

JUMP POINT

ISSUE: 07 03



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Editor: Ben Lesnick Copy Editor: Martin Driver
Layout: Graham Robinson

FROM THE COCKPIT

GREETINGS, CITIZENS!

There's nothing quite like the anticipation you feel when you know a new patch is within sensor range. As I write this, the team and the community are excitedly awaiting the first public test release of *Star Citizen* Alpha 3.5, which will again add features and experiences that we'll be enjoying and putting through the ringer together. For developers, it's a frantic rush to the finish line to make sure everything is ship shape and, for players, it's a bit like waiting for the weather to clear for an amphibious assault. In the coming days, the go signal will sound and *Star Citizen* will be one step more advanced. You already know that Alpha 3.5 is a big one with new missions, locations, and even a planet. So, for this month's feature, we decided to focus on a feature that's been a very long time coming: the female playable character and new face customization system.

I can't tell you how many times I've been asked when the female player model would be live. It has always been a difficult thing to explain to the public because, while the end result may seem like a very small (though massively significant!) change, the work that goes into making it possible is vast and touches so many parts of the game. We said time and again that it would happen when it made sense for development - how wonderful is it to finally have reached that point? We spoke to the artists and programmers to learn a little bit more about what went into the female character model and the customizable face technology, what it will allow you to do, and what it means for what comes next.

Our ship feature this month looks at the brand new Drake Corsair, which was revealed to the community last week. You will most likely remember the Corsair from the 2017 "Choose the Next Drake Ship" poll. We've already seen the other two options, the Vulture and Kraken, and while the Corsair placed third and last, I think everyone will be excited with what Paul Jones and Jim Martin have put together. The name excitingly brings to mind both the Pacific War's gull-winged Vought F4U Corsair and the French privateers that raided the high seas during the Age of Sail. Now let's see how the ship concept team put all that together into a spacecraft for the 30th century pirate... ah, I mean, independent operator. In all earnestness, it's a cool one!

I'd like to close by thanking everyone for their kind feedback on our last issue! It's extremely gratifying to hear that so many people enjoyed the addition of more in-universe features to **Jump Point**... though it comes as no surprise that others are as fond of the writing that our crack lore team puts out as I am. So, this month we've got a Whitley's article on the famed MISC Reliant and a "sponsored" look at Area18's IO-North Tower. And we hear you loud and clear: more lore! Trust me, you haven't seen the last of it.

Until next month, let's push the throttle to max and get ready to enter the **Jump Point**!

Ben

JumpPoint@cloudimperiumgames.com

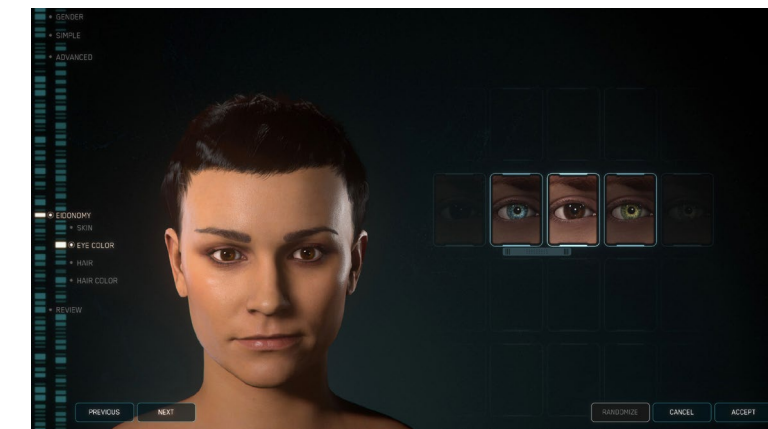
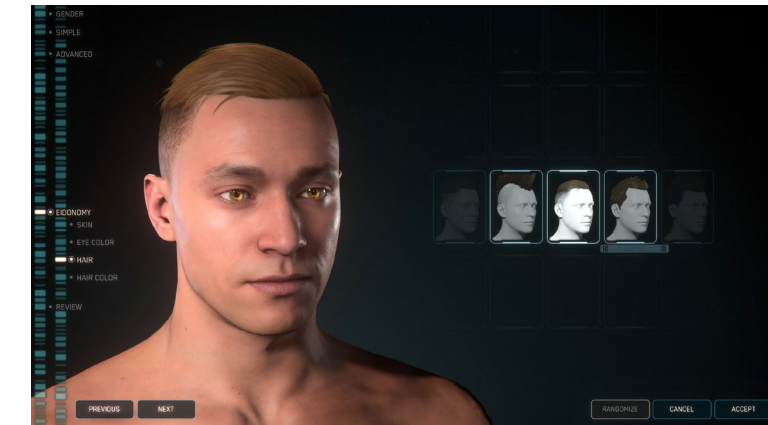


ALPHA 3.5 CHARACTER CUSTOMIZATION & FEMALE CHARACTER IMPLEMENTATION

Since the mid-90s, character customization has been in an ongoing battle to survive against increasing developments in multimedia. Over the years, this has meant a constant back-and-forth as new technologies are sometimes prioritized over pure freedom for players. Games that could easily let the player customize their character prioritized new developments like speech and full-motion video that required the player be locked into a particular appearance. At the same time, increased storage technologies have fought back against these restrictions with CD-ROMs, DVDs, and now the Cloud allowing more and more space for customization options. Today, those old limitations are out the window; the only limit is imagination.

Star Citizen Alpha 3.5 will feature the first iteration of the new character customization system and the long-awaited debut of the female character model. When they go live, it will be a culmination of thousands of hours of work on the part of *Star Citizen*'s art, programming, and design teams and the addition of features regularly requested by players for several years.

In the very first days of *Star Citizen*, the team shared early concept sketches of what was then called the "privateer" – an early composite of a civilian playable character intended to stand apart from the space-suited military hero of early *Squadron 42* material. In August 2013, the community met "old baldie," the hairless first iteration of a player character created to allow players to navigate the newly-launched hangar module. At this point, the game only consisted of a showcase of the original campaign ships to allow the community to share in some of the ongoing work before larger features like *Arena Commander* launched. Similarly, the first pass at a player character included no customization and was not as much an avatar as a well-animated COMING SOON sign. As *Star Citizen*'s world became more elaborate, the player character became more detailed and a show of what it would eventually be possible for players to create. The final jump would be the longest: from an ultra-detailed single character crafted by developers to the creation of in-game tools and assets to enable players to express themselves through their character's appearance.





Unlike features such as planetary generation, the scope of what was needed to allow players to create their own characters was known since day one. So, the long road to Alpha 3.5 has been less a process of developing new ideas as it has been a steady march to an inevitable outcome. Similarly, the need for a female avatar has always been apparent. This meant that every decision made up to Alpha 3.5 had taken it into consideration and that the systems premiering in the coming days aren't a matter of rewriting to allow for what is now possible, they're filling in areas already prepared for (in some cases, several years ago). Levels, clothing, armor, weapons, animations, and more were designed and built for wider character customization from the start and now, all that theory is going into practice. To say that the team is thrilled to deliver these essential building blocks of the *Star Citizen* world to the community would be an understatement!

The most significant challenge was developing a customization system that stands apart from others while still giving players the degree of control expected from *Star Citizen*. This first iteration of the tool asks you to select three pre-existing faces and then gives you the option to meticulously tinker with them until you've developed your desired appearance.

We spoke to lead designer Kirk Tome and character art director Josh Herman to learn more about the work that went into these upcoming features.

BEGIN TRANSMISSION →

Jump Point (JP): *What was the challenge in building these systems?*

Kirk Tome (KT): From a design standpoint, implementing an intuitive interface for controlling the various dynamic controls required to fully-customize the character's face was quite challenging, as there are two available avenues of customization. While the older, item-based choices are still available (selectable whole parts, such as hairstyle and eye/skin color, which we refer to as eidonomy), there is now an option to choose from up to three source heads per face region and adjust the topology from each to achieve the final look of the character. Incorporating this infinitely-customizable tech has been the most exciting part of updating the character customizer.

Josh Herman (JH): From an art standpoint, we've been making sure that we have a 1:1 line up of assets. We got there for the majority of Alpha 3.5, but the extra work of our item unification and facial customization meant we were not able to get *all* of our assets skinned in time for the release. The amount of content that we're working on has been, by far, the hardest challenge of getting this feature out.

JP: *When did work on these new systems begin?*

KT: While the eidonomy selection existed last year, work on implementing the underlying tech to the player and AI characters and updating the customizer to accommodate face customization started at the beginning of Q1 of this year.

JH: Art's work on this system began around 2½ years ago with the re-do of the female model. At that point, we were creating the modular character customization system for the male model and knew that whatever was going to work for that would also be required for the female iteration.

JP: What kind of technology did you need to build to make face customization work?

KT: We incorporated the underlying tech itself and completed the interface which allows the blending between the different regions of the source heads. We also worked on the persistency changes required to save those customizations and ensure they were transferred to all players in the PU.

JH: We didn't need to provide a lot of new art for facial customization, but we did have to spend a lot of time marking up assets to be compatible with our new systems.

JP: What will the experience be like for someone starting the game and customizing their character for the first time?

KT: The opportunity to customize the playable character is made available before the player enters the PU. We're still deciding where this can occur outside of the first entry (e.g. entering some type of physical kiosk/location) and if this happens, there's a fair bit of work

required to move the character customizer out of the front end and into the PU itself.

JP: What kind of customization options are you planning to include in this release?

KT: For Alpha 3.5.0, the player is able to choose from nine source heads (this is the current number, though it is subject to change) and a host of regions from which to push and pull topology. Our first-ever female characters are also available for everyone to customize in the same manner as the males.

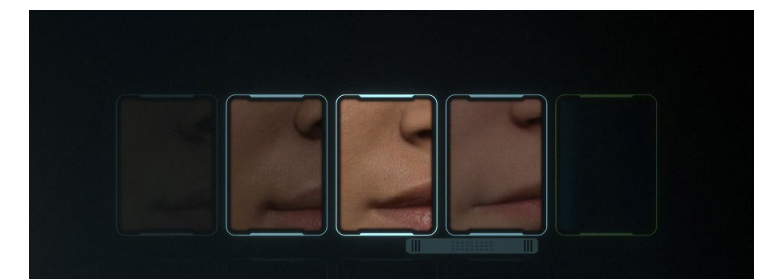
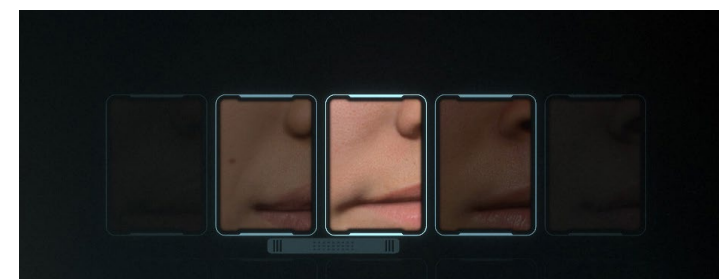
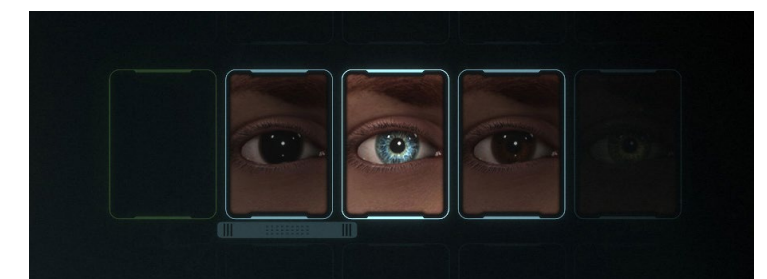
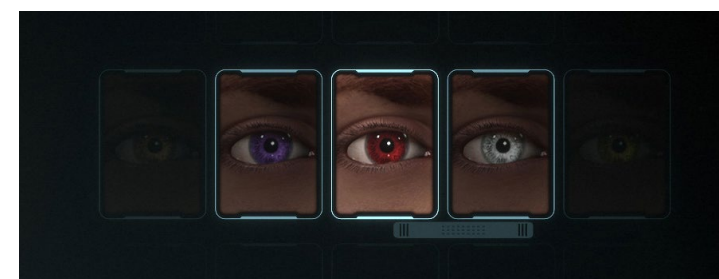
JH: The previous eidonomy choices of head shape, skin tone, hair style, hair color, and eye color are available, too.

JP: Do you have any long-term plans for customization?

KT: We have ideas and plans for age, body shape, scars, tattoos, and more. We have a lot of plans on how we want to finish this and are looking forward to getting another step closer.

JP: What kind of changes went into the game's design to allow a new body type?

KT: A new skeleton for the female model was required, along with an entirely new set of animations. A unification pass for all eidonomy





and clothing items was also completed so that the same level of customization is available for the female character as it is for the male. Finally (though perhaps not as excitingly), a number of under-the-hood changes were required to the inverse kinematics and camera positioning to enable the female character to properly complete actions like sitting, grabbing ship controls, looking from first-person, and holding and firing weapons.

JH: Nothing from the art side in the past couple of years. We showed our progress quite a while ago on the base model but creating the assets and unifying the items took a while.

JP: What kind of additional artwork went into adding the female character option to Star Citizen?

JH: From the art side, it was just a lot of additional content to make.

JP: Will existing clothing and armor be wearable by female characters or were you required to build new assets for the new body?

JH: Our goal has always been to make all of our assets 1:1. Some assets can be adjusted to fit the female shape, but if the change is too dramatic, it doesn't look right. In these cases, we start from the beginning of the pipeline.

JP: What will the artists be working on for the next release?

JH: More female clothing!

JP: What is the QA process for a customization system like?

KT: As soon as the art and animation assets were implemented, QA did a sweep of all the actions currently available in the PU. These included





getting into and flying ships, equipping and firing weapons, interacting with items in the environment, using heavily camera-dependent features such as mobiGlas and helmet-displayed first-person HUDs, and shopping for and equipping the clothing and items available for the female character. If issues were found, they were noted and fixed on a case-by-case basis.

JH: Yeah, they spent a lot of time going through all the options and playing with everything to make sure it all works. They verified that there were no major clipping issues and that, generally, most of the possible combinations look good together.

JP: Did you run into anything unexpected while developing these systems?

KT: One of the more interesting issues that we ran into was when we first implemented the female skeleton into the game. Due to a bug with the animation retargeting, we had a very Slenderman-like, impossibly-tall female character with tendril-like, footlong fingerlings running around the world. It was quite jarring, to say the least!

JH: Sometimes we see male assets showing up on females and vice

versa, but when you work in games you see that stuff all the time.

JP: Do you have any messages to a community that's eager to customize their characters?

KT: We hope that you not only enjoy the new customization options (you'll most likely never run into another character who is exactly like you), but also the freedom to choose to be a female character and the new array of items associated with this new choice!

JH: While it's not the final result just yet, we're happy to get this into your hands and give you more options for customizing your character.

END TRANSMISSION ←

Developers throughout the company are eager to see how the community receives these new features, how much variety this customization adds to the already-expansive 'verse, and what sort of creations players are able to generate.



WORK IN PROGRESS... DRAKE CORSAIR



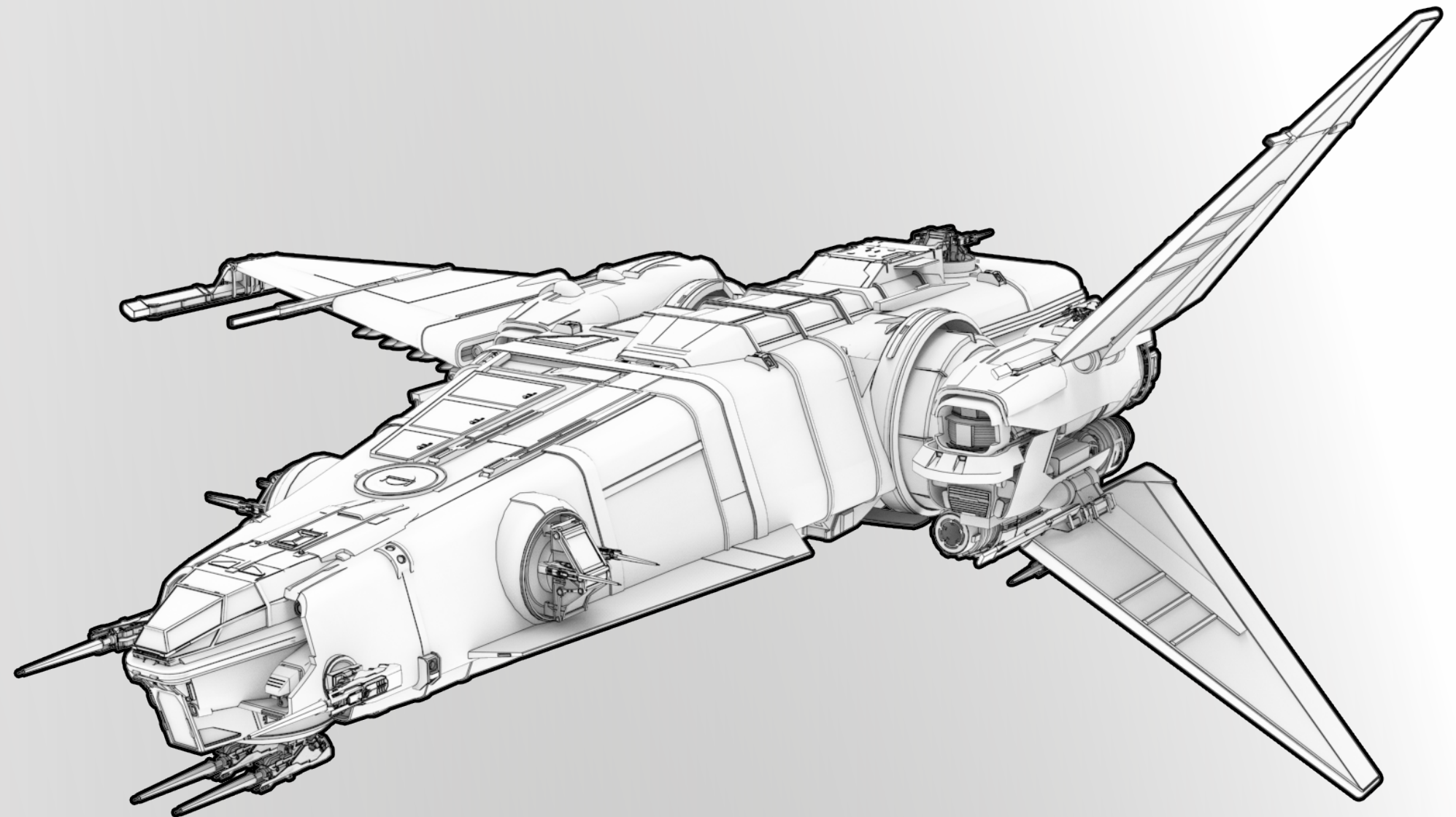
AIMS

- More firepower than competition, but not as well armored. Not as good in exploration as the Aquila but still equipped for it. Worse manoeuvrability.
- Turrets need to have limited arc. Remote turret aimed by the copilot, covering the rear. Manned turrets covering the sides (and bottom?).
- Rear ramp needs to let one Rover get in. Either cargo or vehicle like the Connie. 1 medium and 1 small computer.
- Similar to Connie in many ways (components, length, etc), but not in shape. Focused on exploration (facilities onboard etc), but aggressive at the same time.

AESTHETIC

- Typical Drake style: looks to not use the best technology or materials, double seat in the cockpit seen in Cutlass and Connie, kinda shady, etc

Length	55m
Width	56m (flight) 27m (landed)
Height	31m (landed) 11m (without wings)
Mass	TBC
Speed	TBC
Max Crew	4
Weapons	2 x S4 (S3 gimbal weapon) (port wing) 4 x S5 (S4 gimbal weapon) (nose)
Turrets	2 x Turrets (S2 guns) (side-coverage) 1 x Remote Turrets (S2 guns) (rear-coverage)
Missiles	4 x S4 Missile Rack (starboard wing) - 2 x S3 on each
Armor	1 x Medium
Jump Drive	1 x Medium
Quantum Drive	1 x Medium
Thrusters	2 x TBC (main) 12 x TBC (fixed maneuvering)
Power Plant	2 x Medium
Fuel Tanks	2 x Medium
Quantum Fuel Tank	2 x Medium
Counter Measures	Flare/Chaff Launcher



The vehicle depicted herein is undergoing concept and design as of the release of this publication. Specifications and appearance are subject to revision during development.

KEY CONTRIBUTORS :
 DESIGNERS: JOHN CREWE
 CONCEPT ART: JIM MARTIN, MICHAEL OBERSCHNEIDER
 ART DIRECTOR: PAUL JONES



FILLING OUT THE BALLOT

The ship that would eventually become the Corsair began life as part of *Star Citizen's* late 2017 "Choose the Next Drake Ship" poll, which was an opportunity for the community to pick from three broad concepts. The original promise was that the winner would go into development as a future concept ship and that the others would be shelved for future thought. The original public brief for "Code Name: Corsair" read:

MULTI-CREW DRAKE EXPLORER (CODE NAME: CORSAIR)

Drake's competitor to the Constellation - a rough and ready multi-crew explorer. Differs from the 600i by its crude, basic construction and from the Constellation by its lower missile count, though has a third turret to make up for it. Able to transport a vehicle and cargo (think extended/up-scaled Cutlass rear area). Faster and nimbler than the others, but like all Drake ships, pretty paper-thin.

The winner of the poll, the Vulture (44% of votes), was ultimately a surprise to the studio. But as promised, the Vulture went into development first and was followed shortly by what designers had considered the odds-on favorite, the Kraken (37% of votes). With only 19% of voters favoring the

Corsair, it seemed like it might not see the light of day any time soon, if at all. While the idea of a more traditional Drake ship occupying the space somewhere between the Cutlass and Caterpillar made sense, the lack of a major associated feature for the ship likely doomed it as a potential fan vote winner. Drake's competition for the Constellation would have to wait!

And wait it did, until late 2018 when the team began planning the assortment of ships to be released throughout 2019. With other career and industrial ships already in the works, it seemed like the right time to revisit the Drake Corsair concept. Designer John Crewe lead the charge to develop a more thorough brief derived from the original description offered to the community the previous year.

As with any ship designed to compete with existing models rather than introduce a new role or mechanic, the real challenge would be determining how Drake's offering would stand apart from Roberts Space Industries' (RSI) Constellation or the Origin 600i (with the former being considered its direct in-lore competition). Alongside the specifications

provided to the Art Team, the designers developed this addition to the initial description:

"Typical Drake style: Doesn't need the best technology or materials, double seat in the cockpit as seen in Cutlass and Connie, kinda shady. More firepower than the competition, but not as well armored. Not as good at pure exploration as the Aquila, but properly equipped for it. Less maneuverability. Turrets need to have limited arc. Remote turret aimed by the copilot, covering the rear. Manned turrets covering the sides (and bottom?). Rear ramp needs to allow one Rover access. Either cargo or vehicle like the Connie. One medium and one small computer. Similar to Connie in many ways (components, length, etc.) but not in shape. Overall focus on exploration (facilities onboard etc), but aggressive at the same time."

With the design specification in place, the ship moved quickly to the Art Team, with the intent to unveil it as one of the first ship concepts of 2019. Making the ship stand out from others in its class would be a challenge, as would making it recognizably Drake.

THE ART CHALLENGE

In cases where a ship is designed to compete with others of the same role, the true design challenge usually falls to the Concept Art Team, who must build a ship that performs similar functions but is visually distinct. In these situations, a ship's appearance can make or break it, as while some players choose ships based on a deep comparative analysis of specs, many form loyalties to particular brands or simply choose ships based on their appearance. Everyone involved knew that Drake-favoring players were underserved by the current lineup of multi-crew craft, so making one worthy of their passion became an important goal. While the Vulture was appealing because of the salvage mechanic and the Kraken scratched the itch of anyone who's ever wanted their own aircraft carrier, the Corsair would need to be Drake through and through.

To make sure that happened, Art Director Paul Jones tapped a very important resource: the father of the Drake look, concept artist Jim Martin. Martin is an experienced LA-based artist with a three-decade resume in television and film that would make any genre fan drool. His work includes everything from high-profile projects like the Morita rifles in *Starship Troopers* to the original design of Deep Space Nine's USS Defiant (with



cult favorites like *Space: Above and Beyond* strewn in-between). Martin had been among the first to answer the call when Chris Roberts was putting together the original *Star Citizen* pitch, lending his service to the creation of the Vanduul Scythe for the demo and the Drake Cutlass for the original campaign. Martin went on to develop the familiar Drake aesthetic, personally returning to concept the Caterpillar, Herald, and Buccaneer. Owing to scheduling and specific design needs, he had not taken the lead on the Vulture or Kraken. But for the Corsair, which was intended to be a core part of the overall Drake lineup, his touch would be invaluable.

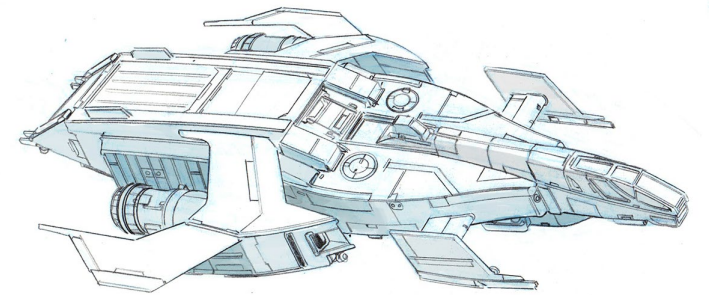
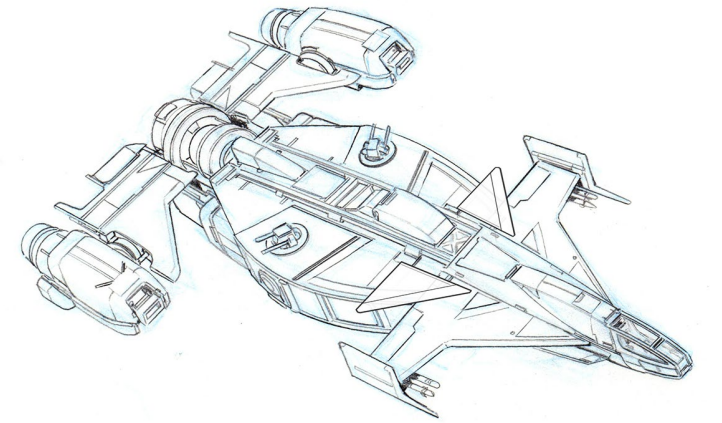
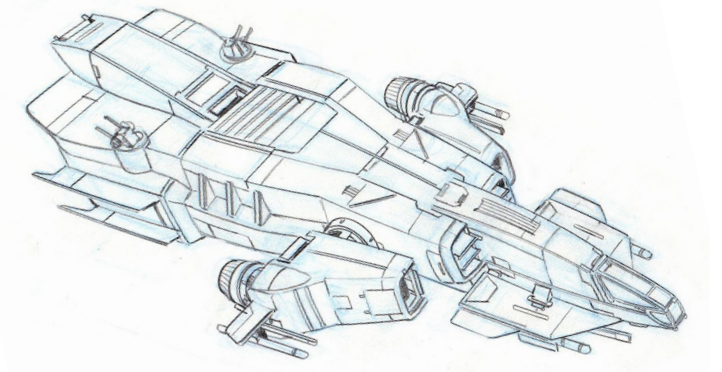
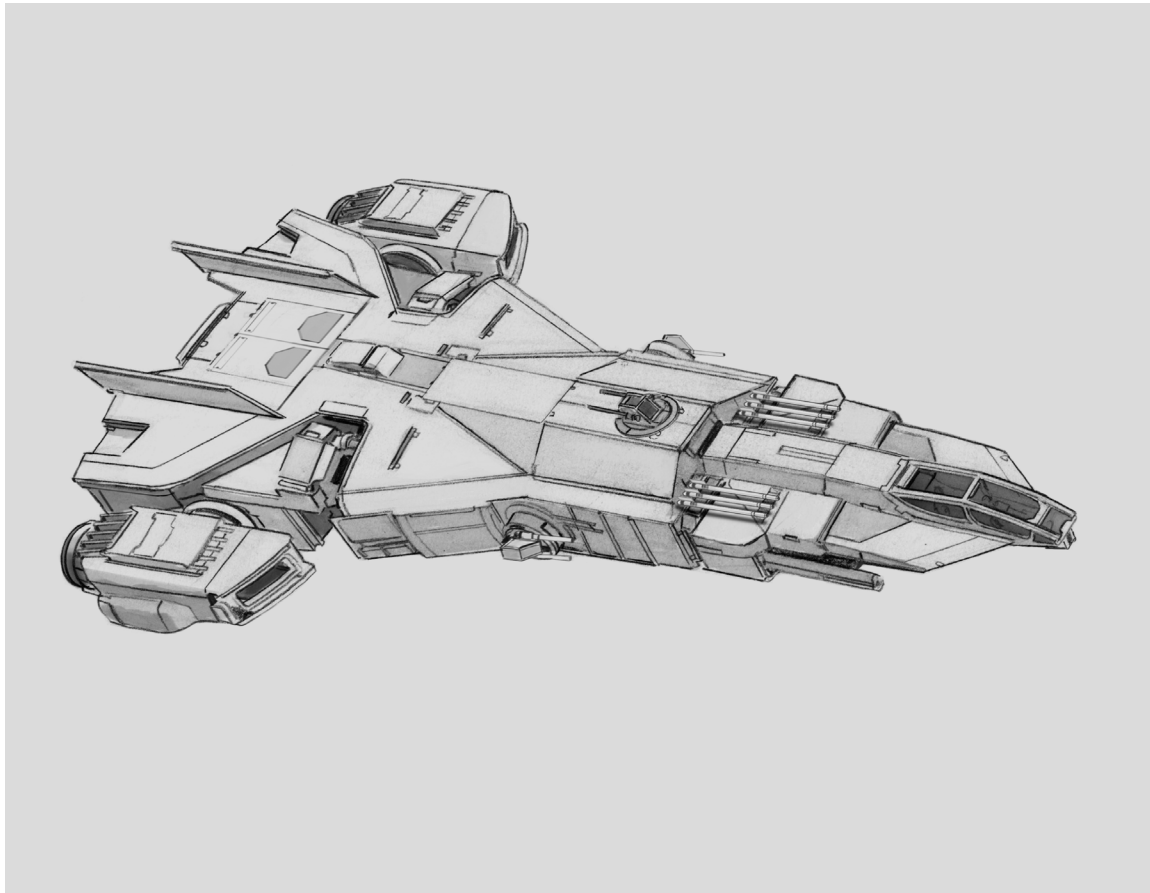
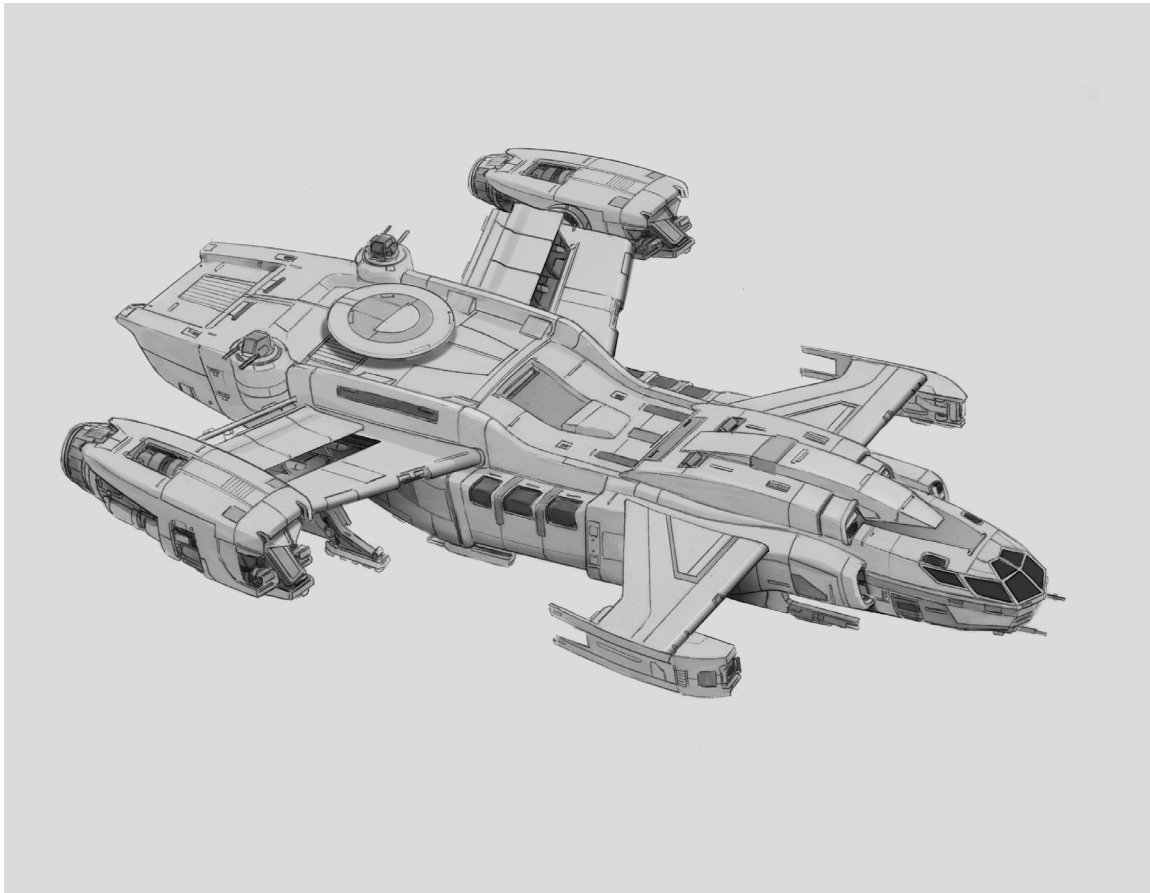
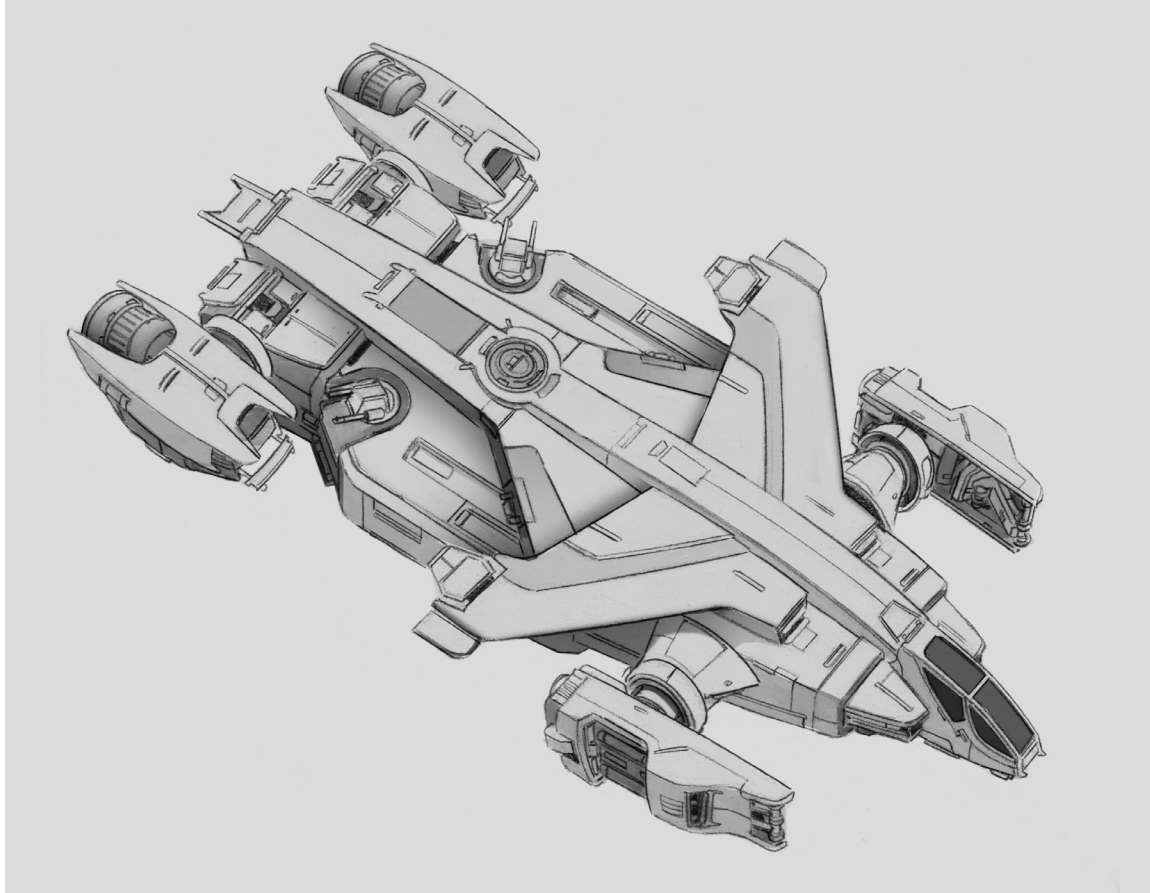
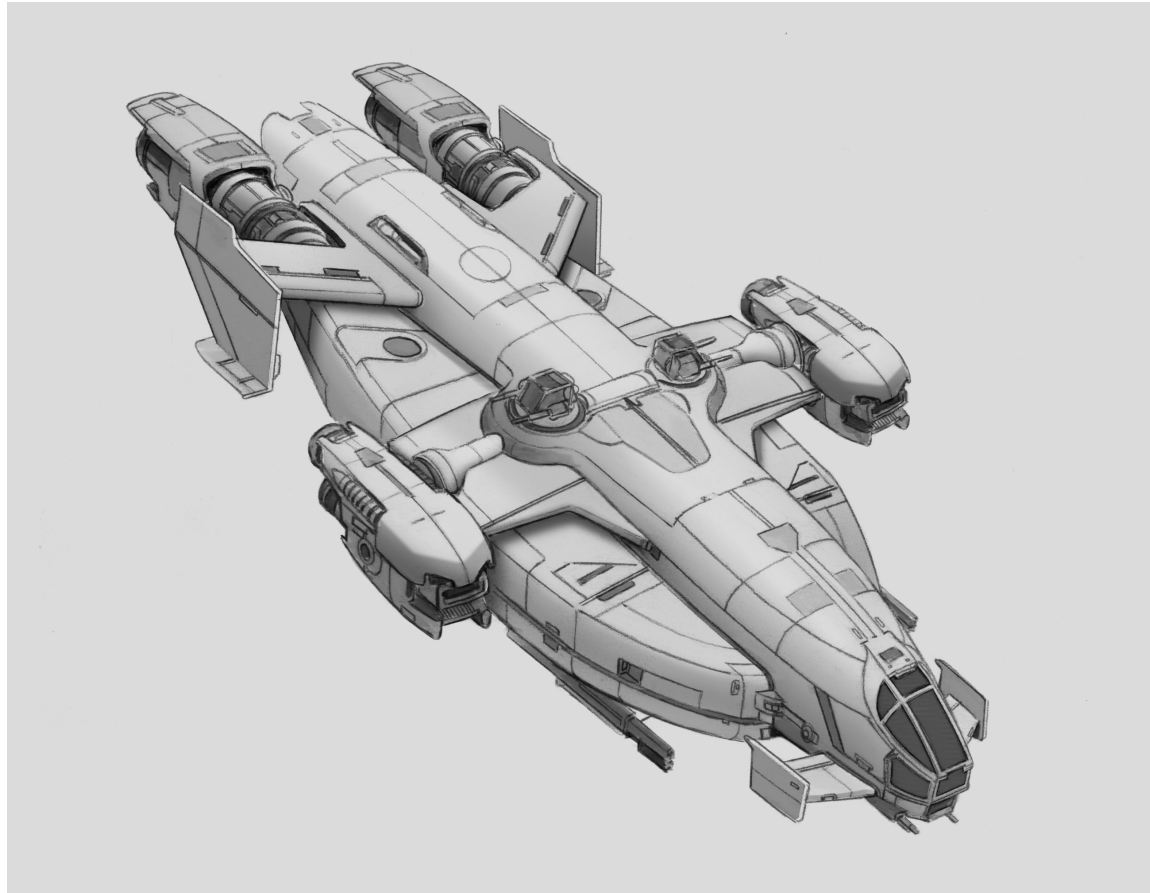
INITIAL CONCEPT

Paul Jones and Jim Martin began working on the design before the full specifications were completed, with the only direction being the brief that identified the Corsair as the “big brother of the Cutlass” and roughly equivalent in size to the RSI Constellation. This allowed extra time to

ramp up as Martin, an outsource who works remotely, had not worked on a *Star Citizen* ship in roughly a year. In that time, the Concept Team in the UK had standardized many practices and generally streamlined the process to create exactly what would best serve the developers integrating concepts into the game. Martin, who had not worked with Jones on previous ships, would need to spend some time adapting to the new processes and delivery requirements.

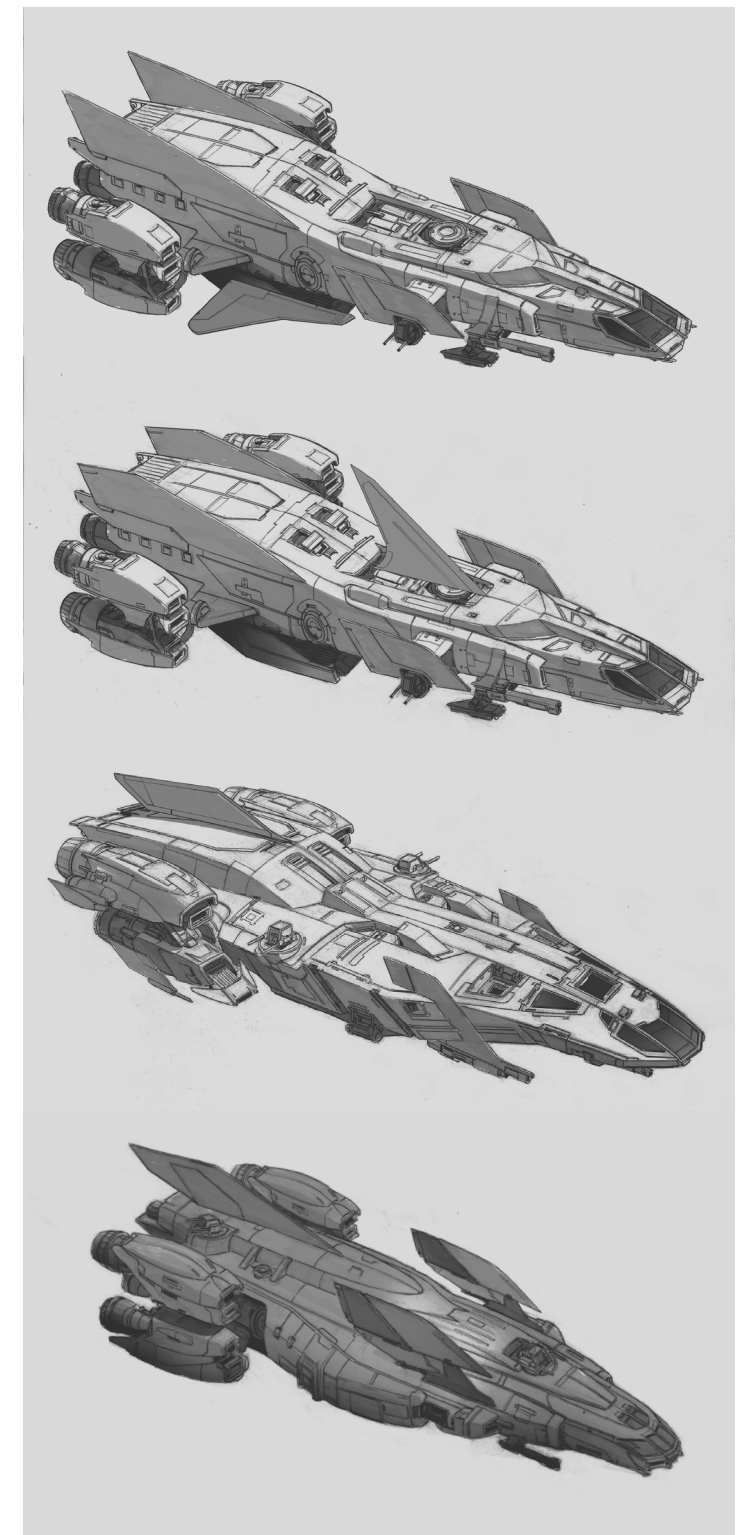
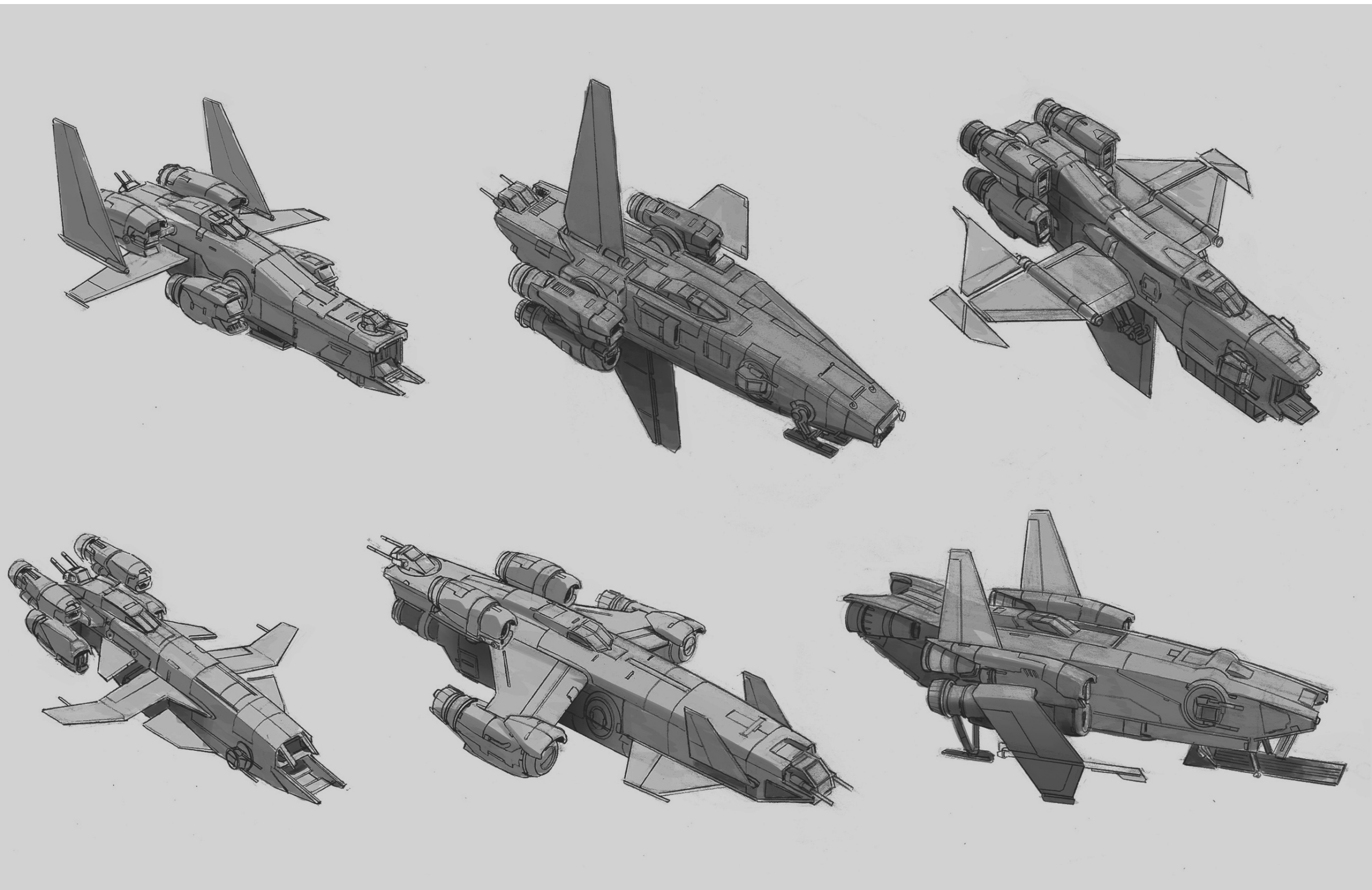
The Corsair’s already-selected name immediately brought to mind two different and potentially contradictory inspirations: the Vought F4U Corsair, a World War II fighter, and the seagoing French privateer/raiders of the Age of Sail. Both have ties directly to the piracy history associated with Drake Interplanetary, with the sailing ships being near-synonymous with piracy and the warbird being famously flown by the US Navy’s VF-61 squadron, the *Jolly Rogers*. Going in, the artists knew that both would likely require at least nods in the Corsair starship’s design.





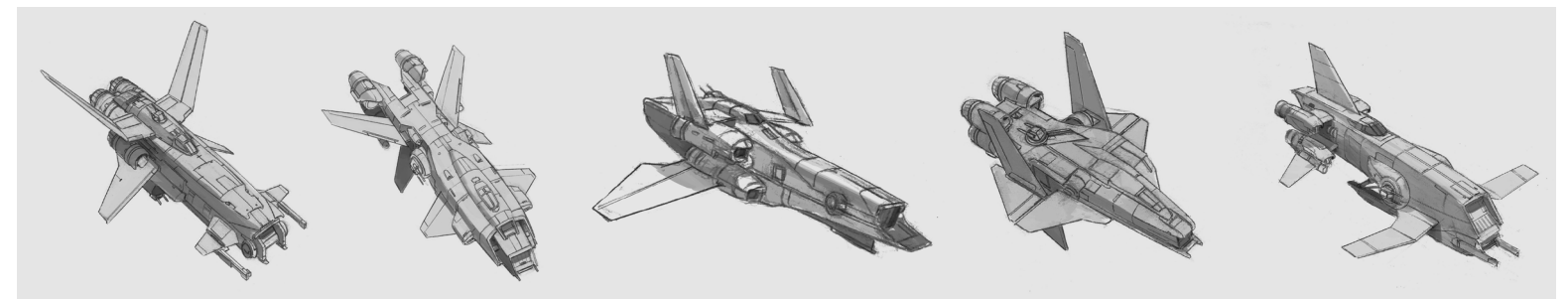
PUTTING PENCIL TO PAPER

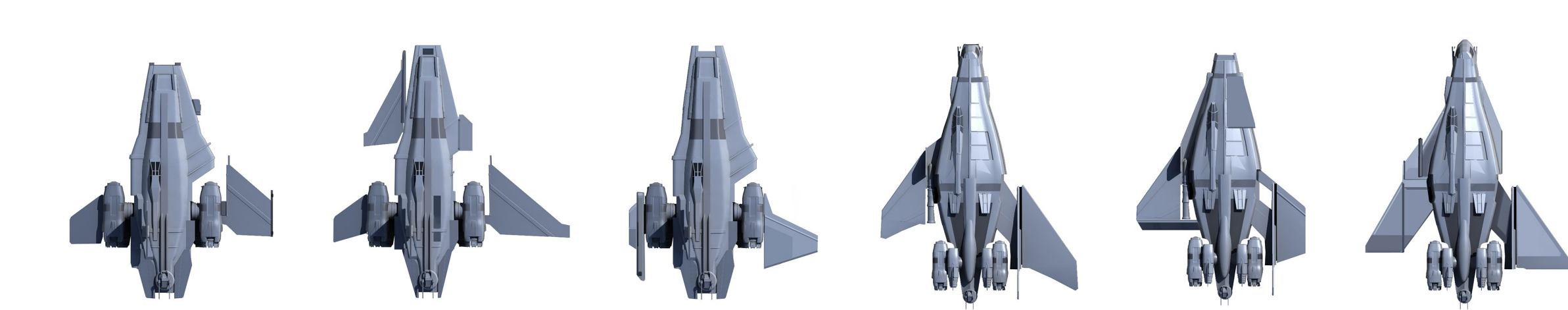
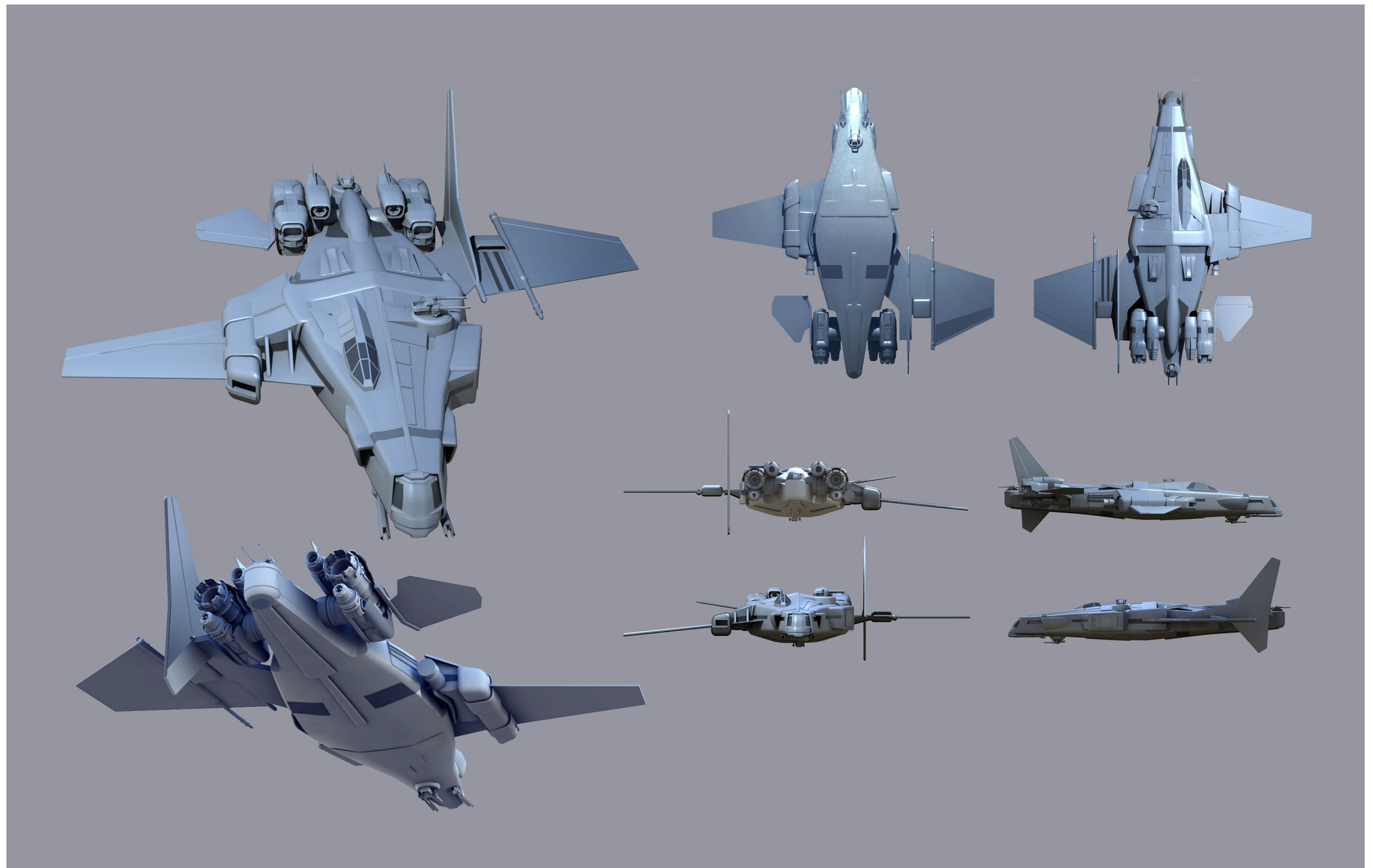
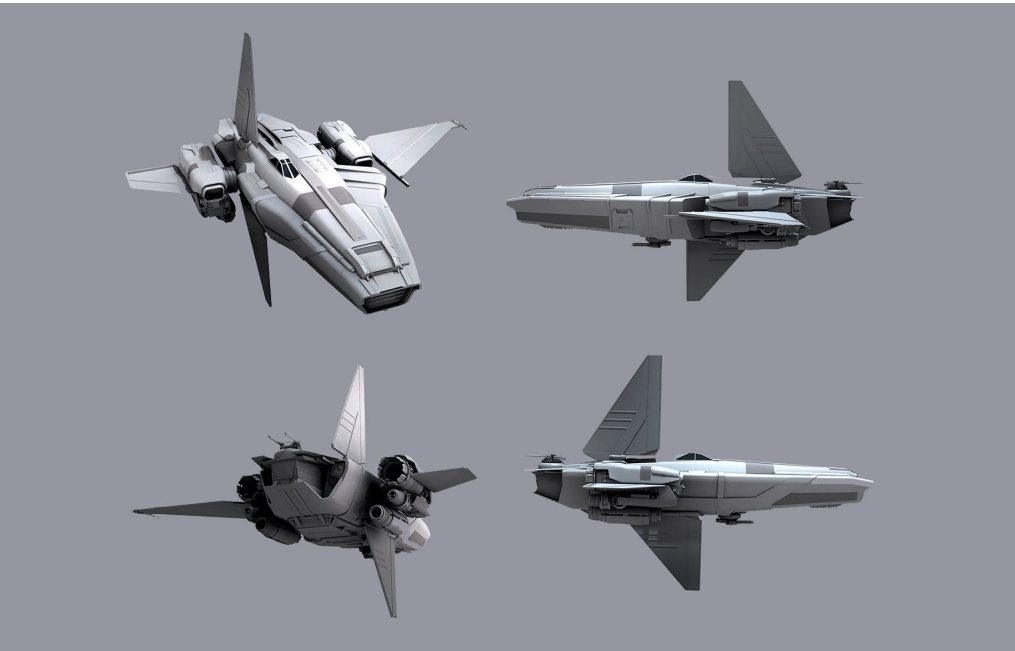
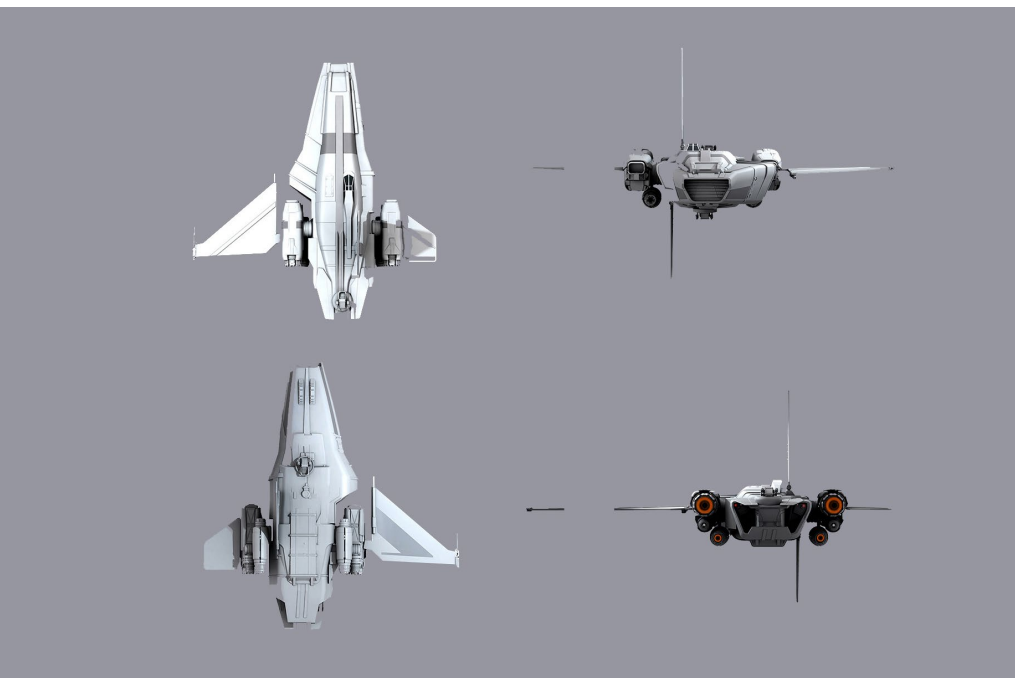
Something of a traditionalist, Martin prefers to begin the process with freehand pencil sketches on paper. Using the original Cutlass and the overall size of the Constellation as a base, he brought forth a fleet of potential 2D ships from his mind. Working back and forth with Paul, he settled on four potential candidates. Three were heavily influenced by the Cutlass, with the fourth being a significant departure. Jones preferred option one, which looked exactly as the first brief specified - a larger brother for the Cutlass. At this point in the process, the full specification was completed by the Design Team, with some significant differences from the rough version they had initially provided, including the removal of torpedoes which had at one point been considered to compensate for a reduction in gun size, turrets, computers, and cargo capacity. Chris Roberts' initial review of the four sketches offered an intriguing concept: what if the design dropped the forward fins and instead adapted larger rear wings to be "evocative of an old-school Corsair sailing ship?"



Jones began collecting additional reference material to start the team thinking about this sort of styling, including sailing ships and more high-tech ideas like solar sail concepts. Martin set about developing a new set of options around the sailing ship idea, focusing on attempting to include a top fin or a set of quad wings. To speed the process along, Jones developed several rough sketches himself and internal concept artist Michael Oberschneider experimented with several big-wing ideas based on the solar sail reference (and incorporated a folding wing reminiscent of the carrier plane Corsair). His concepts were largely

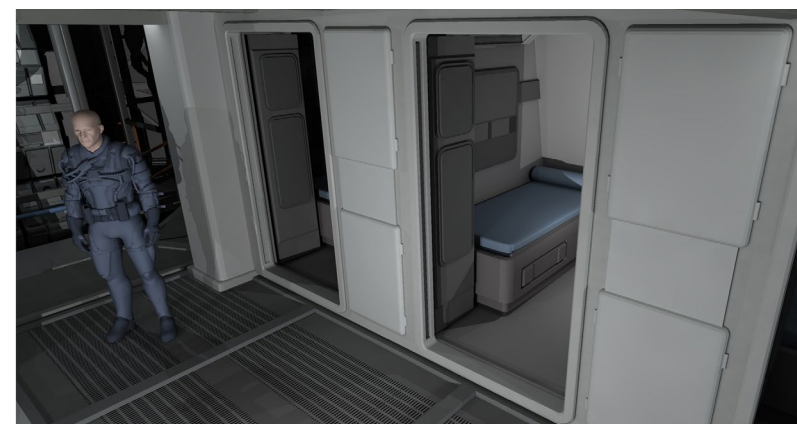
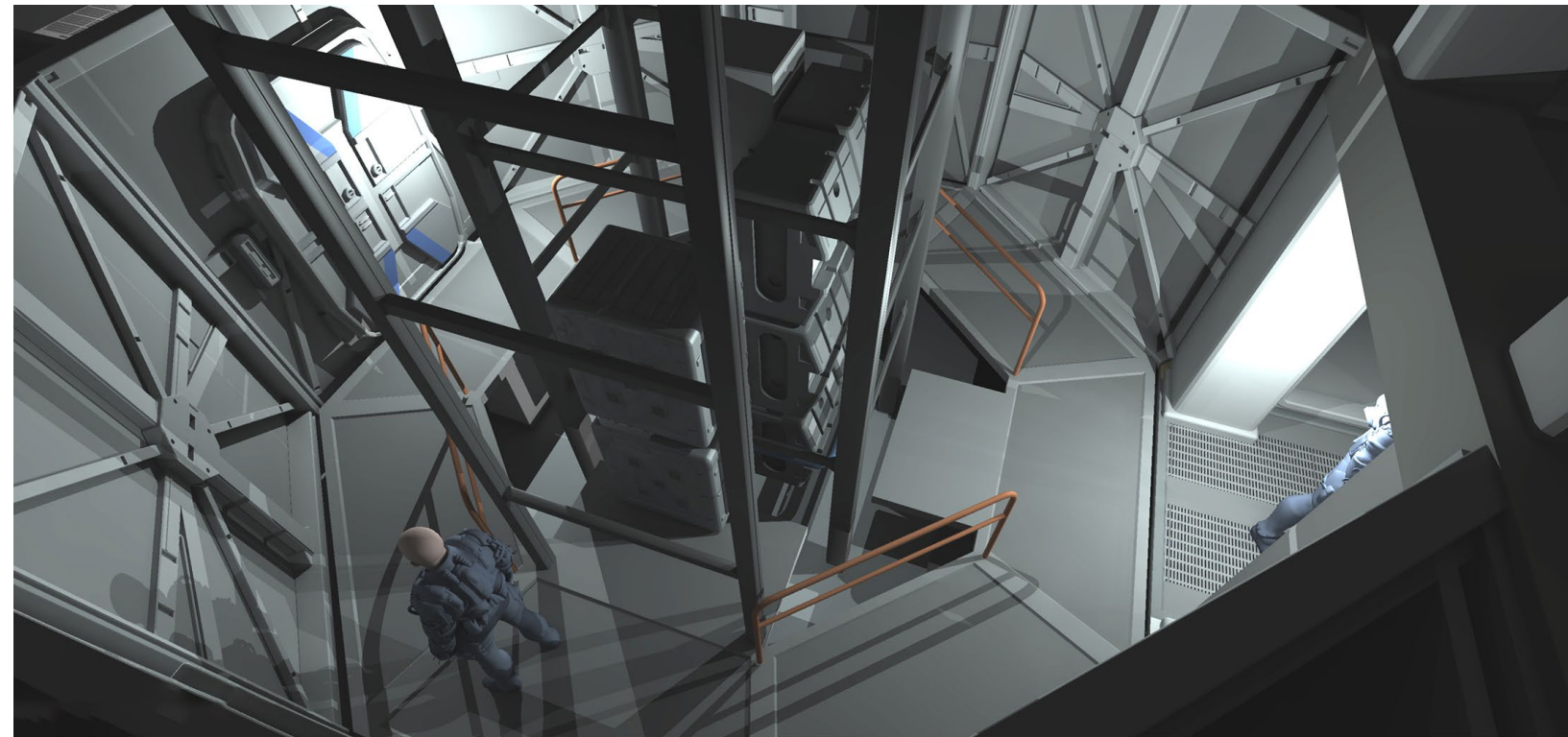
asymmetrical, with a favorite looking like a World War II flying bomb. Jones felt they were strong ideas but not necessarily right for the Corsair. With the overall concept still loose, Martin ultimately developed over a dozen additional sketches attempting to hit on the right shape language for the ship. Jones went ahead and shared these with Chris Roberts for additional input on the sail concept. Roberts quickly picked a favorite which featured a wedge-shaped hull and vertical fin. He suggested reducing the overall size of the fin and reworking the guns and landing gear, perhaps in the general direction of the Caterpillar.





For the next pass, Jones focused on the Caterpillar reference and worked out several kit-bashed models from Martin's sketches. With the overall shape finally coming into focus, Martin switched to 3D to further develop the ship, providing Jones and Roberts with six variants of the previous favorite with Roberts' notes addressed. Chris had two clear favorites and offered guidance on how to further adapt them: "I feel #3 gives more 'heft' and feels larger (good for a Connie competitor). I do like some of the silhouette from #1... but you need to figure out what happens to the fins when you're landing. Do they fold away? I like the tail of #1 with its back and engine cluster... we could explore the nose of #3, which looks like it has some windows, being a possible bridge." Chris also asked to see renderings from the bridge point of view so that they could understand the player's visibility.

Jones and Oberschneider took a pass with Martin's 3D mesh to adapt to some of Roberts' feedback. At this point, they hit on the Y-shaped wing concept by moving the cockpit forward and generally basing it on the command model seen on the Caterpillar. Jones added the first pass of the guns and thrusters following the specific rules now set forth by design to help speed up the process for a planned March release. The team also began looking at silhouettes and exterior renders from different angles: Would the ship look good flying away from you? How would it appear landed on a planet? How would it load and unload cargo? What kind of visibility would the turrets have? This stage began to answer all of these questions.



Meanwhile, Martin began the interior blockout, looking for visual hooks like crawl spaces to make the inside more interesting. Since his last ship, the team had developed a render kit that allowed concept artists to standardize a ship's interior with reference objects of proper heights, which he used effectively to create several cool layouts. Paul updated these with his own sketch and the Corsair's interior was on the right track. Here, they adapted Caterpillar interiors into the smaller confines of the Corsair and developed the idea of an interior component access point at the midship, somewhat similar to a Star Trek warp core. From this work, Martin developed an internal layout in 3D to help plot out more of the structure. With one final change from a manned chin turret to an unmanned remote turret at the bow, the Corsair was ready for its first formal review.



SMOOTH SAILING AHEAD

For the Corsair's formal review, Jones and Martin provided a variety of angles and dimensions showing the component and thruster placement and interior blockout. The overall look of the ship was received very well, with most feedback focusing on the interior. Chris Roberts asked that the rooms be more ordered, prompting Jones and Martin to remove the fourth crew cabin to increase the bed space of the other three. The lost room wasn't gone for good - it was moved to a free space towards the front of the ship and became the Captain's quarters. The artists also developed a unique system for the bridge, in which the ship's second chair drops down into the lower half (a change that will likely require additional animation). The next major focus was perfecting the look and feel of the interior. For the cargo space, Jones wanted a distinct visual feature and settled on a

pair of large circular bulkheads. They also reworked the side turrets, which at this point required an awkward slanted hallway to enter. With some maneuvering, they became accessible via short, straight corridors. Jones also took the opportunity to do one of his favorite parts of the ship concept process - working up additional conceptual liveries to show what the ship might look like with future customization. He developed concepts for black and yellow variants, though neither would be fleshed out for the unveiling.

The final pass to the exterior focused on reducing paneling contrasts and moving to a smoother hull with points of interest that naturally catch the eyes. The overall effect was a ship that felt smooth and new but that still featured the rough edges of a Drake design.



SHARING THE ADVENTURE

Finally, Jones and Martin began developing a series of promotional images to be used on the Corsair reveal page and in other documentation, along with the standard orthoimagery and holoviewer material that are built during the concept phase. The Marketing Department asked that the Corsair imagery share the “spirit of adventure,” and the concept artists delivered with gusto. The team developed a set of stunning images showing the Corsair both landed and in action. In one of Jones’ favorites, it’s shown navigating an icy asteroid field - an environment not yet used in ship concept work. Others showed it flying above a desert planet with guns blazing and landed with its wings up. One render showing the ship at a settlement at night-time nodded back to the F4U Corsair warbird, its wings folded like a plane on a carrier deck. With a few more nips and tucks to windows and hull plating, the Corsair was done and ready to show RSI and Origin that there would be some serious competition in the medium-sized multi-crew ship arena!

DRAKE CORSAIR PAGE:

<https://robertsspaceindustries.com/comm-link/citizens/16303-YOU-Pick-The-Next-Drake-Ship>





THE
MISC
RELIANT
LIGHT MULTI-ROLE FREIGHTER

DEVELOPMENT HISTORY

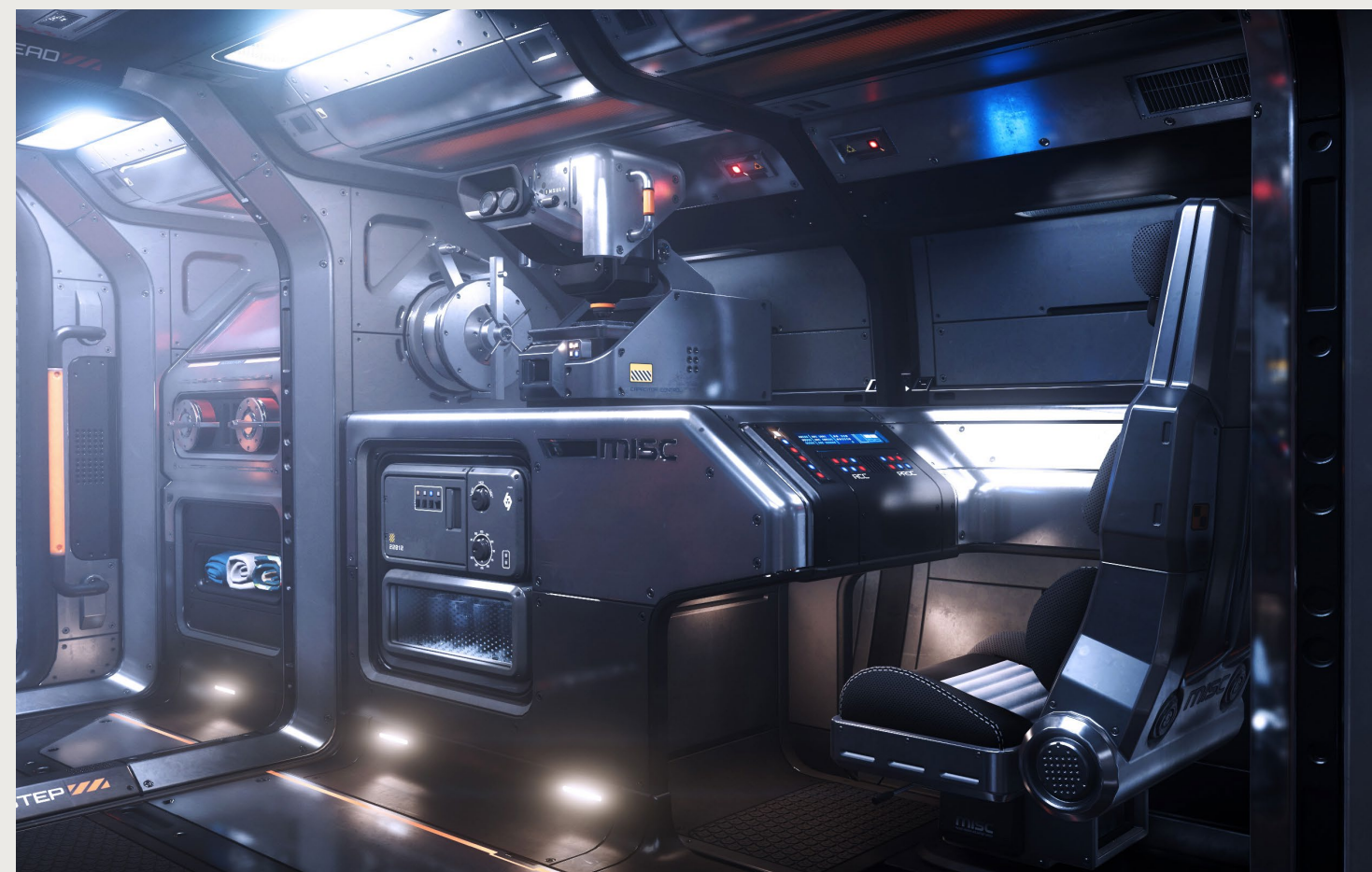


EARLY DEVELOPMENT

The Reliant light freighter and production variants are among the most successful spacecraft designs of the past decade. Although the model lineup debuted in 2946, the design's story begins in 2910 with a technology-sharing agreement between Musashi Industrial & Starflight Concern (MISC) and representatives of the Xi'an Empire. While the specific details of the Xi'an technology offered as part of the detail remain a trade secret, the ensuing debate over light spacecraft development at MISC is well documented. Prior to the agreement, MISC had primarily focused on its Heavy Industry division (MISC-HI), responsible for the Endeavor, Starfarer, and Hull series. The license of alien technology represented a major sea change intended to introduce smaller personal craft in the vein of Roberts Space Industries' (RSI) Aurora and its associated designs. MISC supported several internal pilot projects to determine what shape these new spacecraft would take, with the ultimate winner of the process being the design that became the ubiquitous Freelancer. However, the Freelancer was not the only project studied at this point. An alternative design, then identified as SHIP B, proposed a much more radical adaptation of Xi'an design aesthetics and flight configurations.

SHIP B's project leader was Dr Rico Norden, who had transferred from MISC-HI after a lengthy career shepherding the Hull C through several major design revisions. Norden was insistent that his design was the superior choice to help the company to stand out from the many new competitors in the arena. SHIP B featured a wide, movable "flying wing" design that was unlike anything built by humans at the time. In addition to the visual connection to the Xi'an technology the company hoped would put its spacecraft ahead of competitors, Norden argued that SHIP B's unique design would allow it to maximize cargo storage while permitting the use of smaller landing pads. The proposed design, he further argued, could even rely on traditional flight aerodynamics during emergencies when in atmospheric mode. Norden campaigned ceaselessly for his selection, calling in every favor he had earned in his long career as one of the company's senior engineers. His campaign was ultimately a failure: the executives instead decided on the more traditional Freelancer outline as their platform, intending to slowly ease the use of Xi'an technology and design mechanics into the human sphere rather than rush ahead with the potentially off-putting alien design language. Feeling humiliated from his failure to convince supporters of the value behind his design, Norden chose to transfer back to MISC-HI rather than work on the competing

DEVELOPMENT HISTORY



design. After another failed attempt to revive the wing design on a larger scale, he retired the following year.

A quarter-century later, MISC was in an enviable position: the technology lease agreement with the Xi'an had continued successfully, there was a steady call for HI ships, and the Freelancer had been established as trusted spacecraft for hauling, exploration, and more. With a steady flow of capital, the company had a newfound desire to further encroach on RSI's everyday spacecraft. The team quickly decided that the climate had changed in two-plus decades and that there was a call for spacecraft that stood out and embraced alien design elements. Working from the original SHIP B development work, the newly-titled Reliant Team developed a smaller version of the original flying wing freighter intended to appeal to independent pilots starting their careers. Though an unusual silhouette, the design was extremely modular, with the development of four different variants happening almost simultaneously. The Reliant program began in 2942 and concluded with the premiere of the first production prototype in a ceremony on Saisei in 2944.

Initial development proceeded rapidly thanks to existing work on aerodynamics and results from early jump tunnel studies for SHIP B. MISC's deal with the Xi'an government had continued to expand over the preceding two decades, allowing more innovations to be included than were integrated into the original Freelancer or planned for SHIP B. The first prototype successfully left the atmosphere in April 2945. The

process was surprisingly flawless for a ship that would have multiple flight modes and such a wide variety of intended roles, with development only slowing during component integration due to transponder issues stemming from the need to protect a shorter, wider ship than off the shelf technology had been intended for. These and a limited number of teething issues relating to the spacecraft flight mode transitions were resolved successfully and the Reliant continued to hit milestones until its formal reveal the following year. Guest of honor at the 2945 product launch ceremony was Dr Norden who, in his retirement, had been fully unaware that his cherished vision of a wing-based freighter was finally coming to fruition. Tears in his eyes, Norden witnessed in awe as the descendant of SHIP B came into view.

VARIANTS

After an additional period of space-worthiness testing and formal certification of the production prototype, MISC would go on to formally launch the Reliant as part of their 2946 lineup, offering all four of the variants developed during the research period. The initial prototype would form the basis of the Reliant Kore, which MISC would premiere as a "mini-hauler" (referring to its smaller stature than the Hull line). Owing to its unique silhouette, the Reliant Kore could store more standardized cargo pallets than similarly-sized spacecraft - an appealing option for smaller enterprises or private crews just starting their careers. The hope was to present the Reliant not as another alien oddity, but more as something

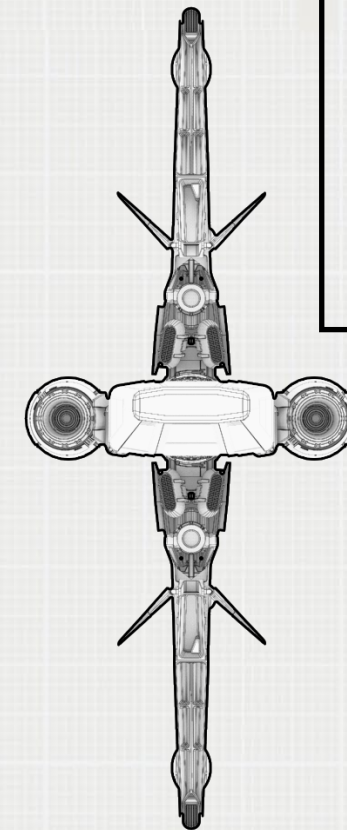
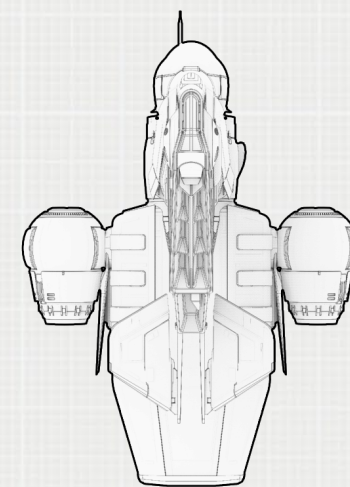
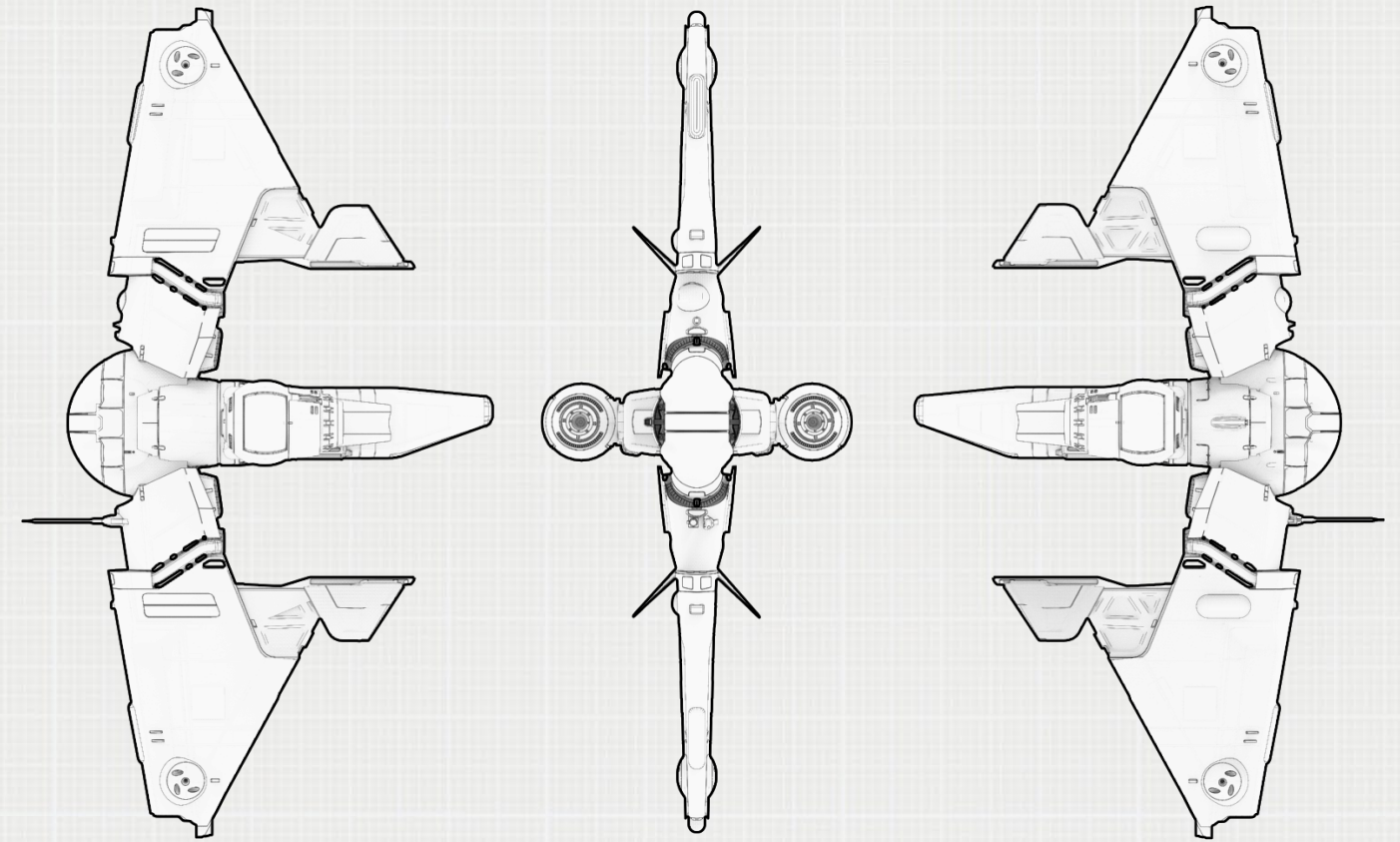


representing the next evolution of human industry; something the company would go on to repeat throughout the design's rollout period. Owing to the overall development timeline, each initial variant would share the same chassis as the Kore. To develop the remaining three variants (a number determined by the available production lines at the time), MISC created three focus teams tasked with looking for 'holes' in available spacecraft lineups to try and create unique variants to fulfill these niches. The teams focused on reviewing high volumes of news stories and interviewed existing ship crews to determine where they found the experience lacking:

- The easiest to determine was the **Tana**, a military-focused model intended for remote frontier garrisons unable to operate top-of-the-line Anvil or Aegis hardware. The focus team concluded such locations would benefit from a ship that would double as an interceptor for fending off raiders and as a low-level hauler.
- The **Sen** was created in response to interviews with Endeavor science crews who professed a need for smaller, more maneuverable support craft that could be fitted with specialty hardware for outbound scientific operations.
- The final version was the most unexpected: the **Mako** was intended for news organizations broadcasting from space. The need for the Mako was determined by a lengthy review of spectrum broadcasts that identified

the low-quality video from combat incidents and the significant increase of such incidents in the first place.

For the Reliant's formal rollout, MISC opted to avoid marketing the Xi'an connection or the similarity between its flight modes to those of the Khartu-al. Instead, the company opted to follow in the footsteps of its highly-successful "Built for Life" campaign and position the Reliant as a working spacecraft. To promote this, the company wrote off a production run of ships and donated them to various companies and professionals, each accompanied by a documentary film crew. Four Kore haulers were offered to a pair of companies seeking financing for short-term shipping routes, a pair of Makos were donated to the top two major broadcasters on Terra, a Sen was dispatched as part of a solar corona survey expedition, and a half-squadron of Tana was given to a group of colonists preparing to settle a frontier moon (the location of which was unidentified in the marketing). As the donated ships made news wherever they went (and in some cases broadcast that news themselves), the net impact was impressive, giving the public the sense that these new spacecraft were suddenly everywhere. MISC dealerships were flooded with requests for more information and the Reliant quickly became the company's most successful original spacecraft launch. By the second model year, the Reliant had settled in as one of the company's most desired models - no small task for the ship that followed the famed Freelancer.



RELIANT	
MANUFACTURER	MISC
MAXIMUM CREW	2
MASS	38,566 KG
LENGTH	14.5M
HEIGHT	4M (LANDED)
WIDTH	28.5M (LANDED)
ROLES	KORE - COURIER MAKO - INFORMATION SEN - SCIENCE TANA - LIGHT FIGHTER



10 NORTH TOWER

An Incredible View of the Future

Ghanim Hayward stares across ArcCorp from his office in 10-North Tower. Self-tinting windows adjust to the setting sun as he soaks up the incredible sight. Skyscrapers kiss the sky, rising above the urban sprawl that stretches as far as the eye can see. A steady flow of ships stream to and from Riker Memorial spaceport, appearing like torch beetles against the darkening sky. Experienced travelers claim the only comparable vistas in the universe are found on Xi'an factory planets, making ArcCorp unique within the UEE.

The most exciting part? This unforgettable vantage can now be yours. Considered one of ArcCorp's premier business parks, 10-North Tower is proud to offer you the opportunity to lease one of these exclusive offices at a rate complimentary to your price point. Not only will the accompanying vistas impress your clients, the amenities available within the building and nearby Area 18 will ensure your employees are happy and eager to work.

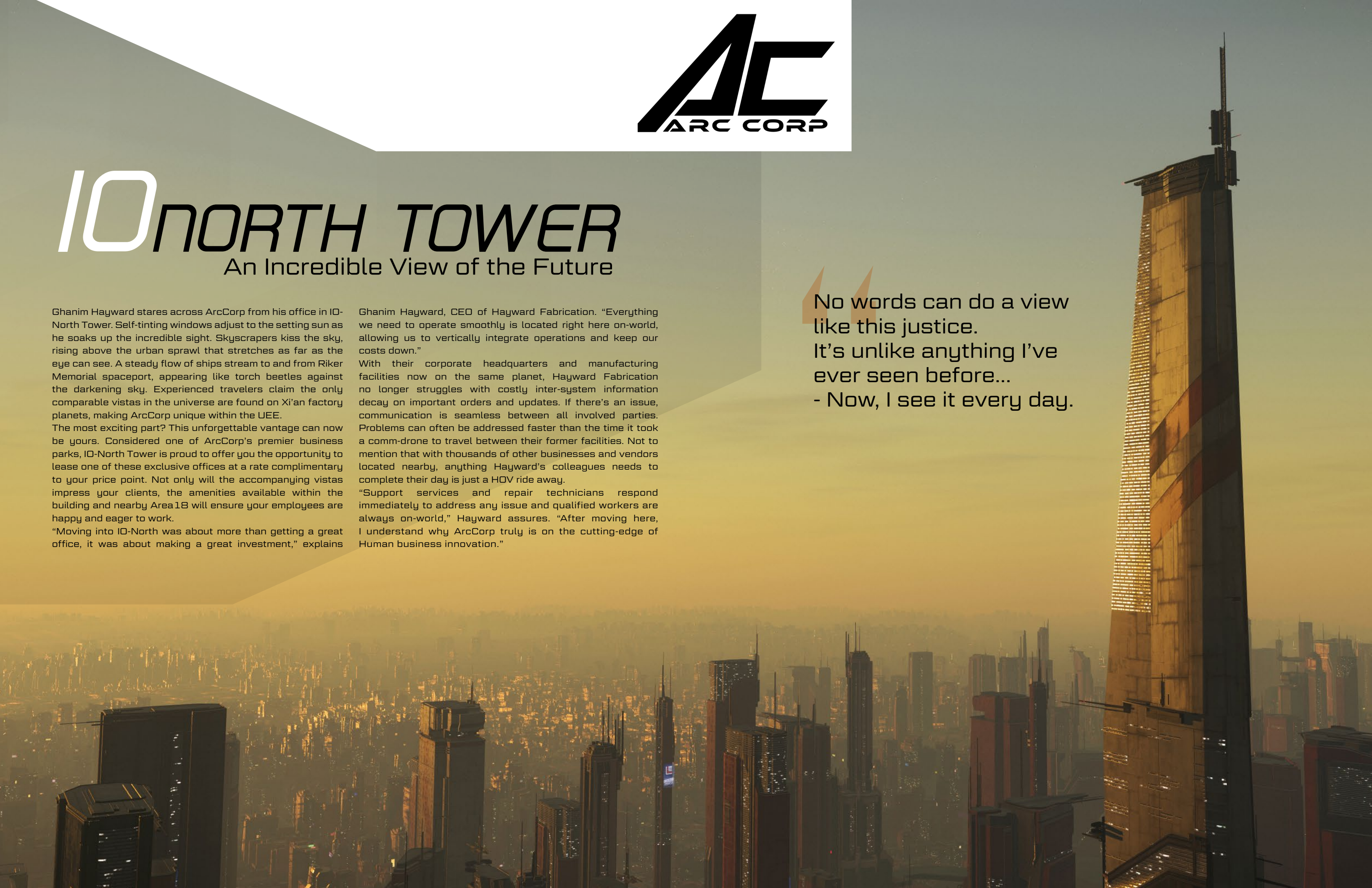
"Moving into 10-North was about more than getting a great office, it was about making a great investment," explains

Ghanim Hayward, CEO of Hayward Fabrication. "Everything we need to operate smoothly is located right here on-world, allowing us to vertically integrate operations and keep our costs down."

With their corporate headquarters and manufacturing facilities now on the same planet, Hayward Fabrication no longer struggles with costly inter-system information decay on important orders and updates. If there's an issue, communication is seamless between all involved parties. Problems can often be addressed faster than the time it took a comm-drone to travel between their former facilities. Not to mention that with thousands of other businesses and vendors located nearby, anything Hayward's colleagues needs to complete their day is just a HOV ride away.

"Support services and repair technicians respond immediately to address any issue and qualified workers are always on-world," Hayward assures. "After moving here, I understand why ArcCorp truly is on the cutting-edge of Human business innovation."

No words can do a view like this justice. It's unlike anything I've ever seen before...
- Now, I see it every day.





High-Rising to the Challenge

IO-North provides dynamic office space suited to the needs of your company and employees. ArcCorp's dedicated architects consulted a team of sociologists and wellness experts to design offices that help employees remain happy, healthy, and most importantly, productive. Rising above Area18, this Class-A commercial property utilizes cutting-edge technology to keep the building safe, cool, and connected to the wider universe, while abundant amenities help transform ordinary workdays into something worth looking forward to. First impressions are important, so IO-North Tower features a grand lobby complete with an impressive water wall to greet visitors. All tenants can use the state-of-the-art gym, featuring a full-service spa, various athletic courts, and a swimming pool. Busy parents can even leave their kids at the daycare center staffed by certified

childcare professionals*. Planning an important meeting? Book a conference room sporting an impressive view of Area18 and its surroundings. There's even a 100-seat auditorium ideal for larger conferences, company movie nights, and everything in between**. A full-service kitchen and waiting staff provide catering options ranging from vegan to Xi'an and IO-North concierge is always available to ensure your next event impresses. As if you need any other incentive, look at the impressive roster of clients calling IO-North home. Some of our current tenants include the UEE Advocacy, Imperial Cartography Center (ICC), and the Planetary Development Bureau. The building even houses an exclusive lounge for Million Mile High Club members.

Destination Setting

The benefits of being an IO-North Tower tenant doesn't end at the front door. According to the Terra Gazette, "Area18 is an essential ArcCorp destination for any off-world visitor," and with facilities geared towards both work and play, it stands to remain one of ArcCorp's most vibrant and popular locales for decades to come. And don't worry about accessibility. Guests will have no problem finding a place to land at Riker Memorial Spaceport before boarding public transit that delivers them directly to Area18's Central Plaza. Home to Memphis Avery's iconic floating sculpture, this piece brilliantly embodies ArcCorp's industrial yet elegant aesthetic. A local Trade & Development Division (TDD) office brings in a

constant stream of qualified contractors looking for work, greatly reducing the time it takes for resource contracts to be fulfilled. In addition, major retailers are mere steps away - Casaba, Astro Armada, and Dumper's Depot all have locations within Area18, as does the iconic and often imitated (but never replicated) Cubby Blast. On your walk to and from work, you can stop by one of the many food stalls and indulge in local delicacies and universal favorites. Organize after-work drinks and dancing at the local G-Loc Bar to sample their expertly handcrafted cocktails, and when you're finally ready to call it a night, you and your employees have a convenient place to call home at the nearby Adira Falls Apartments. With everything available nearby, you'll soon discover there's little reason to leave the comfortable confines of Area18.

Above and Beyond

From the incredible view to the outstanding amenities, IO-North Tower provides premier office space worth the price. Show that you're serious about both your business and employees' well-being by leasing office space in this iconic landing zone. Seize your spot on the cutting-edge of Human innovation by contacting a sales executive today.

IONORTH TOWER
It's more than a luxury tower...
it's a lifestyle.



*Some services provided at a nominal fee.
** Subject to availability.