargo.

For several seconds I was unsure what to do. My limpets were still collecting rock fragments and I was still hacking parts of the spinning boulder away with the lasers, watching the enemy ships visibly getting closer on the other side of the flimsy-looking cockpit glass. What I needed to do was close the cargo bay hatch, switch weapon groups and redistribute power appropriately, launch Adrienne's fighter, pick my targets and bring the not-inconsiderable weapons of my ship to bear.

What actually happened wasn't that; it was more of a fumbling blur. I did end up shooting the *Gunship*, eventually—I learned quite quickly that mining lasers do not work against starships—by the time I'd managed to get up some speed and stop being a punching bag for my two assailants, *Serenity* had calmly dispatched the *Fer-de-Lance* and was already chewing through the *Gunship*.

At the end of the fight, which probably lasted no more than a couple of minutes, neither of us had taken any hull damage, but I was a little embarrassed that I'd entirely forgotten to launch Adrienne's fighter and my cargo hatch was still gaping open (which explained the even more sluggish behaviour of the *Long Shot*). Mark was kind enough not to point out any of these things, and he asked me if I wanted any of the bits of ship and cargo left over from our erstwhile enemies, as if I'd earned a share of the loot.

Your list should also now include:

- Expect to be attacked. Take weapons, know how to use them. Have a plan and an escape target locked in case the pirates come at you with overwhelming power.

The remainder of our mining adventure was fairly uneventful. We continued the leapfrogging style prospecting-mining technique we'd built up. Towards the end of the weekend I started to feel more like a 'proper' miner. We discussed profit from different types of minerals and I was feeling that I understood what to look out for now, and the next time we got attacked, I felt I was a bit more effective in handling it.

The End of the Weekend, and Lessons Learned

Next time I would do as Mark initially suggested and forgo the fighter in trade for more cargo space, as it was a waste. There was nothing that we couldn't handle ourselves and the more cargo space you have, the longer you can just keep going through the asteroids. However, the inverse of this seems to be that the more valuable minerals you collect, the more pirates seem to be able to smell it on the space-winds and home in on you.

During the weekend the sheer scale of the asteroid belt really sunk home. It would be possible to spend most of your life simply mining this one belt, were you so inclined. For people like Mark mining is just a relaxing way to vary the pace of life; the next week he was planning on joining the ongoing efforts to defend the Bubble from Thargoid incursions, adding yet another feather to his already heavily-feathered cap.


I can imagine a time in the future where mining might actually be a viable 'job' for Pilots Federation members—assuming that the rumours are true—but today is not that day, and right now it is an extremely slow way to make any sort of money. Trading cargo is faster, carries almost the same risk factors, incurs a similar setup cost spread and has the potential to generate a vast amount more profit—especially considering the frequent Community Goals that call for vast resources and offer vast rewards.

Having said all that, I thoroughly enjoyed my weekend of mining with Commander Mark P. Dorling. Mark was a great person to spend time with, and even though I did feel rather a burden at times, he was patient and kept things entertaining. Realistically, sitting staring at rocks for hours and watching robots collect fragments should have been boring—but it wasn't. Had I been alone, I can see that I'd have perhaps abandoned the whole thing after only a few minutes, but somehow being out there with someone else made all the difference.

I would suggest an addition to your list:

- Mining is an activity that definitely benefits from sharing it with friends. While it doesn't really help in terms of profits, it absolutely makes it more enjoyable.

My final verdict on mining? In terms of profitability, I came nowhere near to the cost of refitting my Anaconda and, had I needed to buy the ship itself, it would have taken months of mining to break even—not to mention the additional time and cost investment of engineering and upgrades. Restocking even the limpets in sufficient quantities can actually put a fair dent in your profits if you're not mining smart enough. So in terms of a lucrative career, I can't see it happening. There are much easier and less time-intensive ways to make your millions.

However, in terms of a weekend activity to do with friends, it was definitely one I'd like to repeat. Mark and I have made plans to go mining again next time we've got a weekend free! (Assuming we're not all having to learn Thargese and trying to breathe Ammonia by then...) 

Rock 'n' Lasers

Text: Louis Calvert

Images: DanFox, Sebastian Wehmeyer, Sagittarius Eye

Design: McNicholl

LIFTING THE CURTAIN

*The Rant of an
Interstellar Taxi Driver*

There's a perception out there that we, passenger-ferrying pilots, have it easy: load 'em up and ship 'em where they want to go. Well, it's time to lift the curtain and show you that it isn't always credits and commendations. Buckle up for horror stories; you're in for a ride.

I want to begin by saying that my transport ship, the *Hanuman II*, is in the top 1% of transport ships out there. It has *hyper-cushioned* seats for those extra-long journeys; a *perma-chilled* mini-bar with all the liquors you could drink, and more; we've got smoking and non-smoking lounges as well as on-board entertainment from the finest tribute band in the entire galaxy, *The Wine Sasquatch*. Let's just say, I know what I'm doing when it comes to ensuring that my clients have the smoothest journey through the stars. But the lesson I've learned in all my years of doing this is: you can't please everybody.

Coming in fresh-faced to the business, I made my first earnings transporting bulk passengers from starport to starport out in the Li Chi system, piloting a ship which I could only describe as a big and clunky metal brick. In *those* early days, you have to take the complaints as they come—and even when dealing with economy class passengers you need to wait on them hand and foot, fly the ship smoothly, and then get them to their destination on time. Oh, and boy you can expect hellfire if you don't do it all to the customers' full satisfaction.





Speaking of hellfire: every now and then I'll get a contract to rescue folks from a burning station. The money's alright, but I do it for the glory, right? Wrong. Let me tell you, this is more than flying from A to B, it's something that requires a little more tact. So, anyway, I'm rescuing these people from imminent destruction, getting them to a place where they can call their insurance companies and get their lives back on track. But would you believe that, before even making it to my destination, I get messages on the intercom like:

"Uh, are we there yet?"

"I'd like some coffee, why don't you have any coffee? Get us some coffee. Right now!"

"We've been on this hunk o' junk for too long! Drop us... somewhere!"

They're lucky I didn't utilise the 'eject passenger cabin' button, but at that time I was still trying to be a saint (and I needed the credits).

After years of shuttling families and their snivelling brats all over the Bubble, I dreamt that one day I could earn myself enough for a slick Beluga and get it fitted out with so many amenities that I'd never get a complaint ever again. "They'll see," I told myself. Well, guess what, Buster? They sure don't! (Buster's my pooch. Sometimes I speak to him. It's a lonely job.)

Passenger entitlement is rife throughout all classes of interstellar traveller; the celebrities, generals and famous explorers aren't much better than the economy-class cattle. I've seen beautiful planets and black holes, neutron stars, and cosmic arrays of colour: nothing surprises me anymore. I may as well have explored the Galaxy, but I want you to picture this for a moment:

I'm on my cig break, and a 'famous' (yeah, right!) explorer strolls up to me, says he wants to be taken a bazillion light-years away from the Bubble, says he wants to see the Evil Eye, a black hole over near Sag A*. I was about to say no, but then he offered me more credits than I could refuse. For the most part, explorers just sit in cryo-sleep for the entire length of the journey and want to be woken up so they can say 'they've seen it.' So I did my job, I took this fella where he wanted to go and then hauled him all the way back to his cushy home.

It's only a few days later that the local news channels (which are nothing like this reputable outlet) are spouting his success and bravery for *braving the black*. How dare he?! Didn't even credit the guy who hauled him out there. Didn't even tip. Not a single credit.

Oh, and you think those Imperial celebs and singers are as classy and elegant as they seem onstage? I've seen

things, things that are too impolite to even mention in this rant of mine. Let's just say, those stains aren't ever coming out, not even with Alya Body Soap.

Looks like we'll be landing in approximately five minutes, so I do hope you've enjoyed your flight, and look forward to seeing you on Hanuman Airways again soon.

For my fellow taxi drivers out there, be it on the surface or in space: I feel your plight.

*Lifting the Curtain:
The Rant of an Interstellar Taxi Driver*

Text: Michael "LaBufon" Donoghue

Images: Zer0axis, Craig Uchuu

Design: LexMoloch



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GENERATION SHIPS

SOMBRE BEACONS OF HUMANITY'S DREAMS

Eerily illuminated by the frigid light of the white dwarf it orbits, the *Atlas* is a gargantuan glass and metal mausoleum, eternally broadcasting the story of a man's sacrifice.

As we learn from the audio logs he left behind, the *Atlas*' Chief Engineer, Tom Edwards, volunteered to remain aboard the ship—out of control due to a technical malfunction, and unable to begin the process of deceleration—thus permitting the escape of the *Atlas*' passengers: men, women, and children, including his own wife and unborn son. Their escape pods were sent shooting off from the fast-moving vessel towards a serendipitously close planet. These frail seeds of life, detaching one by one from the main body of the *Atlas*, ensured the survival of the colonists; while dooming Edwards to a life of solitude, forever hurtling through the dark of space.

We cannot know for certain how long he kept on living aboard the *Atlas*, a ship fully equipped to nourish tens of thousands of passengers for centuries. He might have grown old as the sole inhabitant of the kilometres-long

vessel, wandering its creaking corridors and gently-rotating habitat rings until death finally caught up with his headlong cruise. When the *Atlas* was at last captured by the strong gravitational pull of Charick Drift A, and came to a gentle halt, Edwards' lifeless frozen body was floating somewhere inside the powered-down ship, now and forever serving as his incongruously oversized coffin.

That of the *Atlas* is but one of the many tragic tales we have become acquainted with in the last year, ever since the first of the nine generation ships so far discovered, the *Lycaon*, was unexpectedly located by Cmdr Lexic Meise on April 23rd, 3303. In the months that followed, searching Commanders discovered many other such prodigious spacecrafts; the ninth, and most recent, of which was located on October 4th 3303. All of them devoid of life.



These, in turn, are but a minuscule fraction of the 70,000 or more ships that reportedly left Earth over a thousand years ago, in the 21st century. These vessels were designed to transport and sustain thousands of families during a long expedition towards habitable Earth-like planets to be colonized. In this pre-hyperdrive era, crossing several hundreds of light years at only a fraction of the speed of light would have taken many centuries, and the first passengers understood that they would not live long enough to witness the trip's completion, and only their descendants—several generations down the line—would eventually be able to disembark and step onto their destination.

From the *Thetis'* logs, for example, we know that no less than nine generations were born, grew up, and died all within the confines of the ship: thousands of lives spent with little more than a few reinforced bulkheads separating one's entire world—family, friends, lovers, work and passions—from the bleak expanse of space, with no hope of ever seeing the promised destination. It is not hard to imagine how for the second or third generation of passengers the very idea of being part of a trip towards a set destination might have functioned more like an abstract ideal or a religious dogma than a pragmatic and obtainable objective.

“ From the *Thetis'* logs, for example, we know that no less than nine generations were born, grew up, and died all within the confines of the ship.

It is not unusual for a small and isolated community, like those partaking to a strenuous voyage, to find motivation and reassurance in supernatural beliefs. And sometimes these have tragic repercussions. So it happened that on the generation ship *Hyperion*, now stranded a few thousand light seconds from the planet Lalande 2966 4, the passengers came to believe that a young boy, whom they named Zachariah, was endowed with superhuman insight, idolizing him as a kind of prophet. The ship logs, recorded by an increasingly preoccupied officer, recount how this seemingly-harmless curiosity escalated into a dangerous zealotry, fuelled by soteriological fanaticism for a 'promised land'.

The ship's community was split between loyal followers of Zachariah and critics, worried about the consequences of this blind devotion. As human history has shown time and again, a mob fuelled by religious fervour is nigh unstoppable. The zealots eventually resorted to violence, managing to gain the upper hand and take control of the ship. Zachariah enacted his plan: sacrificing the ship's entire population to the void by venting the ship's atmosphere into space. An unwitnessed holocaust under the indifferent gaze of the stars.

The brave efforts of these early colonists, pre-dating the development of faster than light interstellar travel, are an important page of our history as a transitional moment from Earth-dwelling to interstellar civilization. But to us 34th century observers, the idea of willingly condemning ourselves to a life of hardship, confinement, and isolation seems inconceivable. An entire micro-society devoted to a single purpose, with all the technical and social difficulties this entails.

The day-to-day micro-management of the ship's life support systems, the preservation of a sustainable

source of food and water, the imperative to safeguard the physical and psychological well-being of the passengers, the need to train each new generation to the necessary duties they were predestined to perform, and the imposition on all women to have children in order to keep the population sufficiently high to develop a working colony once the destination is reached—all these obligations and many more add up to a centuries-long existential commitment leaving no space for error or lack of resolve.

Not to mention the astounding economical and engineering effort made to design and build tens of thousands of kilometres-long arks of hope capable of enduring hundreds of years in the void and of being repaired while travelling, with no chance for dry-dock maintenance, like a 23rd century Theseus ship.

Nowhere else would the fragility of our bodies and minds be put to a harsher test than aboard such vessels. Other recently-discovered generation ships serve as a grim reminder of the countless dangers of long-term space travel.

The *Pleione's* mission failed due to a bizarre genetic defect that hit the entire female population, making it impossible for them to produce female children and thus dooming their micro-society to a crawling extinction. In a tragically more banal way, the *Venusian's* cruise was cut abruptly short by piracy and betrayal. Aboard the *Odysseus*, on the other hand, a pseudo-oligarchic regime unilaterally decreed to forsake their colonizing mission, and elect the ship itself a permanent home, trading the uncertainty of finding a suitable planetary dwelling for the safety of their well-functioning microcosm—only to then be decimated by an unforeseen and incurable epidemic, which eventually turned their pristine Eden into a deadly trap, a similar fate to that which hit the *Lycaon*. Even more chilling are the circumstances that led to the *Thetis'* demise, where a strange signal received from an unspecified planet had some kind of psychotropic effect on those who listened to it, turning them into paranoid and crazed murderers, and the ship to a bloody abattoir.

We cannot know for certain whether these stories are the rule or the exception. Were most generation ships successful, managing to establish colonies on habitable planets? We certainly do know of a number of present-day settlements that trace their origin to the crew of one of those ships, proving that at least some accomplished their goal. It is also possible that there might be inhabited generation ships still on route, having almost reached their destination after a thousand years of travel; a space-faring time-capsule whose inhabitants are unaware of the accomplished colonization of hundreds of star systems.

But it is just as likely that we, denizens of the Bubble, are unwittingly living in a vast cemetery. One littered with the empty shells of dead ships, their crew having succumbed to either some calamitous technical failure or to insidious shortcomings of the human psyche, leaving the ship to drift far from its course over the last thousand years.

While this question is likely to remain unanswered, it is instructive to visit the nine generation ships we know of in order to appreciate their humbling and monumental quality. Take a moment to ponder those distant times where space was a far more dangerous place than it is now. There is some irony in the fact that these nine vessels—built for endurance—will outlast most of us, transmitting their tale of bereavement to the deaf ears of the void embracing them, for aeons on end.

■ Generation ship *Odysseus*

Generation Ships: Sombre Beacons of Humanity's Dreams

Text: Wilfrid Sephiroth

Images: Zer0axis, SebastianWehmeyer, OrangePheonix

Design: LexMoloch

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WHERE DO WE GO FROM HERE

We investigate the possibility of travelling to **Andromeda**

Whether seasoned explorers, freighter captains or pilots of independent means, some readers will no doubt have looked out into the black, fixed their eyes on the faint glow of Messier object 31 in the constellation of Cassiopeia and thought to themselves: "One day I'm going to strap a few fuel tanks to my ship and be the first out there."

Despite the fact that we have barely begun to scratch the surface of our own galaxy, with conservative estimates suggesting that less than 0.006% of it has been visited by humans, there are already people who look out beyond the rim towards new pastures.

This pioneering spirit has been part of the human psyche for millennia, and amongst any group of people there's always a portion who look out to the nearest horizon and seek to move beyond it. It's a pattern of behaviour that started at the bottom of a small valley in a continent called Africa on Earth, that saw our ancestors cross oceans, and later propelled them into space, strapped

into the tips of small chemical rockets. We stood on Earth and looked to the Moon, and then from the Moon we looked out to Mars. After claiming Sol for ourselves, we moved on to Tau-Ceti. From each new world we've looked out beyond it, to the next. So why then, haven't we already seen steps taken to cross the next horizon?

The issue, as has so often been the case, is a technical one. Whilst our current drive technology affords us great flexibility and freedom to move within our own galaxy, it is proportionately less effective at longer ranges for several reasons.

Electricity is just organised lightning

Whilst it's probably not the first thing a pilot might consider when undertaking even a routine jump, one of the first hurdles to overcome with jump drive technology is the simple matter of power.

The raw power output required by a vessel attempting to undertake a jump increases exponentially in relation to both the mass of the ship attempting the jump and the distance involved.

Much of this power is derived directly from the fuel dumped into the system as the engine engages, which is why ships that can handle a much larger fuel load per jump are able to travel significantly further than ships that cannot.

The engines themselves, however, also require power to operate, which is predominantly drawn from the ship's power plant, in proportion to the size of the engine itself.

What this means in practical terms is the emergence of a feedback loop of diminishing returns. As either the mass of the ship or the distance to be travelled grows, the amount of fuel that can be handled by the engines at any one time needs to increase accordingly. In turn, this increases the power output of the engines, but also the mass of the engines, and the amount of power they need to operate. This also requires an increasingly large power plant, needing more fuel in order to initiate a jump, all of which leads to further increased mass—and so on. This is why, particularly for consumer-level craft, it is often easier to reduce the mass of a ship in order to increase its range than it is to try and increase the power

output of the vessel itself. And conversely, why on much larger capital vessels and space stations—where the masses are so great that no significant reduction is feasible—it's simply easier to increase the power of the drive systems to increase jump range.

Running on Fumes

Between the Milky Way and Andromeda there is a near-negligible level of detectable matter, and certainly no bridge of stars along which a traveller could scoop fuel to continue their journey. As a result, any fuel that a traveller might need in the space between the galaxies needs to be planned for and physically carried out there. There are two approaches towards this that might be considered, and each comes with its own set of problems.

The simplest option is to carry all of the required fuel for the journey. Doing so removes the need to stop and scoop more, granting a measure of independence and making the trip less susceptible to problems of supply. This approach was very publicly demonstrated in May 3302 when Jaques, the owner of the eponymous station, attempted to perform a single jump from Gliese 1269 to Beagle Point, nearly 65,000 light years away.

What we can take from this failed attempt was the sheer volume of fuel required in order to move Jaques station through 22,000 light years of space—nearly 7.4 million tons of fuel.

Needless to say, this figure goes far beyond the capacity of a domestic ship or freighter, and whilst the fuel cost of moving the mass of a station is much higher than that of moving a ship, the raw power leaves makes this method viable only for governments and superpowers.

Crossing the Desert

Once the proposition of simply carrying all the fuel you need along with you has been discounted, an oft-cited alternative is to systematically establish a series of fuel dumps, in a modern re-imagining of the old 'crossing the desert' logic puzzle.

A vessel travels out into the void, deposits fuel, returns to refuel, and repeats the procedure. After several trips, enough fuel has been deposited that the vessel is able to refuel at the dump location, and then travel out further, drop more fuel and then return. As this process is iterated, it's theoretically possible to cross larger and larger distances—even as far as the 2.5 million light years that separate our Milky Way from Andromeda.

Unfortunately, however, this idea fails to take into account one of the most fundamental aspects of travel with conventional frame shift drives—that it's necessary to have a target object with sufficient mass to lock a vessel's navigational systems on to. Without a supporting network of objects of sufficient mass spanning the gulf of space between the two galaxies, at regular intervals, it's simply not possible to jump to an intended fuel dump site.

In fact, this single, immutable fact represents the final nail in the coffin for any attempt to cross intergalactic space. Whilst there are objects in between our galaxy and Andromeda, the distances between these objects is hundreds of thousands of light years—far beyond even the projected reach of a frameshift-enabled space station like Jaques.

This Calls for Science!

Human ingenuity and endeavour, however, have always been driven by the need to overcome simple technical obstacles like distance and speed. Wherever we find barriers to human progress, there can always be found minds working on ways to get either through or around the problem. A curious observer might be forgiven for suggesting that the problem of no navigation mass or fuel could be resolved by creating an artificial bridge of stars between the two galaxies.

Whilst the capability of moving stars in this manner is beyond us at the moment—and, to the best of our knowledge, beyond the known abilities of any other intelligent life—it's not so far-fetched a proposition as might initially be thought. In fact, we've had the technology as a species to undertake an analogue to this suggestion for almost 1,400 years.

Using existing particle acceleration technology as a foundation, it is technically possible to create an artificial singularity at any location we choose. While the mass of such a singularity would be very small, the gravitational effect it would have upon the surrounding space might be sufficient to establish a navigational lock.

This approach isn't without its problems, however. The hardware required to generate the singularity would still need to be carried to its intended destination using conventional thrusters, potentially requiring hundreds, or even thousands, of years to establish a functional network.



In addition, the small mass of the singularities created in this manner means that they would tend to evaporate away very quickly, and so would need to be either stabilised in some way or recreated at regular intervals. This behaviour would, at best, be disruptive to travel, and at worst it could be extremely dangerous for vessels travelling between points, only to find their navigation lock has been lost whilst in transit. Such an endeavour would represent a significant investment of research, resources and time.

In a Galaxy Far, Far Away

Another suggestion that has been discussed is to employ some kind of modernised or enhanced 'Faraway Drive' technology—completely bypassing conventional FTL travel and using jump gates to traverse from one galaxy to the other.

However, much as in the previous proposal, implementing a new, intergalactic jump gate system would likely still carry with it the burden of having to physically transport a receiving gate or network of gates to Andromeda in the first place.

Were this issue not sufficiently crippling in itself, it is also important to consider that the Faraway jump gate system was abandoned in the early 32nd century because it was so complicated, unreliable and dangerous to operate. When aiming at an exit point 2.5 million light years from the current position, thus using observational data that is 2.5 million years out of date, only a brave pilot would be willing to make use of a technology in which reports of minor jump miscalculations tend to include phrases like "atomic re-organisation" or "time displacement".

Baby Steps

For the time being at least, it seems like Andromeda might lie beyond the grasp of human exploration. However, would-be intergalactic explorers should not be disheartened by this just yet.

In the space of the last 200 years, jump drive technology has progressed through some significant changes from the early days of the Faraway Jump systems, and these days almost all spaceworthy vessels carry some form of self-contained, powerful and highly reliable jump drive system.

In only the past couple of years, independent pilots have


learned how to construct one-time boost injections that can be used to extend the range of any drive far beyond its original capacity, and enterprising explorers have even learned how to utilise the ejection cones of stellar remnants to supercharge their drives further still.

With new research being conducted by industrial concerns like Sirius Corporation, and through retro-engineering efforts on recovered Guardian and Thargoid technology, it's reasonable to believe that we will continue to develop and enhance jump technologies.

In the meantime, we should remember that the Milky Way does not exist in isolation. Our Local Group contains a number of dwarf galaxies that orbit around our own Milky Way.

The closest of these, the Canis Major Overdensity, is located approximately 25,000 light years from Sol. This distance is of particular significance because it's almost the same as that from Sol to Colonia—a distance which has already been covered in a single jump once before.

The next closest, the Sagittarius Dwarf Galaxy, is located approximately 50,000 light years from Sagittarius A*; still well within the predicted jump range that had been expected of Jaques Station, which had originally been meant make a single jump of more than 65,000 light years to Beagle Point.

So whilst Andromeda might be beyond us for the time being, the local group still has plenty to explore beyond the limits of our humble galaxy. On the 2nd anniversary of Jaques' now famously ill-fated jump, we at *Sagittarius Eye* suspect it can only be a matter of time before some government or corporation constructs a station, capable of making that kind of jump again, to serve as both a ferry and base camp for those intrepid souls who wish to explore humanity's next horizon. 

■ From one horizon to the next - a view from Earth to Andromeda

Where Do We Go From Here?

Text: DrNoesis

Images: DrNoesis

Special Thanks: Whitmann & Louis Calvert (*ideation*), Atmora & Jubei Himura (*Elite:Lore Jump Drive tech*)

Design: LexMoloch



CONFESSIONS OF AN ACCIDENTAL THIEF

"I did not intend to steal 20 million credits..."

Commander Halgarth waited in one of the pleasant open-air bars on Marcy Ring in the LTT 47 system. She looked unwell; nervous energy seeping from her, waxy complexion, darting eyes scouring the passers-by as she disjointedly told her story 'to set the record straight'.

It wasn't a tale of victory, it didn't involve daring raids or ATR chases across multiple star-systems. Regardless, Halgarth was very much on the run, and didn't have the demeanor of someone that expected to be around much longer.



“There was a change of plan”, Oskar said. “This new plan would make us all rich, and quicker than ever before, too.”

Oskar’s plan was to find out if the system could tell *how* the goods were acquired. After years of trading, both Oskar and Halgarth were ranked Tycoon already, apparently one of the reasons why Halgarth was picked for this test. She suspected he’d been keeping tabs on potential accomplices via the INARA social network. Unsurprisingly, Halgarth claims to have deleted her profile now that she’s on the run, and your correspondent was certainly unable to find one.

Cmdr Oskar dropped 100 tons of gold from his cargo, and my limpets scooped it into the hold of my ship. He asked me to read off the cargo value reported by the auto-handlers in the hold, and seemed happy. ‘Ah good, salvage counts as pure profit. This will work... probably,’ he told me.

Both ships docked at nearby Chois Port, and Halgarth sold the gold—for pure profit—and read off the numbers showing the profit increase on her systems panel. She claims not to have really thought about it at first, but realised later that she was now in debt to Oskar to the tune of half a million credits. Not a huge sum, but it would become a driver for everything that happened next.

After that, we talked a bit about the best way to take advantage of this. I’ll be honest, I was feeling a bit uncomfortable already. I wanted to reverse the process and pay him back but he was busy working on a larger version of the plan. It wasn’t a [expletive deleted] lot of money, but I don’t like being in debt, to anyone, and he really valued money a lot, talked about it all the time.

At the request of parties involved, names have been changed. Commander ‘Oskar’ and his team were unreachable for comment at the time of publication.

To start at the beginning, I guess; I met Commander Oskar originally at some Guardian Ruins last year. As I was staring at the [expletive deleted] glyphs of a long-dead alien race and wondering exactly what I was supposed to be doing for [expletive deleted] Ram Tah, my comms unit picked up a transmission from another pilot nearby: ‘Can you help please? I’m stuck’.

It quickly became clear that this was not going to be an entirely legal ‘something’.

As it often happens, Oskar’s SRV had become wedged in an awkward architectural juxtaposition formed by parts of the broken ruins. After a certain amount of unceremonious bumping, Halgarth had been able to free Oskar and both Commanders resumed investigating the ruins, though now they chatted occasionally, sharing tips and interesting discoveries.

Halgarth didn’t hear from her new friend for a while

after the ruins, as is often the case with happenstance encounters. Almost a year later Commander Oskar contacted her out of the blue.

“Got some time to help me try something?”

It quickly became clear that this was not going to be an entirely legal ‘something’. Halgarth explains that she isn’t too picky about the jobs she takes, providing they didn’t cross too many of her (somewhat wavy) moral lines. Some tentative questions via stellar comms later and Commanders Halgarth and Oskar were sitting in an anonymous part of space, ships virtually nose to nose.

The ‘project’ [Cmdr Oskar] was currently working on immediately sounded dodgy, but as he explained it, it became clear that there was a bit more going on than meets the eye. We were supposed to test a theory. He thought he’d found a way to cheat the [expletive deleted] Pilots Federation Trade ranking system, so we met in the Kavat system.

Oskar explained his theory to Halgarth, and over the course of about an hour his plan unfolded. The simple premise is that the software tracking the Trade ranking system is unsophisticated. The system tracks the profit made on sales to the commodities market, and the profit itself contributes to a pilot’s Trade ranking, rather than the sales value. Profit is the key: the more profit, the larger the rank increase.



Oskar needed to set up 'another opportunity'—Halgarth claims she didn't ask the details—so it was several days before the pair met again. This time Halgarth wanted to make sure her debts were paid, so before they met up she took a trip to Hutton Orbital and bought a consignment of Hutton Mugs and Centauri Mega Gin, enough that when Oskar sold it he'd make the money back from the gold trade they'd done previously. The pair met again at a station far enough away from Alpha Centauri that the demand for the rare goods she carried would ensure a high profit. The exchange occurred in deep space once more and Oskar sold the cargo. Everything was going as planned.

I felt better, ready to move to the next stage. He was pleased, he'd wanted to test his process on rare goods, so I'd saved him some effort too. I still wasn't entirely sure what the purpose of all this was—being ranked as an Elite Trader would be nice—but Oskar was never able to tell me exactly what this was all about, he was just very enthusiastic and I got carried along. If we did what he was planning, we'd make millions of credits, I didn't think—didn't care—about much more than that.

The two Commanders arranged to purchase large quantities of Palladium at a refinery station, and transport it to an industrial hub nearby. When Halgarth arrived, ready to make the bulk purchase, she found Oskar there with two other pilots.

"They were chatting in a language I didn't recognise,

they clearly knew each other" she recounts. "It was a bit strange. The two didn't talk to me at all, they went silent when they noticed me. Only Oskar talked to me."

Halgarth shifts here, visibly looking even more uncomfortable. "There was a change of plan, Oskar said. This new plan would make us all rich, and quicker than ever before, too." At this point our interviewee went quiet and hard to read, even after your correspondent flexed the SAGi credit account to order some tongue-loosening libations at a local bar.

Oskar said something to the others and they walked off, going to their ships—all big bulky T9s. He sent me a wing invite and when I joined I got offered a wing mission—one of those trade goods ones, you know? The payout was twenty-two million credits.

Halgarth claims that she accepted the mission, and was immediately surprised when a few seconds later it was completed. Obviously the others in the wing had been sitting with the required goods ready to be offloaded. Halgarth received a payout of over *twenty million credits* for doing nothing more than accepting a mission.

And just like that, I was in debt for millions of credits. Immediately, the other two dropped the wing, they never said anything at all. Oskar commed me and said 'Excellent, it worked.' After that he talked at length about how now we needed to find another mission and do the same thing again.

The scheme had failed, spectacularly. Somehow Halgarth had come out on top.

At this point, the exact details of the "scheme" (as Halgarth kept calling it), were vague. She recounts a long (and very tangled) conversation where Oskar attempted to explain exactly how this was supposed to unfold; they would work together to complete the mission, but somehow, somewhere along the way, there was the implication that they'd be scamming the system to gain more money than they would have done otherwise.

I don't really understand what was going on, all I kept thinking was "I owe these guys, I'll do whatever" and that's really what I did. Oskar told me how to find a suitable mission, and after a while we were offered a Palladium delivery contract. Oskar gave me the location to buy from, and off we went.

The journey for Halgarth wasn't quick, as her ship lacked the the huge jump range that Oskar seemed to feel was required, and he arrived before her. When she docked, Oskar had been waiting for her for a while and was clearly growing frustrated. "I filled up on Palladium, and undocked as soon as the auto-handlers had finished loading. I never left the seat," she recalls. "Then we did the return journey. I got 'dicted twice, but they didn't force me to drop, I beat them." Halgarth used her hands here to illustrate how she evaded the interdiction attempts, miming wrestling with the flight controls, and wiping imaginary sweat off her brow afterwards. This was the most animated I'd seen her—a glimpse at the real Halgarth, perhaps.

I landed, turned in my cargo and looked at the totals. Oskar had done half and I'd done half what was left, as my ship was a lot smaller, so it needed another run...

Here we were forced to leave the bar. Halgarth seemed extremely agitated and insisted we go down to the docking bays so she could make preparations to leave. Later, she claimed to have seen one of Oskar's 'associates' in the crowds milling around the tourist areas. Obviously there was no way to be sure, and given the level of paranoia she was displaying, it was entirely possible she's seen someone that looked similar. Still, the possibility remains that she was indeed mere seconds from death—and that's certainly how she behaved.

Once we were safely in the docking bay and her ship was undergoing final checks before leaving, she finally divulged the last part of the story.

I tried, I really did, but by this point I'd been running for thirty-six hours and living on stims and black coffee... I crashed, just pretty much passed out in the chair. Woke up ten hours later drifting in some dark system somewhere. A bunch of messages, increasingly annoyed messages, in my inbox.





The golden Asp of Cmdr Oskar scooping rare goods

Oskar was not happy at being kept waiting. In desperation Halgarth had rushed to the station to complete the last shipment, but realised too late that the contract had expired. She's missed the window. Oskar's millions-worth of Palladium sat there accusingly on the details screen, already turned in.

The scheme had failed, spectacularly. Somehow Halgarth had come out on top. After selling off the load of Palladium she was hauling, taking into account fuel and repairs, she'd still come out with over twenty million credits. Oskar's credits, technically. He'd lost around as much as Halgarth gained.

Essentially Halgarth had stolen around twenty-million from her sometime associate without intending to, and with no easy way to repay him unless he responded to her messages.

At this point Halgarth claims she had started to notice being followed by certain starships:

[They] were docking at the same ports as me, twice I got interdicted by the same pair, I only just made it out. I swapped ships, I moved systems, Oskar wouldn't return my messages, none of the Commanders tailing me said anything, or when I tried to comm them they claimed they didn't know what I was talking about—called me crazy!

She decided it was time to set the record straight, to highlight how easily a simple trade can go wrong. In the space of four days Commander Halgarth had turned

from average trader to accidental thief, and a target of what seemed to be dogged bounty hunters. She refused to tell me her ultimate destination, but she was at the controls of a brand-new Asp Explorer when she left the station, so the chances are she was going a long, long way away.

Halgarth may have inadvertently exposed a few holes in the Pilots Federation financial transaction system that some might find ways to exploit, someday. What is certain is that pilots like Commander Oskar and his friends are trying very hard to make it big with as little effort as possible.

The moral, if there is one; Get-Rich-Quick schemes might not end up with *everyone* involved getting rich, and they may not actually be as *quick* as they first seem.

Confessions of an Accidental Thief

Text: Louis Calvert

Images: RyanSanderson, Halgarth

Design: LexMoloch



May Svarog Give Us Wisdom and Might.
Balkan Intergalactic Guerilla

For The Warriors of Old Balkan Descend



CONQUERORS OF WORLDS

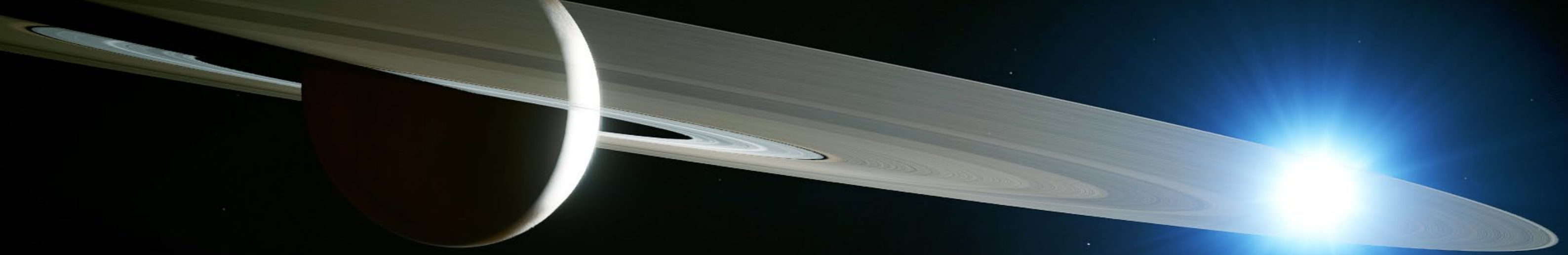
THE PLANETARY CIRCUMNAVIGATION CLUB

In November 3303, a racing pilot named Alec Turner touched down on Pleione 3A, deployed his surface recon vehicle (SRV) and began driving. Over the next week, he drove that moon buggy 1,240 kilometres, eventually cresting the ridge of the crater he landed in.

During his journey, he logged his progress online with daily updates. These began to garner so much interest that he felt compelled to create an entity where enthusiasts of such an idiosyncratic pastime could share their stories—and the Planetary Circumnavigation Club was born.

It's hard to explain but driving all the way around a planet, even a tiny moon... heading off in one direction and eventually coming over a ridge to see the place you started out from right there in front of you... it's an incredible experience!" he gushed when *Sagittarius Eye* met him this week. "It gives you this profound sense of scale, of how truly massive the galaxy actually is."





Cmdr Turner compares the experience with visiting Sagittarius A*, the supermassive black hole at the centre of the Milky Way, for the first time (something he's also achieved). On both occasions, he was moved to tears.

If asked what appeal driving around an entire airless world could possibly have, Alec is voluble. "Breathtaking sunrises and sunsets, chasing lengthening shadows down spectacular canyons, passing by mountain ranges that dwarf those back on Earth," he lists enthusiastically. He tells a story of one particular sunrise which illustrates perfectly the sense of beauty in the mundane that so animates him.

When I set out I decided to turn off all the unnecessary modules to conserve fuel. The local sun was just below the horizon at the time but later, when I crested the first big ridge, the ice crystals that had formed on the windscreen lit up like electricity. It was just incredible.

“It gives you this profound sense of scale, of how truly massive the galaxy actually is.”

Cmdr Turner approached the challenge with workmanlike rigour, opting to drive around the equator. Landing at a recognisable feature just about on the equatorial line, in this case a crater with a distinctive central mound, he then only needed to stick to a heading of 90°—and keep driving in that direction.

270° would have worked too, best marked by picking something in the sky to aim towards.

As he travelled he kept an eye on his latitude (the first of the two coordinates displayed on the SRV's heads-up-display) and made sure it didn't drift too far either side of 0°. "I could use the longitude (the second coordinate on the heads-up-display) to track my progress—basically I'd need to travel through all 360°", he explained.

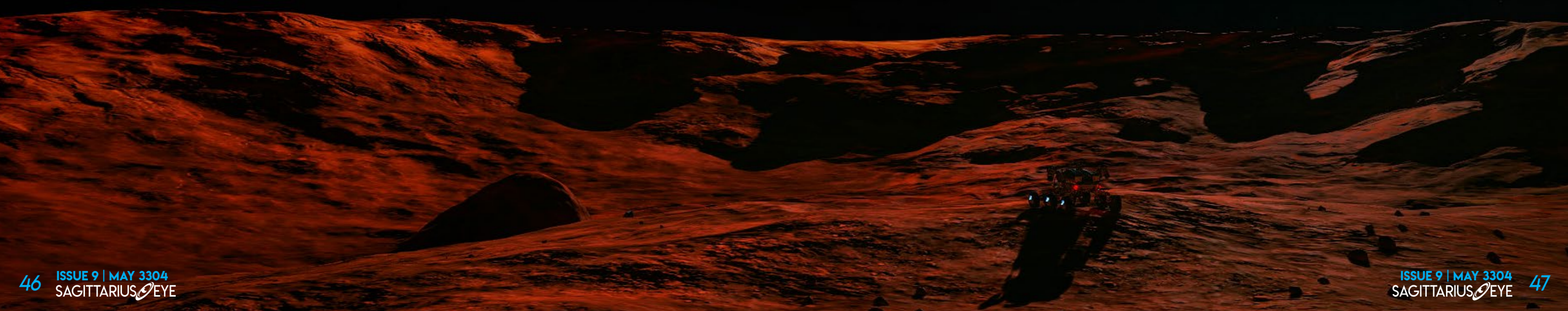
At the end of each day he would recall his Python-class starship, make a note of his exact coordinates and distance travelled, and also take a snapshot of the planet map in his ship's console. In stock models this shows the ship's current location on the surface with a blue

marker. He used these recordings to track his progress, but towards the end of the journey he found he had drifted slightly from the equator.

I had to steer back towards the exact coordinates of my starting point, but—because I'd picked a recognisable feature on the landscape—in the final few hours I could pretty much see where I was heading out of the window.

Alec counts himself lucky, in that he encountered some "fantastic terrain" on his journey, but says that the 'equator approach' has a downside—it doesn't necessarily run through the most interesting features on the planet. He also emphasises the importance of driving on the lit side as much as possible—the dark side is often utterly black, and can prove treacherous.

One thing I would say to potential circumnavigators is to spare a thought for where the local light source is going to be. The last thing you want is to spend 90% of your journey in the dark!



The Snowball Effect

Cmdr Turner wasn't the first to circumnavigate a planet. "At the time I did my circumnavigation of Pleione 3A I thought I might be, but when I started to look into creating the Planetary Circumnavigation Club I quickly discovered there were others who'd already done it before me," he told us. The first recorded circumnavigation was completed by Cmdr Tannik Seldon on the 10th September 3302—and the second, in a bizarre coincidence, by Cmdr Disorganise the very next day. Nor have they all been deliberate: last March, Cmdr Timmy Brabston accidentally circumnavigated a planet when aiming to set a speed record—and simply drove all the way around!

However, it was Alec's particular odyssey that captured the Galaxy's attention. Soon after beginning, he idly opened a donation channel in case any of those following his progress wanted to donate credits in aid of his

efforts—to be used to support a charity called Special Effect, which aims to help disabled people experience the thrill of space flight.

I've spent a lot of time around severely handicapped people (my own son has Down's Syndrome) so I'm well aware of how people can become trapped inside their own bodies and how [space flight] can provide a terrific means of escape from that. I didn't have any great expectations for it but it costs nothing to set up a charity donation campaign so I just figured: why not give it a shot?

The response nearly overwhelmed him. People from all over the Bubble started to support his campaign and follow his progress, and the Pilots Federation gave it special focus in their weekly newsletter. By the time he'd returned to his starting point, he had smashed all his donation targets.

The maelstrom of publicity acted as a beacon for other circumnavigators, potential and accomplished, who flocked to join the nascent Club. Alec was well-placed to harness this—as a member of the Buckyball Racing Club, he already had a well-developed network of adrenaline-chasers who could be relied upon to embrace his idea.

I was already in touch with a number of the top SRV drivers like Timmy, Nookie and Bomba through events like the Buckyball 'Kick the Alien (and run like hell)' race that I organised. Some of those guys had already considered driving around a planet and others could definitely be inspired to do so.

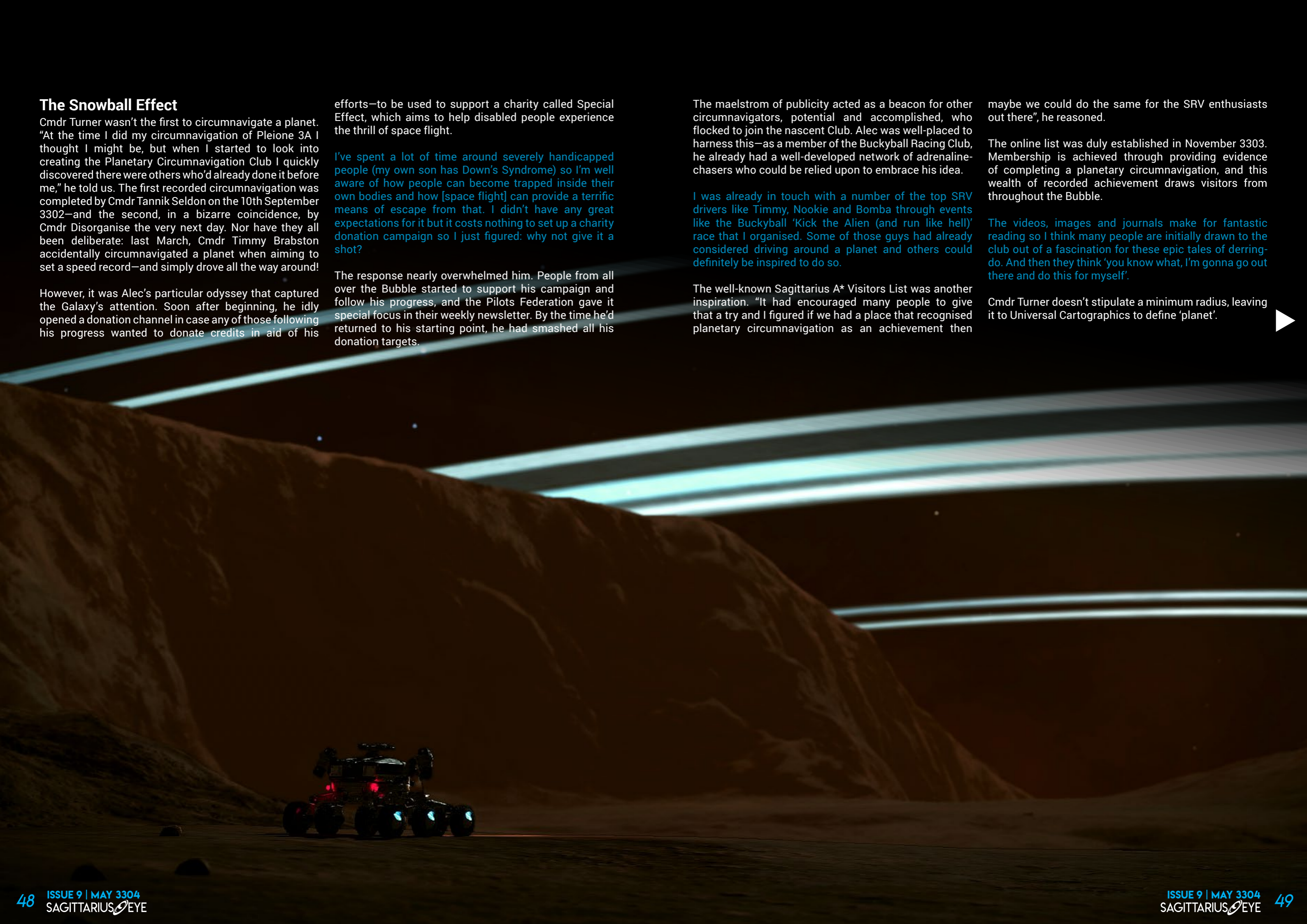
The well-known Sagittarius A* Visitors List was another inspiration. "It had encouraged many people to give that a try and I figured if we had a place that recognised planetary circumnavigation as an achievement then

maybe we could do the same for the SRV enthusiasts out there", he reasoned.

The online list was duly established in November 3303. Membership is achieved through providing evidence of completing a planetary circumnavigation, and this wealth of recorded achievement draws visitors from throughout the Bubble.

The videos, images and journals make for fantastic reading so I think many people are initially drawn to the club out of a fascination for these epic tales of derring-do. And then they think 'you know what, I'm gonna go out there and do this for myself'.

Cmdr Turner doesn't stipulate a minimum radius, leaving it to Universal Cartographics to define 'planet'.



“It’s an incredible experience and one they’ll never forget. Just describing it to you now makes me want to go right back out there and do it again!”

Littered landscapes

Other members of the Planetary Circumnavigation Club have encountered more than frost crystals in their windscreens.

Some of the other guys have encountered all sorts of junk lying around. Crashed beacons, forgotten cargo stashes, abandoned ships, burnt out SRVs ... you name it, they found it. It’s been over 1,200 years since those disposable coffee cup riots back on Earth and mankind is still treating the galaxy like a dumping ground!

Canisters of tea aside, none of the intrepid circumnavigators have yet found anything truly alien—although Alec holds out hope of finding evidence of sentient life, perhaps Thargoid or Guardian. But it’s not what motivates him, or others.

I think most people are motivated to do this by the simple idea of pushing themselves to accomplish something extraordinary, or frankly, just because they love being in

the SRV. I love driving long distance in the SRV so if I can encourage others to give it a try then I’m super happy about that!

Now the Club is established, Alec plans on doing something “a lot bigger”. He talks of the possibility of a joint circumnavigation, taking place over, say, a month rather than a week, involving a group of explorers.

Kind of like one of the galactic space expeditions but down on the surface of a single planet. I think that would be enormous fun, especially if we can get a dozen or more people involved. I’d like to spend a lot more time scouting out a route that takes in some truly dramatic (and challenging) terrain.

Cmdr Turner is hopeful that his experience, and the Planetary Circumnavigation Club, will inspire at least one or two readers to give circumnavigation a try. “It’s an incredible experience and one they’ll never forget. Just describing it to you now makes me want to go right back out there and do it again!”



*Conquerors of Worlds:
The Planetary Circumnavigation Club*

Text: Souvarine

Images: Valorful, Zer0axis, OrangePhoenix

Research: Alec Turner

Design: LexMoloch

SHIPS YOU DON'T FLY



In my opinion there are no bad ships.

Yes, there are ships that don't do exactly what you might like them to do, or don't fit the role you need, but that doesn't make them bad ships. I'd like to take a look at one of the least understood ships out there, a ship that I find to be a joy to fly. Most Commanders express their disbelief by spraying a mouthful of beer over the bar when I tell them how great it is.

The Lakon Asp Scout: the little brother to the much-loved Asp Explorer, and that comparison is perhaps where the unfair prejudice begins. The Asp Scout is smaller than the Explorer, and this brings drawbacks. Fewer and smaller internal module spaces; fewer hardpoints and fewer utility slots. It is just less.

Lakon produces some of the finest explorer-grade vessels that credits can buy. The smaller, budget, Diamondback ships and the larger, more expensive, Asp vessels both comprise a scout and an explorer variant. Let's be straight up about this, if you have the credits, the Asp Explorer is hands down the best explorer vessel you can buy: yes, even better than the massive Anaconda. If you are going deep in the black, accept no substitute.

But this article is not about the Asp Explorer: I want to sell you on its little brother. So let's take the tour. The first surprise is the size of the ship; the Asp S is not a small ship, it requires a medium pad. That is not a problem, I have never come across a base that only has small pads. Most people think of the Asp S as being a small ship: this is a lazy assumption based on the larger, but also medium pad, Asp X.

From the outside, the standard Lakon 'glass nose' is a prominent feature, gifting both the pilot and co-pilot an unrestricted view of their surroundings. This is a big plus when it comes to landing on planetary surfaces or navigating narrow canyons.

ASP SCOUT

ASP SCOUT

The ship's hull is shaped like an angular pancake with engines mounted centrally. This basic form is a holdover from the military ancestry of the Asp. The advent of modern sensor suites has long since made redundant the low detection profile it was designed to have. While it's on the pad, one can make out a pair of small hardpoints nestled close together on the ventral hull, just behind the 'glass nose'. A pair of medium hardpoints are mounted on the dorsal hull, one on each side of the pilot's position.

It's a matter of personal taste, but I prefer my Asp S to be coated in a smooth matt Black Friday colour scheme, making it difficult to see with the naked eye against the void, and hinting at its special operations mission profile.

In short, the jump range of the ship is little affected by changes in mass.

Inside we find a spacious yet functional design: typically Lakon. If your ship comes straight out of the dealership's forecourt, the first time you crack that airlock you will be treated to that characteristic new ship smell: I have no idea how Lakon have bottled that aroma. It's unique, distinct, intoxicating: a new Lakon ship.

The core of the ship allows the vessel an ample class 4 power plant, capable of delivering enough juice to power all your modules and fry the target of choice at the same time. Class 4 thrusters are standard, and some feel they are a bit of a let-down. This is where some of the negativity about the Asp S comes from. These drives are tuned to deliver maximum manoeuvring thrust over raw speed. As a result the Asp S does not achieve the speeds that many commanders feel it should, BUT it can turn on a pinhead, allowing this little ship to out-roll and out-pitch the infamous Fer-de-Lance!

Equipped with a class 4 FSD, it has an above-average jump capability, especially when engineered: though it doesn't rival the Asp or DiamondBack Explorers for stride. You wouldn't expect it to: it's a scout ship, not an explorer. Let's just clear this up now: Explorers have great jump range, but they need to travel light to achieve



Cockpit
Classic Lakon 'glass nose' allowing both pilot & copilot an unparalleled view, in 1 up / 1 down configuration

Ventral Hardpoints
Twin small weapon silos, located behind the 'glass nose'

Dorsal Hardpoints
Twin medium weapon silos, one each side of the cockpit

Pros

- Incredible manoeuvrability
- Fantastic viability
- Impressive jump range
- Class 5 internal bay

Cons

- Expensive
- Lackluster speed
- Light on utility points
- Only a 'standard' weapons payload



the best results: try loading your DBX or Asp X with a full weapons payload and watch that stride shrink. Not so with the Asp Scout: this little beauty can carry a full combat loadout and still expect to make 25 light year leaps. Once you mix in some engineering you can push this little monster up to just around 38 light years.

It can also scoop like a pro, filling its fuel tank without slowing down, and jumping again in seconds.

The ship's hull mass positions it at the low end of the mass / FSD curve. In short, the jump range of the ship is little affected by changes in mass: both stripped-down and fully-loaded Asp Scouts will jump almost the same distance. Stripped to the bones with a light weight exploration build I can get my Asp Scout up to just over 42 light years, that's only an extra 4 light years. A full combat loadout will only have a small impact on jump range.

Life support is a fairly stocky class 3, nothing unusual. The power distributor is also a class 4, making it possible to feed power hungry weapons and shielding: this is a light combat vessel after all. I have to admit that I find a class 3 distributor more than capable of delivering all the power I need. The class 4 sensors and class 4 fuel tank are both standard for ships of this size and nothing to write home about.

Let's take a look at the optional internals. This is not just a case of what the ship has available, but how the pilot should outfit it. The internal layout is physically very different from the DBX, but very similar in terms of bay specifications. A pair of class 2 bays: these are good for sensors of various types or an FSD Interdictor. A pair of class 3 bays: handy for cargo and SRV hangers. A single class 4, and a single class 5 bay. The combat pilots amongst you are going to get this wrong so bend your ear this way.

The temptation is to drop the biggest shield generator you can into the biggest slot you've got. That's the conventional wisdom. But hold up and look at the numbers for a moment, the difference between the class 4 and class 5 (A or bi-weave) is only 4MJ! So do the sensible thing and use the class 4 for the shield of your



■ The Asp Scout has beautiful sleek lines, and ample radiation shielding, perfect for slimming event the hottest stars



■ Touch the Void refitted as a planetary explorer, with a twin SRV bay, reach to head out to Wager's Reach

choice. That leaves the class 5 bay for your fuel scoop. The biggest issue I have found with smaller ships like the Cobra Mk3 or the DBX—both of which are competent exploration vessels—is the scoop rate limit of the 4A fuel scoop. The Asp Scout busts through the limitation. Not only is it fast in terms of jump range, but it can also scoop like a pro, filling its fuel tank without slowing down, and jumping again in seconds.

At this point in the conversation at the bar, usually my fellow Commanders look puzzled and ask: "so it's an explorer?" I have to roll my eyes and explain, "No, it's a hunter". Let's, for the sake of argument, imagine the following scenario: you are an explorer in your DBX, you can out-jump me in my Asp S by about 10 light years (less if carrying vehicle bays and or weapons), you also have a big fuel tank and you can make five or so max distance jumps before your ship gets thirsty. As for myself, in my Asp S, I don't have to slow down, for my gas tank is always full: I will catch you. And when I have caught you, the Asp S has the extreme manoeuvrability to ensure an advantageous firing position from its standard weapons payload.

For those of you with long memories, you may remember the old Asp Mk2, a military grade vessel produced by

The Asp Scout has the extreme manoeuvrability to ensure an advantageous firing position from its standard weapons payload.

Lakon back in 2878. Thanks to the miracle of 3d bio-printing and some memory implants (illegal in the Federation, but available in the Empire if you have the right credit balance), I can actually remember flying one of these ships. A small, manoeuvrable one-man fighter, with excellent jump range, but very limited weaponry: basically a military grade laser and a single missile. It was an excellent assassin. The Asp S is the spiritual successor to the Mk2.

Don't get me wrong, the Asp Scout is not a perfect ship; it has weaknesses. The internal fuel tanks are distributed through the hull wing structures and require a great deal of complex fuel line plumbing to feed the centrally located drives, in order to maintain continuity of supply under the intense G-forces caused by the ships' extreme manoeuvre envelope.



vs. Cobra Mk3

The Cobra is cheaper, faster and its off-the-forecourt basic model carries more cargo, but that is only because the basic Asp S model is sub-optimal in its configuration. Though the jump ranges are similar with the Asp S having a slight edge, its real advantage becomes apparent when you add extra weight to the frame: then the Cobra quickly loses its maneuverability and jump range.

vs. Diamondback Explorer

The Diamondback Explorer has a better jump range—the result of its larger FSD—but also noticeably poorer maneuverability. As standard the Asp S comes with better armour and shields, although a properly equipped DBX can narrow the gap. The only meaningful combat advantage it can be said to have lies in its single large hardpoint, allowing heavier weapons to be utilised. However, the increased mass of larger weapons and the supporting power plant and distributor dramatically cripple the DBX's jump range advantage, and the Asp's significantly better maneuverability ensures a prolonged firing solution, while denying the DBX's return fire.

vs. Viper Mk4

The Viper Mk4 has a justifiable reputation as a tank. These are durable ships beloved by security forces and bounty hunters alike, but why? The Asp S has better armour, better shielding, massively better maneuverability, and is only marginally out-performed in a sprint, while packing the same weapon loadout and more internal options.

This means that when you hit the boost button the pressure in the system makes it sound like you've just flushed the chem-toilet the moment before the burn kicks in. It's just something you're going to have to get used to.

The biggest issue I have with this ship is the limited number of utility slots: only two of them. Both Diamondback variants and the Asp X have four, and it's the only part of the ship where I really wish Lakon had spent a little more time at the design console. Typically I mount a wake scanner and a shield booster, but sometimes switch the latter for chaff.

The biggest whinge I get from the disbelieving Commanders round the bar is the cost. Yes the Asp Scout is expensive. It's 3.9 MCr for the showroom model, and you will easily spend double that to bring your modules up to 'A' grade. However, my fellow pilots are making mistaken comparisons against the likes of the DBS and DBX, which will set you back a mere 600 kCr and 1.6 MCr for the showroom models. The Asp S is a multi-role armed ship, great for black operations, planetary incursions, covert recovery operations and assassinations.

The Asp S out-maneuvres and out-jumps much larger ships.

As with many light combat vessels, the Asp S will burn up under sustained firepower. It lacks the raw speed of the Cobra Mk3, while carrying the same basic weapon loadout. So why not simply buy a Cobra Mk3? Everyone knows that Faulcon DeLacy keeps that ship at an artificially low price point to ensure market penetration. The Cobra is a very capable ship, and in many ways it is close in performance to the Asp S, but not quite. The only advantage the Cobra Mk3 has over the Asp S is its natural speed. In all other respects the Asp S is superior and the class 5 bay gives it a true flexibility.

The Asp S out-maneuvres and out-jumps much larger ships, and can easily kill such targets—provided that you avoid a head-to-head exchange of fire, boost past it and circle in neat behind. I guess it's down to piloting skill. 🌀

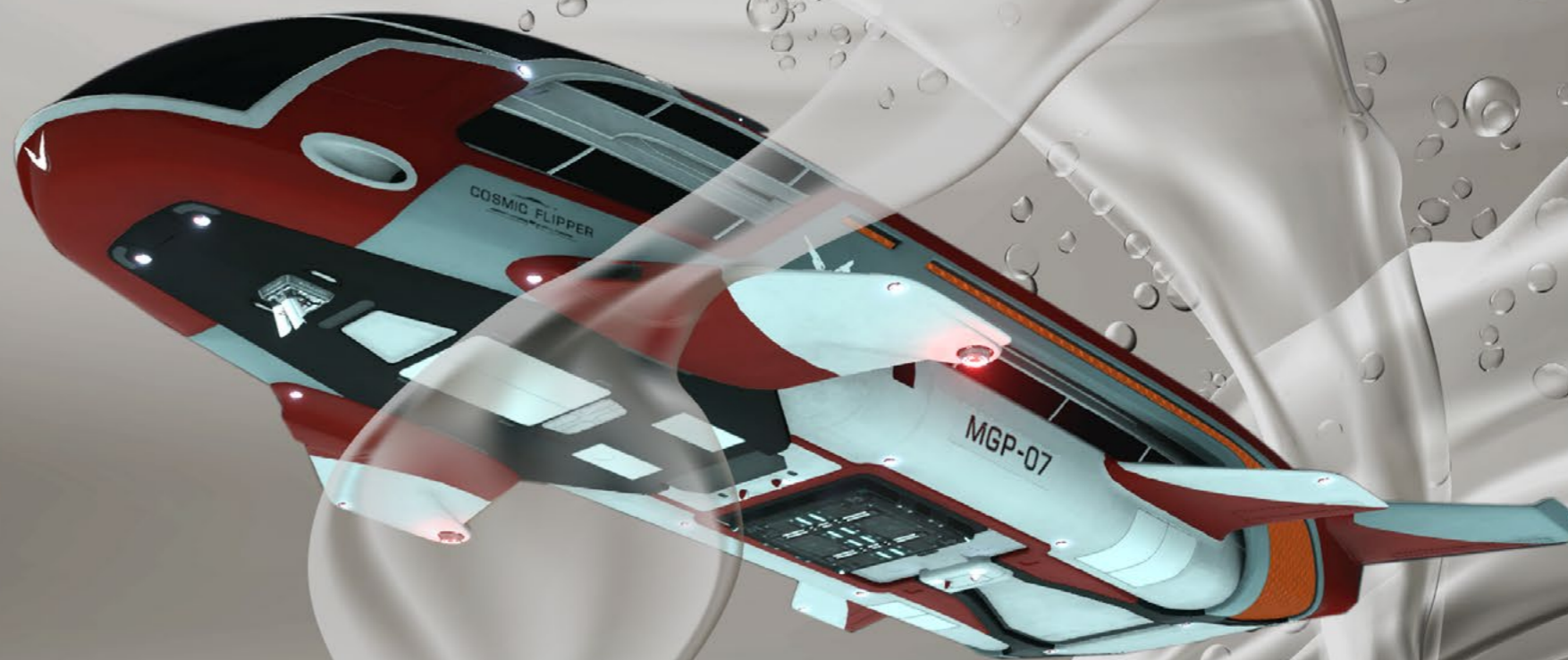
“ The Asp Scout is my choice for covert missions and black operations. ”

Ships you don't fly: Asp Scout

Text: McNicholl

Images: McNicholl, OrangePhoenix


Design: McNicholl



The Cosmic Flipper

For all the capable combat builds, there's always someone pushing the limits of an Eagle. For all the lightweight exploration ships, there's someone boosting the frame shift drive on a Type 7.

It was in this spirit that the *Cosmic Flipper* was created.



“As we keep reminding our customers, no ship from Cosmic Flipper Spaceways has ever been successfully interdicted.”

Rhea, a Federation bastion of democracy containing beautiful twin Earth worlds, is home to our next Hot Rodder. Commander Altsain is the proud owner of the *Cosmic Flipper*, owner of Cosmic Flipper Spaceways and enthusiast for customizing vessels in unique ways. With short black hair, a bright flight suit, and a curious expression behind her shades, Altsain matches her ship perfectly.

“I picked up a Dolphin because I hadn’t carried passengers before, and it is a very, very cheap introduction,” Altsain explains. “You just cannot go wrong for a 1.3m credits; and, fully kitted out, the Flipper is still barely 6m.”

Beginning her career as an independent tour operator, Commander Altsain quickly found that the low entry costs to her chosen career allowed her to start turning a profit quickly.

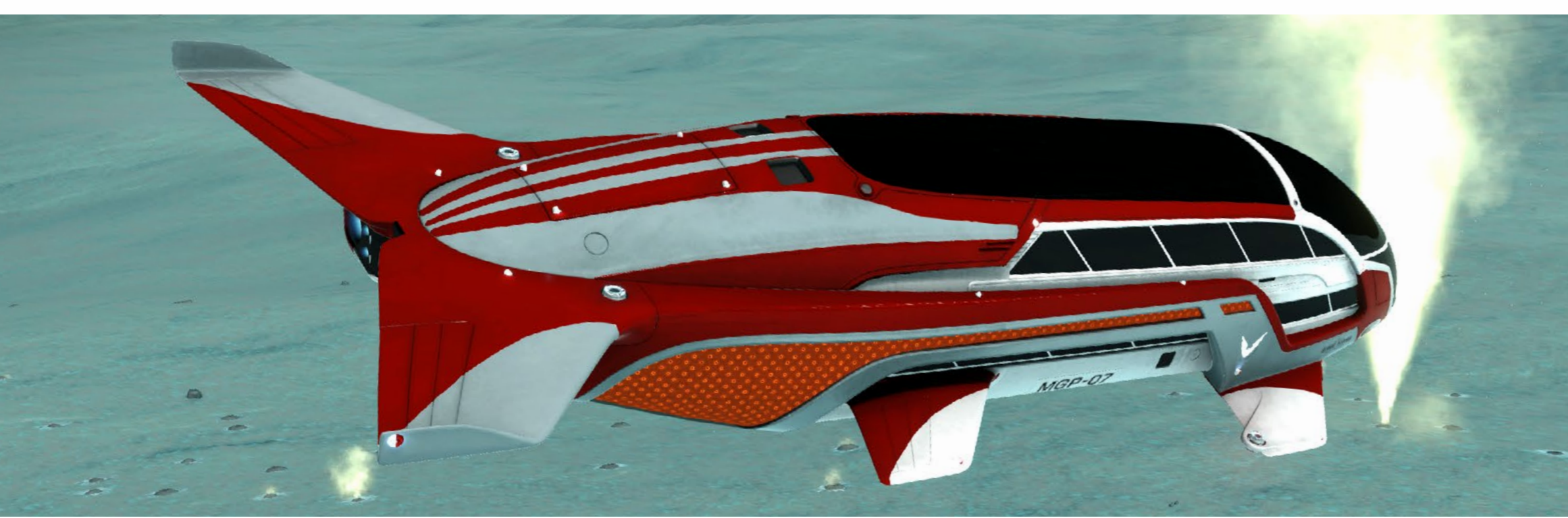
“The profits from the Dolphin have allowed Cosmic Flipper Tours to expand into Cosmic Flipper Spaceways, which now includes the *Princess Fufu*, a high-speed Orca, and the *Queen of the Stars*, a Beluga usually found on the Rhea to LQ Hydrae run. All three are among the top 1% of all liners out there, and our minimum standard is business class!”

However, despite their increased capacity, Altsain hasn’t found the larger acquisitions can match the *Cosmic Flipper* for sheer profitability. “Nothing else even comes close,” she asserts.

Altsain is garrulous when it comes to her business, and clearly keeps a shrewd eye on her fleet. She happily discusses the profitability of different ships and routes as she tops up your correspondent’s Rhea Brut. However, before long, the conversation turns to the unique Dolphin itself.

The *Cosmic Flipper* is a Dolphin-class ship from Saud Kruger, renowned manufacturers of super-luxury spacecraft. Their ships are the paragon of indulgence, preferred throughout the Galaxy for their unmatched ability to carry people in style and comfort. The Dolphin is the smallest vessel in their range and one underrepresented amongst the Pilots Federation. This one boasts a vibrant red livery—a marked departure from their usual spotless white.

Just what sets this Dolphin apart from other Dolphins? ▶



Top Speed:	361 m/s
Boost Speed:	506 m/s
Jump range:	37.99 ly (max)
Total Mass:	234 t
1C Lightweight Alloys	5C First Class Cabin
3A Power Plant	4D Business Class Cabin
5A Thrusters	4A Fuel Scoop
4A Frame Shift Drive	3D Shield Generator
4D Life support	1E Docking Computer
3D Power Distributor	1C DSS long range
3D Sensors	1C ADS long range

"The *Cosmic Flipper* is a simple sort of Dolphin," she explains. "She is built around a First- and Business-class cabin, but what the passengers don't know is that there is a serious as hell scientific suite right under their feet. While they are enjoying pretty ice worlds and ringed gas giants, the surface scanner and long-ranged advanced discovery scanner are gathering information which often earns more credits than the actual charter!"

Altsain recommends the Dolphin to anyone thinking of going exploring for the first time, citing not only its capability and flexibility, but that taking passengers will give an inexperienced pilot a reason to visit specific places outside of the core systems.

"Start with the 1,000 light year charters, and work up from there. You will have your name on planets and stars in no time!"

But this Dolphin is certainly equipped for more than that, having travelled more than 100,000 light years. Exquisite packaging of the sensors and optics is paired with an elegant set of modifications, batteries and boosters to the radio dishes and chemistry analyzers. The radio infrared spectrometers have received special attention and are carefully tuned to record valuable data from planets and stars from much further away than the standard twenty to sixty light seconds. The tweaks bear the indelible touch of Farseer Inc., which Altsain credits for the *Flipper's* "fighter-like agility". The modifications don't stop there.

“The *Cosmic Flipper* is armed with a full complement of ordnance that has never been deployed - not once.

"The detailed surface scanner is well-tuned, and can pick out a far-off gas giant while the *Cosmic Flipper* is basking next to a star, refueling. That greatly speeds up the process of exploration. The advanced discovery scanner cannot be modified, but the *Cosmic Flipper's* sensors have been stripped down for added lightness."

Having to both cater to its occupants with plumbing and luxuries, yet also cool and correctly power the impressive armament of scientific equipment, the *Flipper* is certainly capable. But its surprises don't stop there.

"There is a mine launcher, a point defence system and a chaff launcher... but none of them have ever been popped out of their hatches since purchase," Altsain chuckles. "As we keep reminding our customers, no ship from *Cosmic Flipper Spaceways* has ever been successfully interdicted. The *Cosmic Flipper* is too fast and too slippery to be caught!"

Altsain is rational and cautious, appropriate for the dual Elite rank quietly visible on her Station Services profile.

The *Cosmic Flipper* is armed with a full complement of ordnance that has never been deployed - not once.

The loadout is noticeably defensive, however, and the focus for the ship remains speed and luxury. One would expect this sort of range and maneuverability out of a dedicated Asp Explorer or a more maneuverable Diamondback Explorer—a comparison Altsain laughs at.

"I am fairly confident the *Cosmic Flipper* will out-manoeuvre both an Asp and a Diamondback!"

Scientific work is, for her, really more of a sideline—even if it does generate more revenue than the actual passengers. She has travelled more light years in the Dolphin than in her Asp Explorer.

Does she feel that this is an undervalued take on the Dolphin model?

"Even for the more experienced Commander, it is a good, solid craft that will earn its value back in a trip or two, and then set you onto riches thereafter," she emphasises. "It is the combination—price versus jump range versus agility. It can avoid anything in combat, leaving you free to explore the Galaxy while running a very profitable tour guide operation. Plus, the cockpit is just a really nice place to be".

It is this point that Altsain keeps coming back to: when the different facets of performance are balanced against

each other, and the cost of the ship, the Dolphin is hard to beat.

"Oh, and you cannot beat that boost sound. Kinda like a porpoise being fed into a blender backwards, and being really surprised about it," she finishes, smiling.

Commander Altsain has turned a Dolphin from a traditional passenger vessel into a blindingly fast, maneuverable, un-interdictable space explorer which just happens to carry luxury passengers into the depths of space. The *Cosmic Flipper* is a triumph of bold thinking, determination, engineering creativity and pride.

Toeing a fine line between insanity and innovation, some ship builds—ships that shouldn't be—are those that truly define their pilots.

Cosmic Flipper

Text: Alexander Sepulveda
Images: Altsain
Featured Hot Rodder: Altsain
Design: LexMoloch

FLIGHT ASSIST OFF: HEALTH RISK?

Scientists at the Centrifugal Mechanics Institute (CMI) in the system of van Maanen's Star released a shocking report this week, detailing the effects on the human body of space travel without use of the 'Flight Assist' (FA) system.

This system is designed to alter spaceships' flight profiles so as to resemble those of atmospheric craft. Many Commanders choose not to use this system, as they feel that the experience of flying 'FA off' is more authentic and allows them a greater degree of control. Vessels not using FA simply conform to natural laws of physics—in other words, when they are in motion, they continue that motion until the pilot manually brings them to a stop. This can make for challenging maneuvering, but offers a finer degree of control than the FA system does.


According to the CMI report, pilots who fly without FA are at risk for more than a scraped hull during a clumsy docking attempt. The report claims that pilots who forsake the benefits of FA, on average, live significantly shorter lives than those who keep the system activated at all times. The CMI claims that this shorter lifespan is due to the physical effects of FA off flying on the body, leading to nausea, bone structure decay and eventual death.

Not all members of the scientific community are convinced by the CMI's report. Hazel Articus, a former engineer at CMI and frequent critic of the organization, said,

"The statistically significant difference between the lifespans of pilots who fly FA off versus pilots who don't can be easily explained with that classic saying: correlation doesn't equal causation. Why do FA off pilots die at higher rates? Simply put, if someone wants to fly FA off, it's probably because they want to perform better in combat—and obviously, pilots who focus on combat are far more likely to wind up as space dust than your typical trader or miner. This is just one of many attempts by the Institute to spread disinformation about space travel and scare the citizens of van Maanen's Star into strict adherence to the repressive tenets of the Sublime Order, whose influence on the Institute is well-known. Such overt religious influence over a supposedly scientific organization is abominable and an affront to all who pursue truth and reason. Fear not, Commanders: Flight Assist Off will not kill you, though inexperience and slow reflexes may do the job just fine."

A spokesperson for the CMI released the following message in response to Miss Articus's statement:

"Obedience to the tenets of the Sublime Order is mandated by the sacred texts. Heretic Articus is a despicable liar who seeks to continue the oppression of the Order under the despicable Hutton Orbital Truckers. All members of the faith are encouraged to rise up against the filthy Truckers and all other heretics, and—for the sake of all things holy—do not fly with Flight Assist off!"

Following this exchange, the CMI removed its report from the public record. 

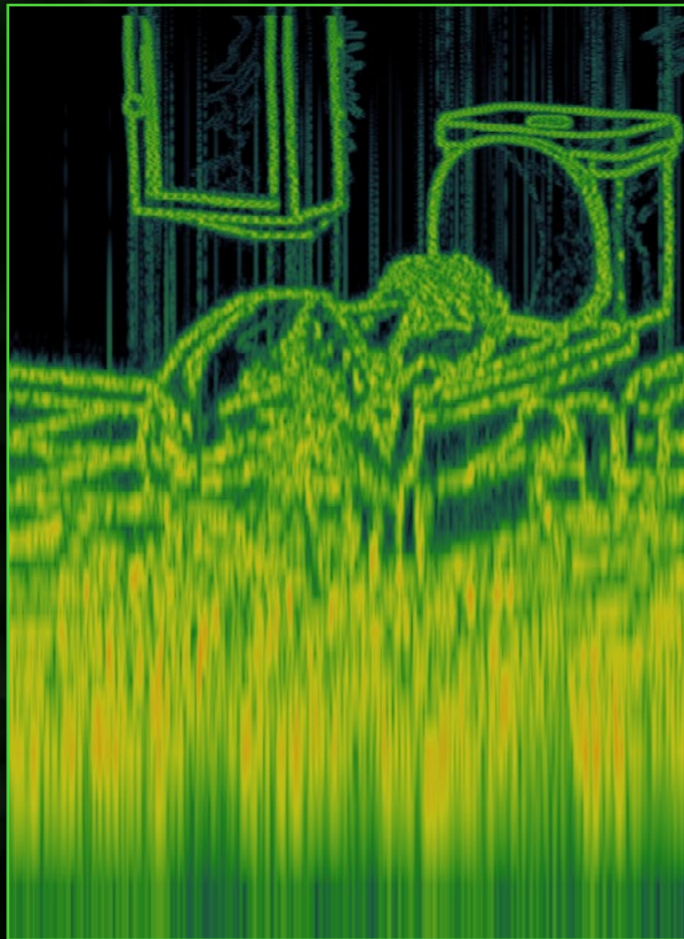
Flight Assist Off: Health Risk?

Text: Rasudin

Images: OrangePhoenix

Design: McNicholl

BUG DOWN BOOGIE



If you've been out for a meal recently in McHugh Terminal, Lalumaskab, you might have witnessed some of your fellow restaurant-goers acting in strange or unusual ways before being removed from the premises by medical crews.

That's because patrons at *The Spit and Skillet* have started to request that the infamous celebrity chef Gordo 'The Grilla' McKeane—owner of the restaurant—provide them with meals prepared from recovered Thargoid bio matter:

Ever since the war with the Thargoids started, people have been bringing me this meat, and recently some of the guys started asking if I had the stones to serve it up. I ain't getting called out like that in my place, so I gave 'em a plate full. Then, the dancin' happened, and now everyone wants a slice.

The 'dancing' to which Mr McKeane refers is a side effect of eating material taken from a Thargoid sensor. It would appear that the elements of the meat responsible for generating an electric charge are partially re-activated when mixed with stomach acid, disrupting the nervous system in sensitive diners, and short-circuiting medical implants in others.

Other side effects range from delirium, neurotoxic effects such as numbing of the face and tongue, and in one instance so far, the emission of a coded signal from someone's abdomen, [which resolved to a crude, live video feed of the person in question.](#)

Whilst no one has suffered any long-lasting ill effects from the consumption of Thargoid meat prepared at The Spit and Skillet, local authorities are under pressure to consider extending legislation against the sale and preparation of recovered Thargoid bio-technology, amidst public health concerns.

Until any such legislation is introduced, however, opinions are divided. Experts have warned members of the public to avoid taking part in the 'bug down boogie' craze, as it's been termed locally, whilst others view the experience as a nutritious, and fun, source of local entertainment.

Bug Down Boogie

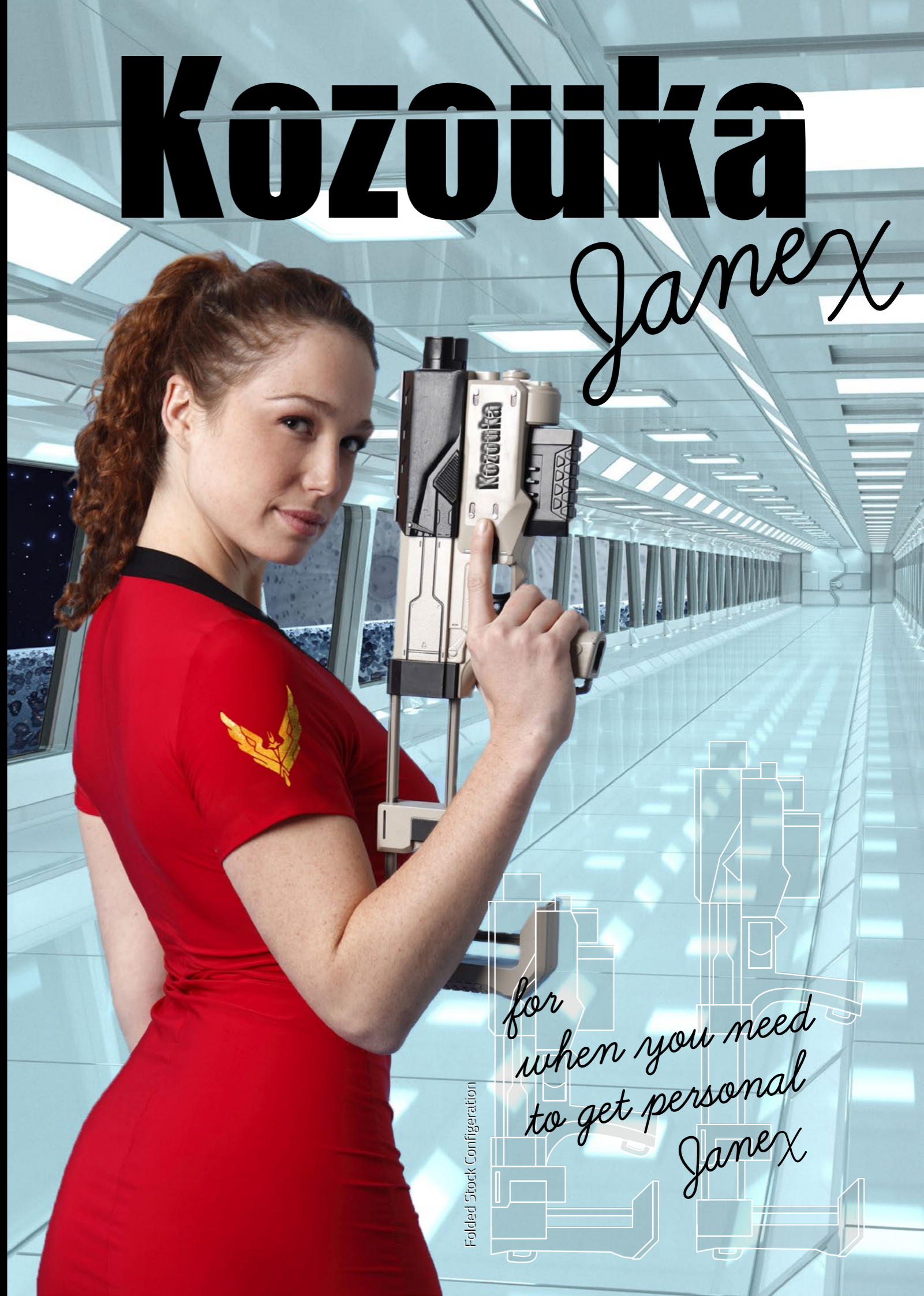
Text: DrNoesis

Art: DanIRW

Design: LexMoloch

Kozouka

Janex



Folded Stock Configuration

*for
when you need
to get personal
Janex*

CAN'T STAND THE HEAT?



get out of the bubble
COLONIA
bug free since 3302



PILOTS FEDERATION

MESSAGE BOARD

BECAUSE SOMETIMES THE OLD WAY IS THE BEST WAY

NEED TO GET A MESSAGE OUT THERE?
REACH THOUSANDS OF PILOTS VIA SAGITTARIUS EYE

Messages can be placed by contacting us via the website www.sagittarius-eye.com

ANNOUNCEMENTS



YOUR ULTIMATE
ENGINEERING
RESOURCE SITE
NEWLEVELS.ORG

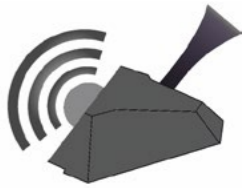
EDRefCard

Do you confuse your lights with your landing gear? Or maybe you've just splurged on a new HOTAS and are looking for a decent control set.

Either way, EDRefCard has your back!

Free reference card printout at participating terminals.

<https://edrefcard.info/>



BROADCAST COBRA

Community news, real stories, talk shows, and much more...

www.broadcastcobra.com
<https://discord.gg/vmxVnnpC>

Calling all dangerous sports fans and SRV enthusiasts!



Does the prospect of plummeting down a huge mountain at over 100m/s make your nether regions engorge with blood?

If you are the sort of person who asks not why, or how much? but simply where and when?

Then the Buckyball Racing Club have the place and time for you.

From the creators of "Total Recall" and "Kick the Alien", our next race "Falling with Style" will be taking place in the week commencing **19th May**, 15km above Smith Base in the **Beta Sculptoris** system.

Bring Iron, Nickel, courage and LOTS of SRVs!

Check www.buckyballracing.org.uk for details.

SAGITTARIUS EYE

we are looking for:

**VIDEO EDITORS
DESIGNERS**

Please visit:

www.sagittarius-eye.com/jobs/

PERSONAL

DESPERATE AND TIRED. Looking for passage to Pegasi Region. DJ Nanite has found my shipment of Fesh but to pick it up I've got to be there by the 21st. Please Help!

TOWEL STILL MISSING. Have you seen my towel? I can't travel without it, it's blue with wavy lines. I last saw it in a Bistro.

"He who loves money will not be satisfied with money, nor he who loves wealth with his income; this also is vanity." Our Brother Luke yet beseeches The Sons of Job. 23:34

DREAM-HANGOVER Multiple appearances in Dream-Ware have left me drained of soul. If you're feeling able to give time, space and non-commercial dream-time to a worn out ex-dreamer, mail me.

WHISPERING PLANTS appreciation society looking for new meeting rooms and members. Do you have a space to meet?

64 69 73 63 6f 76 65 72 65 64 20 6e 65 77 20 6c 6f 63 61 74 69 6f 6e 20 43 6c 65 76 65 20 56 69 73 69 6f 6e 20 46 75 73 61 6e 67 20 61 6c 65 72 74 20 73 79 73 74 65 6d 20 63 6f 6d 70 72 6f 6d 69 73 65 64

3-D CHESS Android with passion for puzzles needs similar with Ultra-logic upgrades to challenge for eternity. If you've never been beaten, log on and send your ten best opening moves. NO ORGANICS THANK YOU

AM I ALIVE? Tall blonde female seeking confirmation of status. Seeking companion to help get ahead in the software security industry. Meet me at Morgan Orbital, Ragnorak on the 25th April. I'll be wearing a red dress.

FEELING LUCKY? Me too. Mail me with your holo and we'll go gambling together in the Dens of loexho. I have the credits, this time, to make it work. All I need is someone to share the proceeds. Mail me your biggest risk. I'll show you mine if you'll show me yours...

CONSIDER THE OPTIONS and then choose me. Early third age human (seventy plus) with active sporting life, ardent skier, sub-aqua, sun-diving (when finances permit) and planet-hopping seeks similar to share the adventures. Holo with mail, please.

ANIMAL-LOVER with newly stocked earth-like planet seeks friend(s) to share the wonders of the wild life. Full technological assistance in watching/hunting. Limited numbers allowed to land. Most interesting mail and holo gets reply.

DOCTOR B. May I pass along my congratulations for your great interdimensional breakthrough. I am sure, in the miserable annals of the Earth, you will be duly enshrined.

COMPANY MAN seeking two lost wards. Worth millions to the right buyer, don't get too close. Somewhere on Burke Horizons, Arinack. If found call Special Projects on 5566754-A11

NOT SURE if I'm in the right place, might be. Could be looking for someone. If that's you, or not, meet me for drinks, or food, or nothing at Heisenberg Colony, Luhman 16

RETIREMENT community seeks starship captain for passenger/cargo run to Antares. Willing to work as crew in trade, younger than we seem. Discretion essential.

SEEKING LAB SPACE for experiements. Outside of regulated space essential, no questions asked. Contact H. West, Harris Hospital, Miola

WANTED - Genetically compatible partner to help explore the frontiers of science. Contact S. Brundle, Asaro Terminal, LHS 135. Quick response essential.

INFORMATION on the location of the starship 'Churchill' gratefully appreciated. Last seen in vicinity of Halley's Comet, Sol.

DO YOU COLLECT Old Gold Dreamware? Do you sleep night after night, running through the Golden Oldies, wallowing in nostalgia for the days when there was Only One Earth? Then we are meant for each other! Come share a dream with me...

CREATIVE ATTRACTIVE intelligent, intellectual with triple honours degree in multiple layer astronomy, ether-ware and marketing seeks stunningly attractive, willing counterpart to explore the galaxy.

WRITTEN OFF WRECK on the Outer Edge with ageing Cobra and no cash for a re-fit seeks someone with credit to fund one last trip beyond the Limits. If you want to go places no one has been before, mail me. I'll drive if you'll navigate.

IMPERIAL EAGLE



GUTAMAYA