



JUMP POINT

A ROBERTS SPACE INDUSTRIES PUBLICATION ISSUE 02.07

IN THIS ISSUE

Work in Progress: Mustang 3
by David Hobbins & Chris Smith

Portfolio: Consolidated Outland 27
by Ben Lesnick

Behind the Scenes: Asteroid Hangar . 30
by Elijah McNeal & Behaviour

Galactic Guide: Bremen 63
by Ben Lesnick

Lost & Found (Part 3) 66
fiction by Charles Duncan

GREETINGS, CITIZENS!

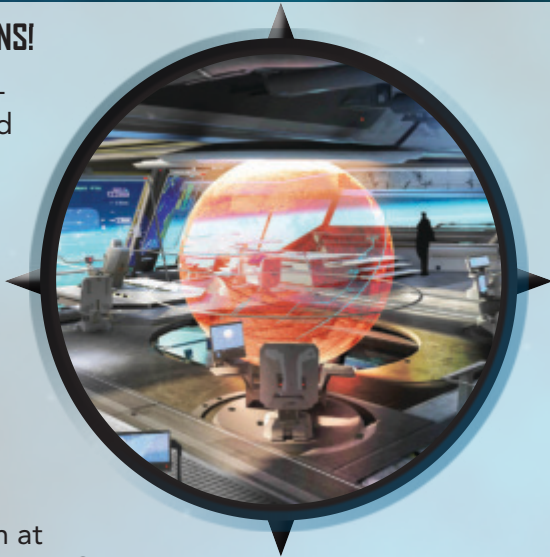
It's 3:30 early Friday morning, and I'm wrapping up another issue that's 20 pages longer than I expected. (Yeah, that happens a lot.) It would be 5:30, but in theory I'm on Pacific Time, not Central, since I'm at the San Diego Comic-Con.

I gotta admit that working this job does have some perks, along with the midnight hours at the end of the month. I'll do my Comic-Con shift, then get back to the hotel and get this posted Friday night.

I've gotten a chance to meet a few of you already at the show Thursday, and I expect to see more today and tomorrow. I'll give you a more complete description next month.

Meanwhile, a brand new issue! The Mustang, which was only a notion not too long ago, is close to release, and we've got the details. Not as many details as, say, for a capital ship, but it's a pretty neat little starter ship. The asteroid hangar is also close, so we covered both — the hangar is our look behind the scenes this issue. And since the Mustang is the first ship we've gotten from Consolidated Outland, Ben wrote up a report on Consolidated and its eccentric owner, and a guide to its home system, Bremen. And always as a final entrée, our story, this month continuing Oskar Gruber's attempt to track down origins of his new Cutlass.

A note regarding last month's issue. It's been pointed out to me that the image of silhouettes showing relative ship sizes from page 23 of last month's **JP** is closely derived from the series of comparative silhouettes that Zulu Sauer



has posted at forums.robertsspaceindustries.com/discussion/28970/ship-size-comparison-ship-scale-3-0/p1. Check it out!

One announcement that I've been hoping to make for nearly a year: we've finally caught up on all the writer submissions we've gotten in the last year. (Actually, there are a handful that have come in over the past couple of weeks, and we need to review those, but that'll always be the case.) So if you've sent me any writing samples, and I haven't gotten back to you, please ping me and we'll track them down.

Meanwhile, I've just been confirmed as part of the CIG mission to Dragon Con, in Atlanta over the Labor Day holiday. Yes, that's another **Jump Point** Friday. I'm really hoping I'm not polishing off August's **JP** in the middle of the night in an Atlanta hotel this time next month ...

If you're at the show, please track us down and say hi. At this point, Ben Lesnick, Dave Haddock, David Hobbins and Alex Mayberry are all scheduled to be there, but things can change quickly, so I could be wrong on the exact crew.

And if those are both too far from home, maybe you can get to Gamescom, in Cologne, on August 15. I don't expect to be there, but all your favorite CIG devs will be.

Hold on, it's gonna be a wild ride!

David

David.Ladyman@cloudimperiumgames.com

EDITOR: DAVID LADYMAN, INCAN MONKEY GOD STUDIOS

ROVING CORRESPONDENT: BEN LESNICK

© 2014 CLOUD IMPERIUM GAMES CORPORATION & ROBERTS SPACE INDUSTRIES CORP. STAR CITIZEN IS A TRADEMARK OF CLOUD IMPERIUM GAMES CORPORATION.

COVER:

CHRIS SMITH

PAGE 27:

LOGO, DAVID HOBBS

PAGE 30:

BEHAVIOUR

PAGE 63:

DENNIS CHAN

PAGE 65:

SYSTEM CHART, BEHAVIOUR

PAGE 66:

DENNIS CHAN



FROM THE HICKORY

Mustang



Several months ago, we decided that there needed to be an alternative start-level craft to the Aurora so that new players could have a choice, and the Mustang was born. David Hobbins (DH; now a staff artist with CIG) created the original concepts, and then Chris Smith (CS; lead vehicle artist) completed the

modelling and translated it into the game engine.

As usual, plenty of other people contributed to the process; the ones mentioned here include:

Nick Elms (NE) Creative Director, F42

Paul Jones (PJ) Art Director, F42

Chris Olivia (CO) Chief Visual Officer

Mark Skelton (MS), CIG Art Director

Chris Roberts (CR)

Gurmukh Bhasin (GB) CIG Concept Artist

WORK IN PROGRESS

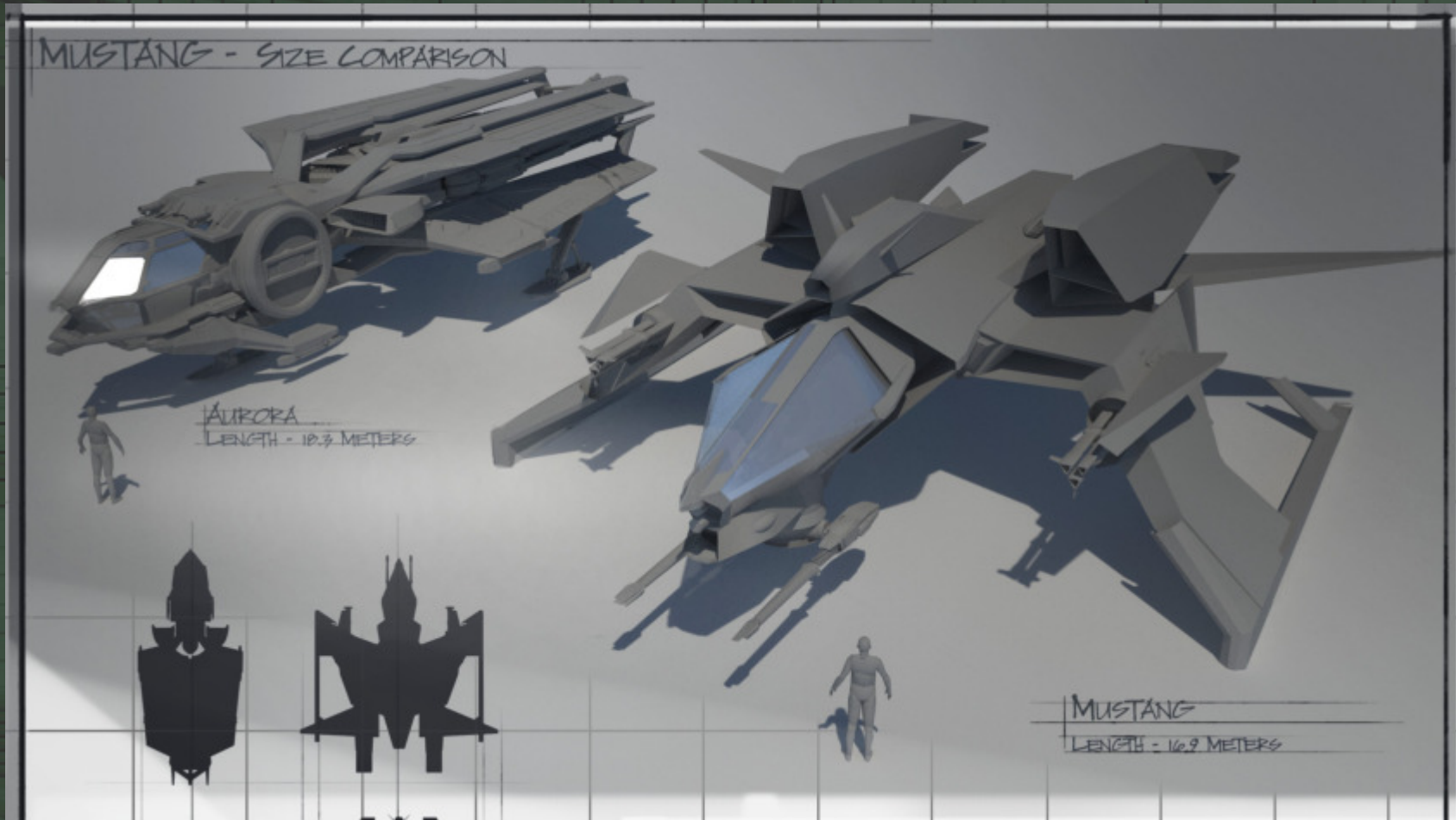
DH: I've started blocking out the Mustang and wanted to get the Aurora in there ASAP to start seeing the visual relationship between the two. Looks like the Aurora is slightly longer but clearly doesn't have the wingspan or the height in landing configuration. The Mustang does appear a bit bigger in most views – is that okay? How is the size relationship working for everybody else so far? Also note, the required armaments for the Mustang are 'in-situ'. Thanks!

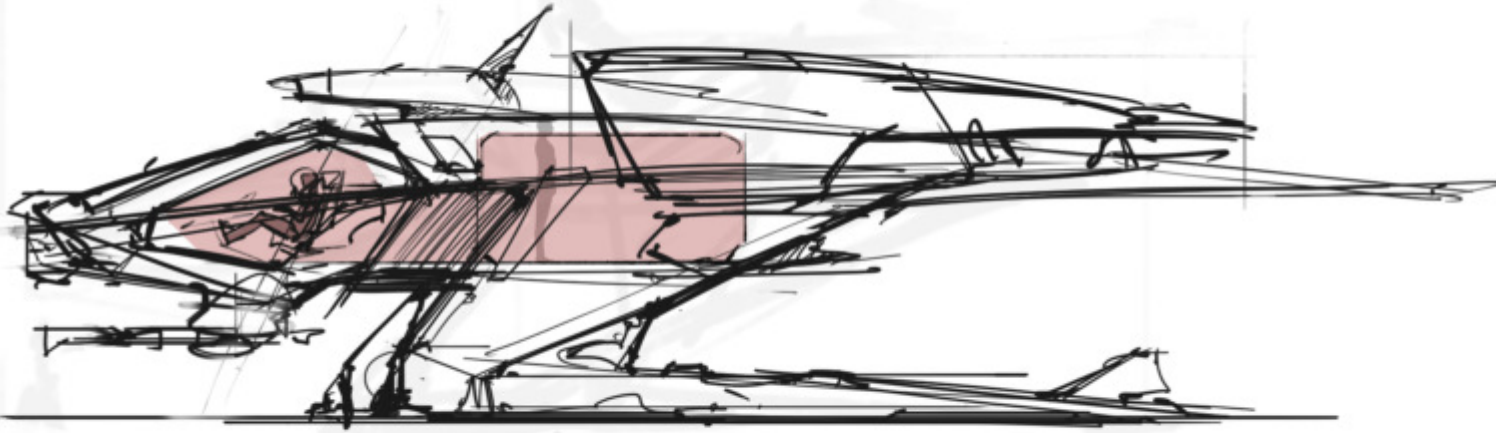
NE: Looks great! The only issue I have from a design point is that the support down the center of the cockpit would occlude a lot of the player's view.

DH: I'm going to try and open that up a bit – increase the pilot's visibility in the next iteration.

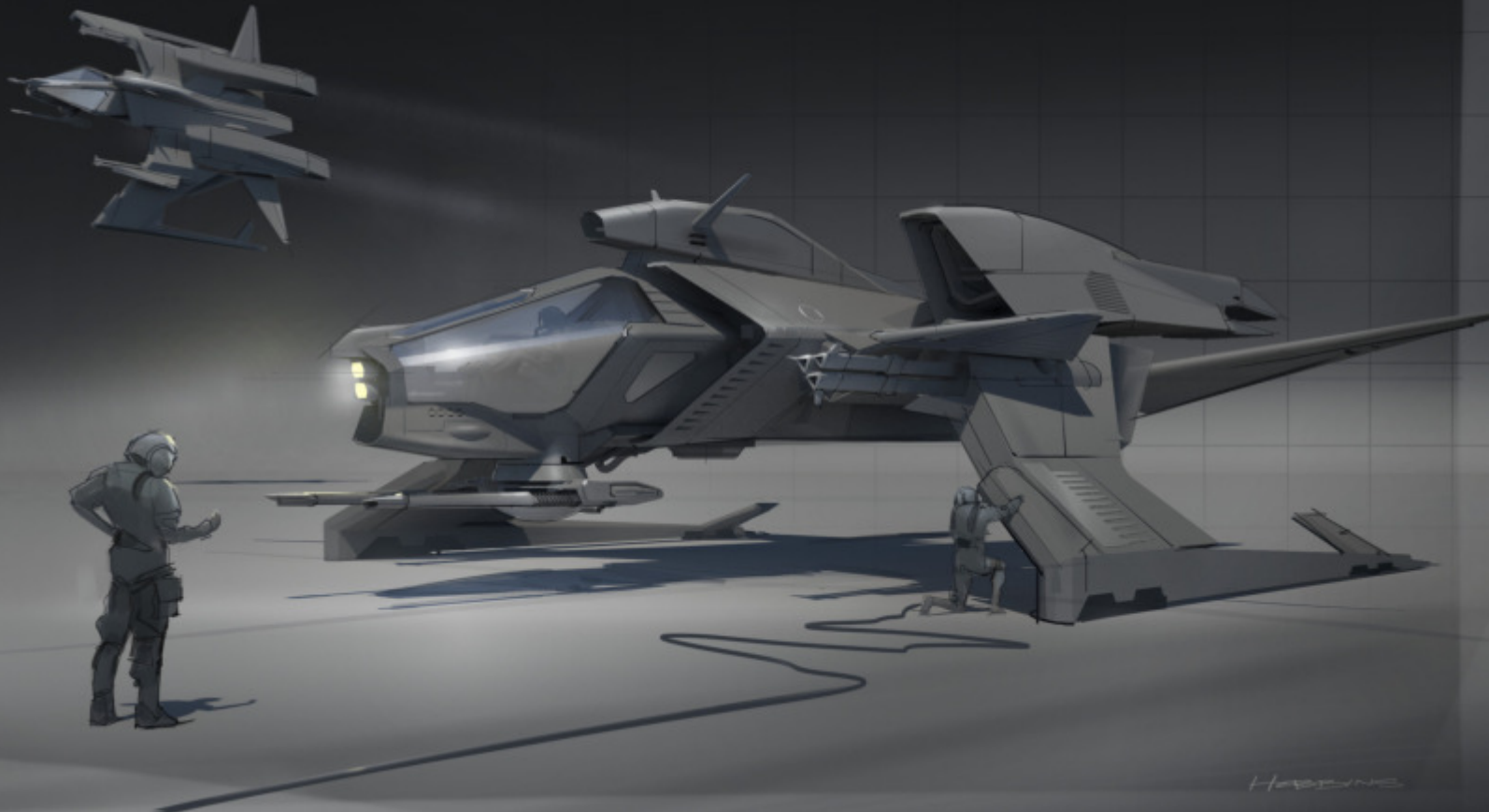


WORK IN PROGRESS





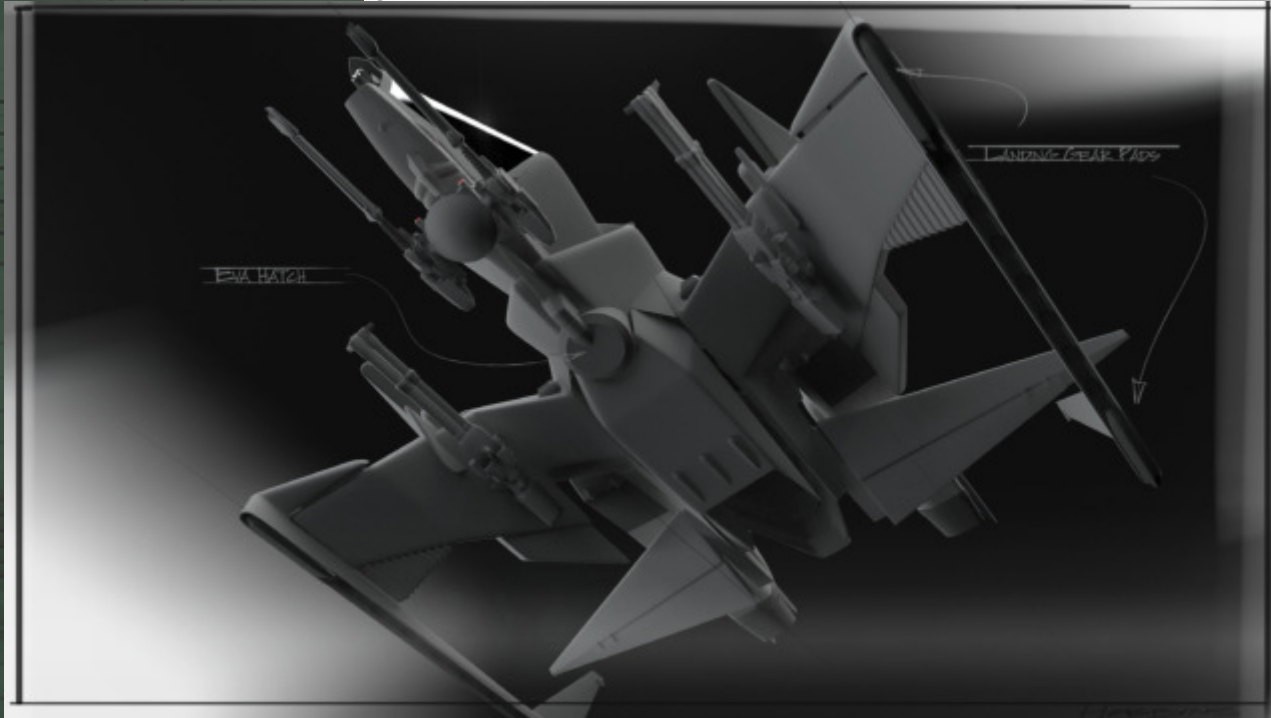
DH: Mustang Profile Sketch(above) & Rough 3D Paintover (below)



WORK IN PROGRESS

HARRIS

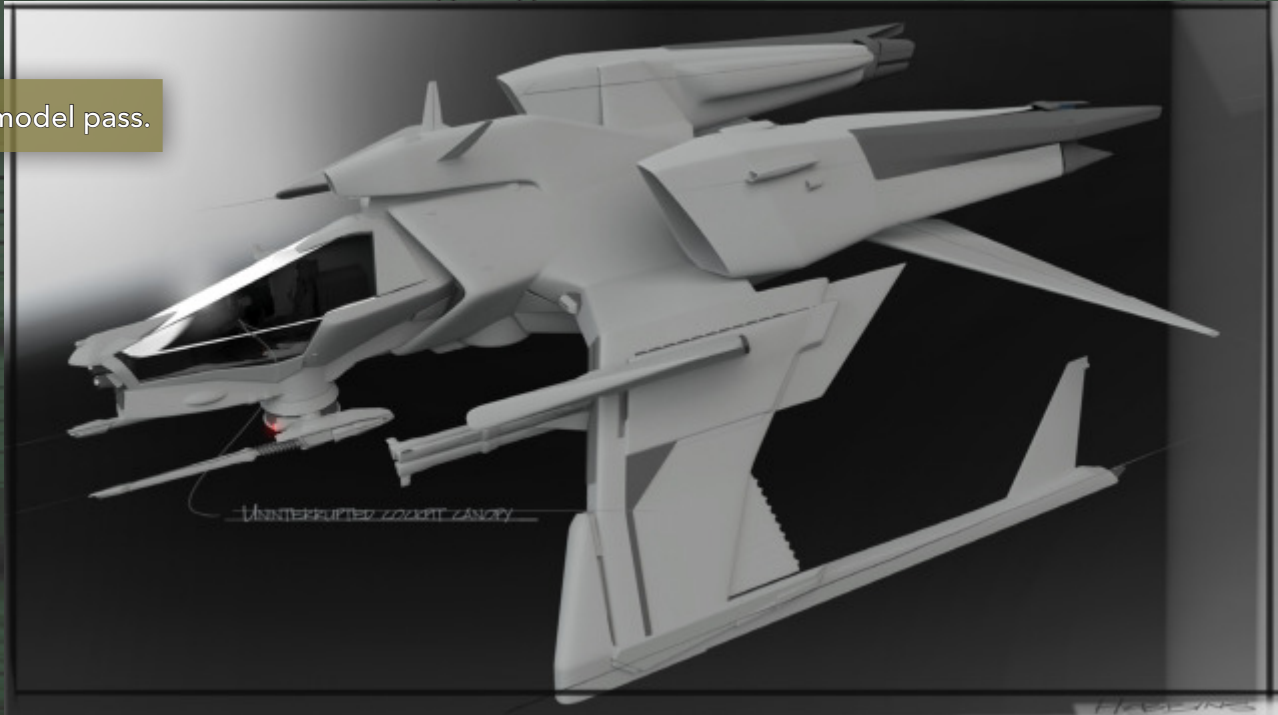
DH: Final concept model pass.



WORK IN PROGRESS

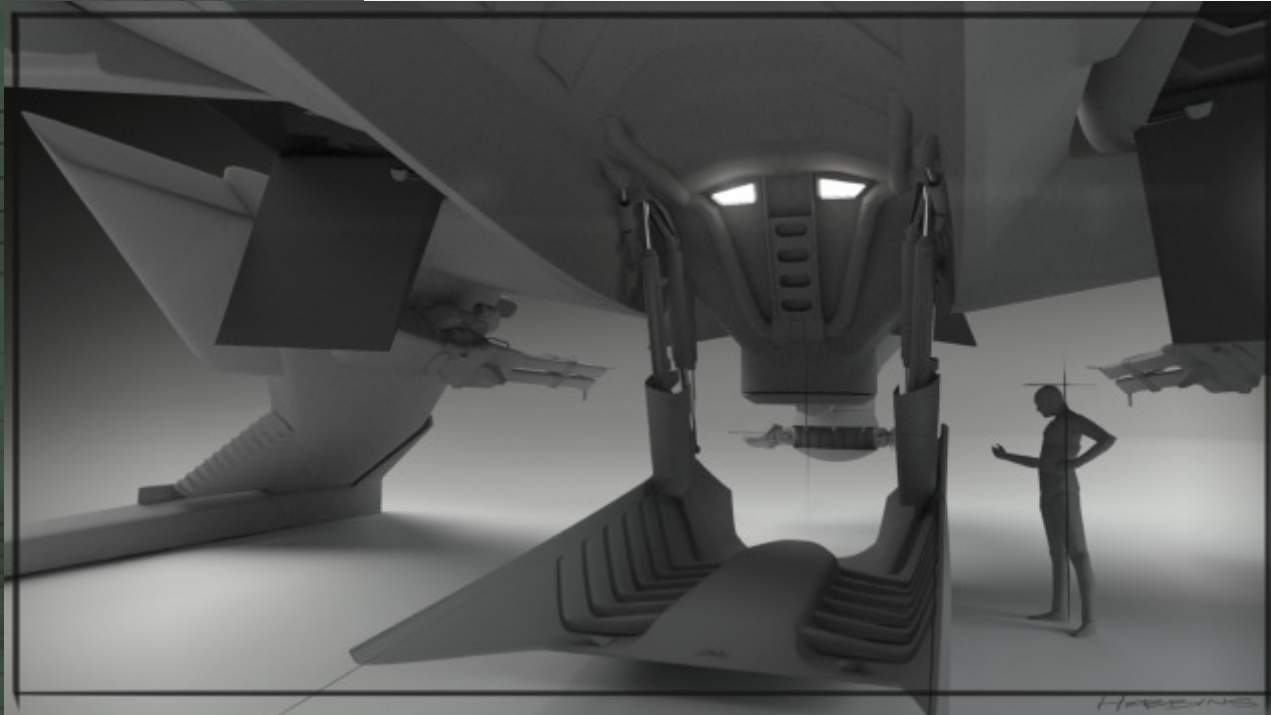
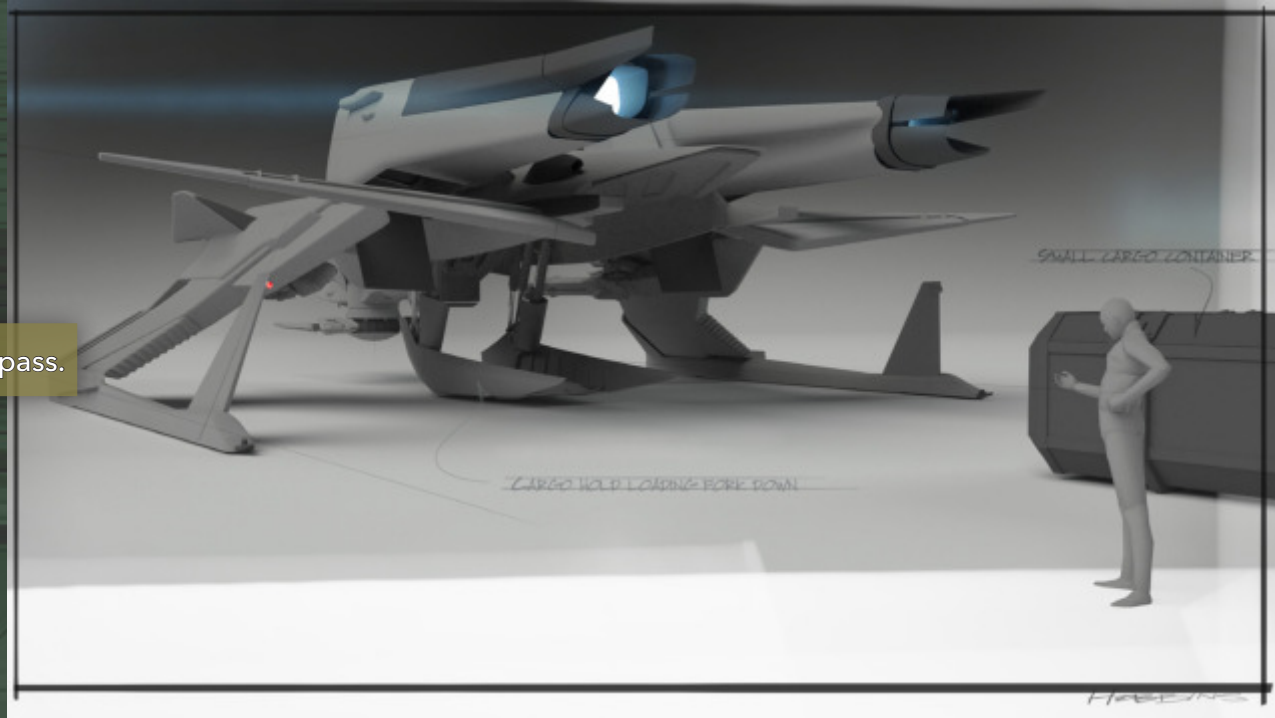


DH: Final concept model pass.



WORK IN PROGRESS

DH: Final concept model pass.



WORK IN PROGRESS

DH: Mustang Materials & Livery.

Note: I still need to figure out the location and design the maneuvering thrusters.



WORK IN PROGRESS



WORK IN PROGRESS

DH: Mustang 'In Situ' Paintings [this page and next]. Note: At some point I would like to really flesh out the cockpit and EVA hatch/ chamber. Let me know your thoughts. Thanks!

NE: Looks Awesome! Nice work, David!

PJ: I'd buy one!

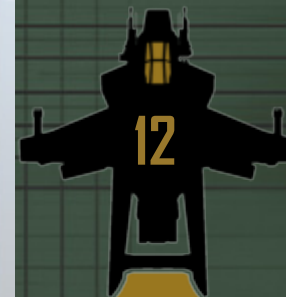
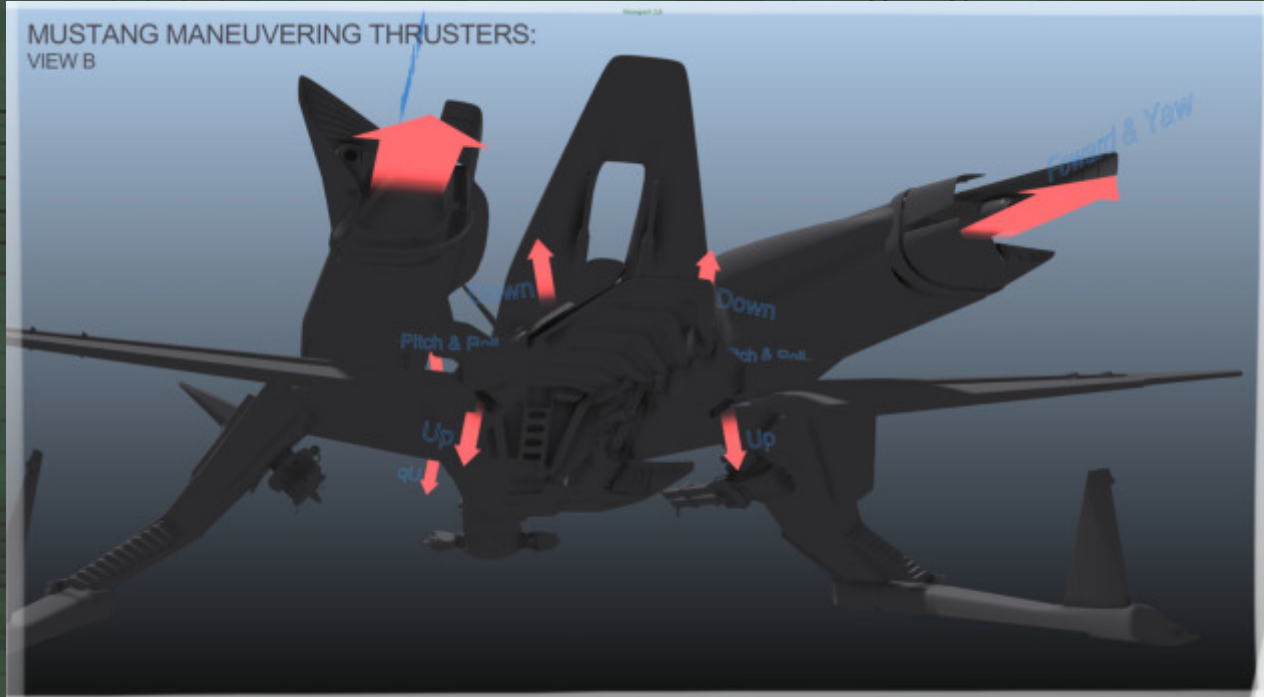
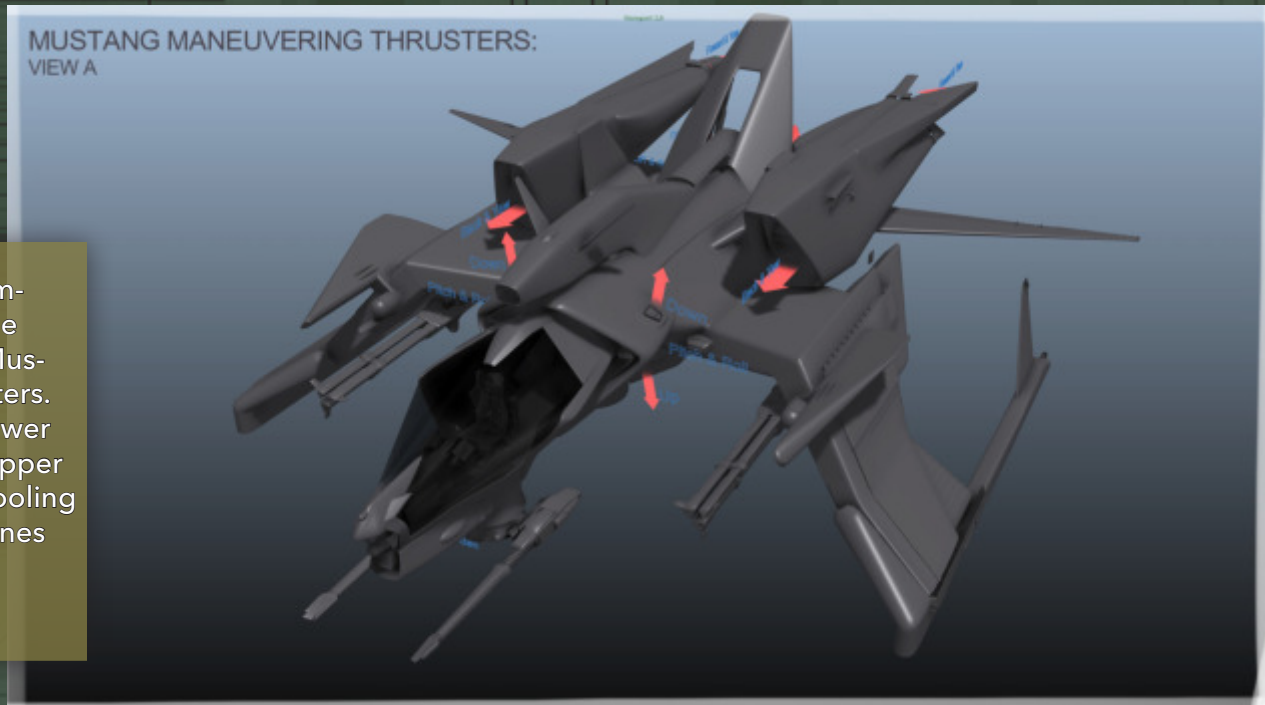
CO: Want.



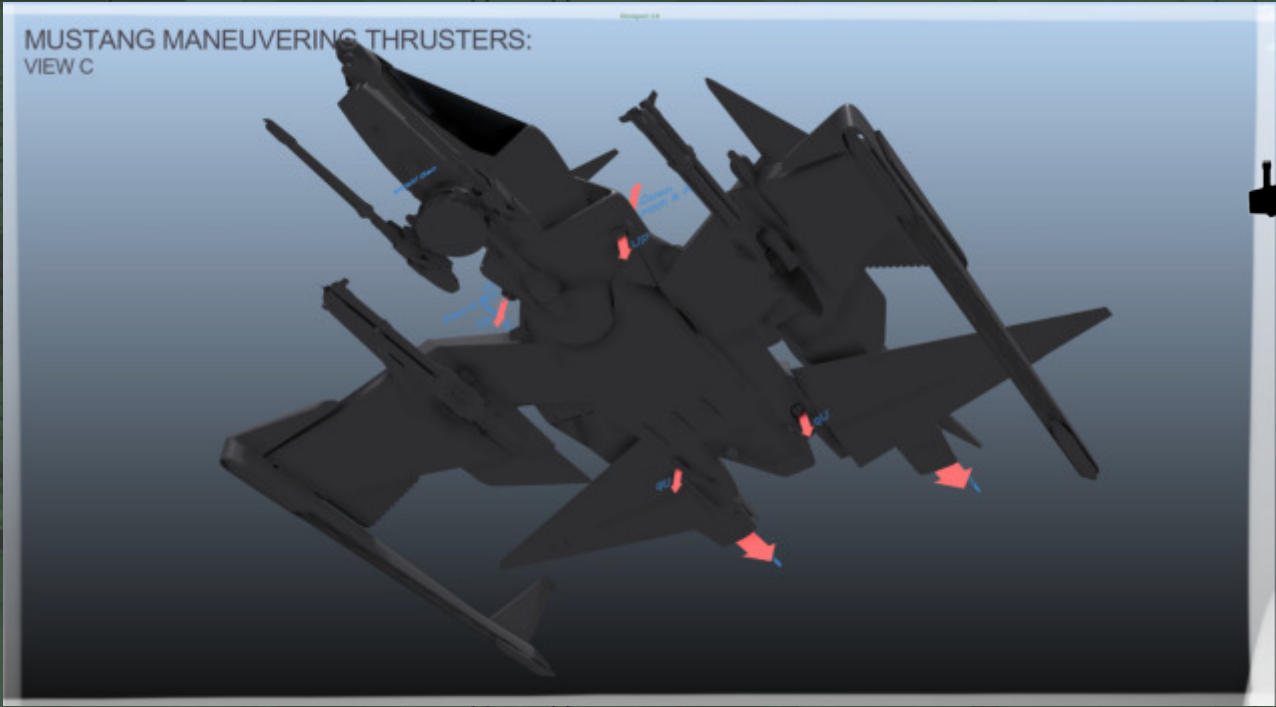
WORK IN PROGRESS

DH: Here are a series of images that communicate the location and look of the Mustang's maneuvering thrusters. As well, I've added the power generator access panel (upper fuselage), air brake and cooling sinks under the main engines as requested.

MS: Fantastic stuff, man!



WORK IN PROGRESS



DH: More maneuvering thrusters



WORK IN PROGRESS

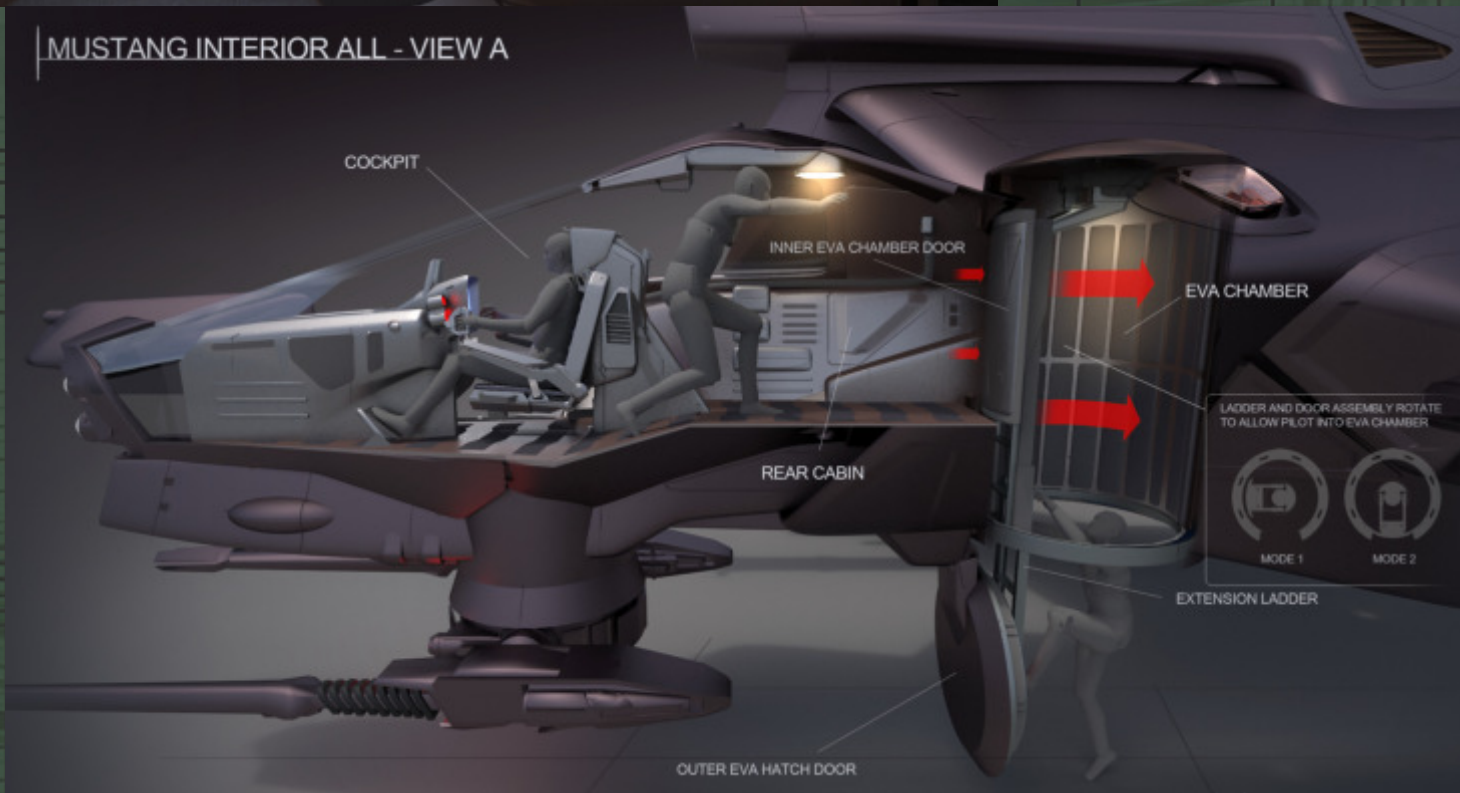
DH: Three final images of maneuvering thrusters.



WORKING PROGRESS



DH: Here's the Mustang's cockpit, rear cabin and EVA chamber concepts [this page and next]. Inside the EVA chamber, the ladder and door assembly rotate to accommodate pilot ingress & egress. Once the assembly is in the closed position, the door is nudged forward to seal the chamber.



WORKING DRAFT

| MUSTANG EVA CHAMBER - VIEW A



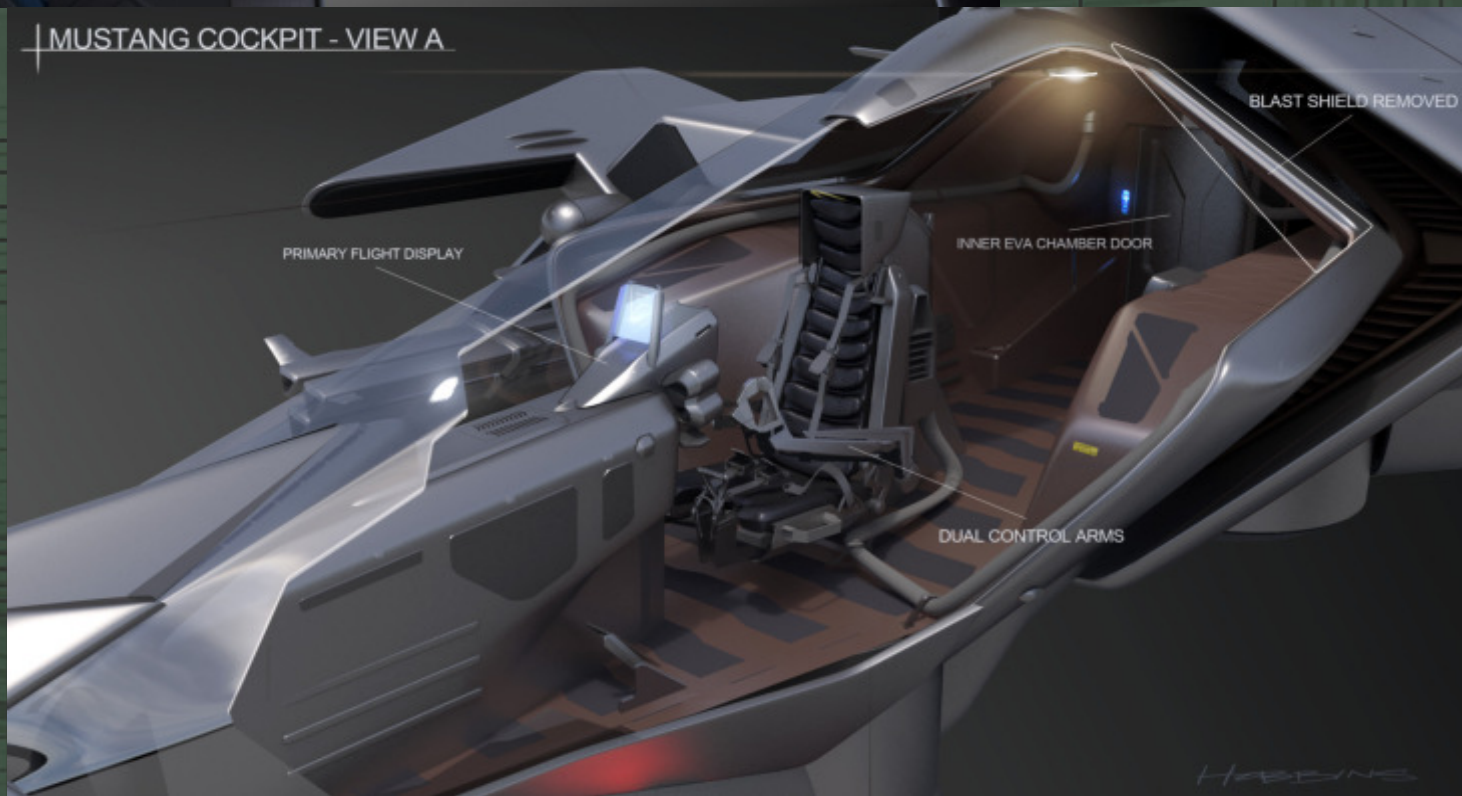
EXTENSION LADDER

OUTER EVA HATCH DOOR



WORK IN PROGRESS

| MUSTANG COCKPIT - VIEW A

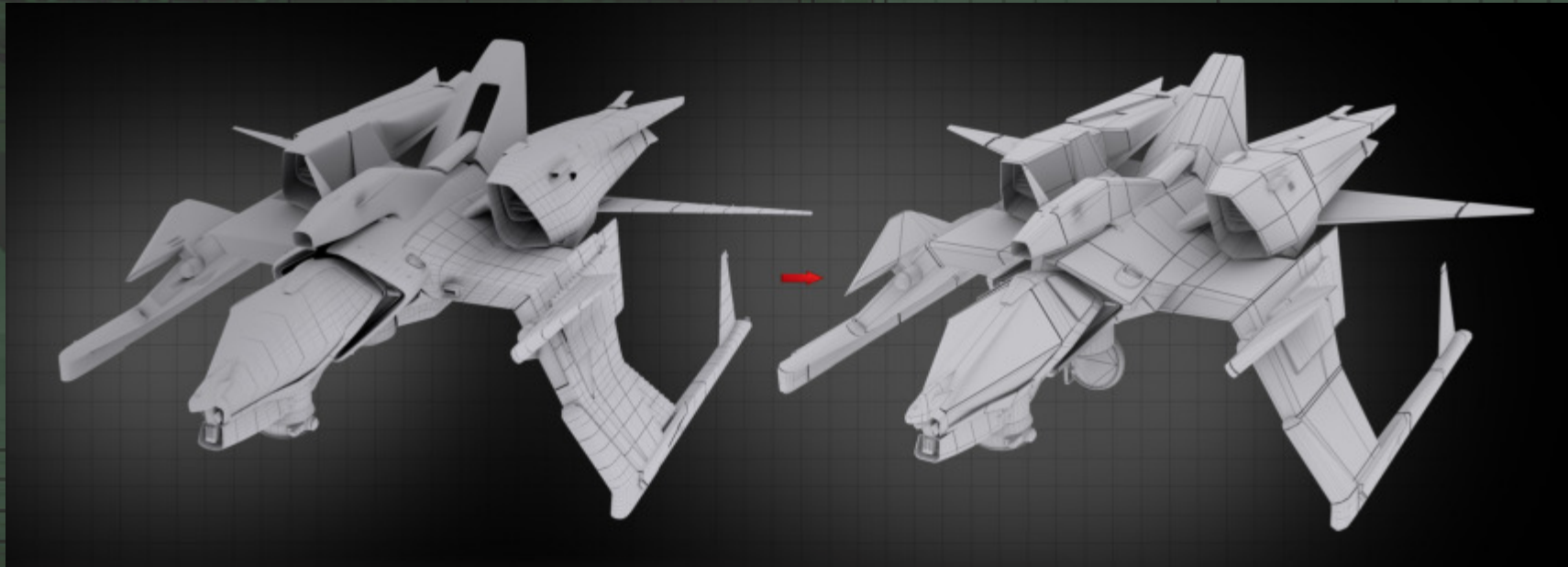


PRIMARY FLIGHT DISPLAY

INNER EVA CHAMBER DOOR

DUAL CONTROL ARMS

BLAST SHIELD REMOVED



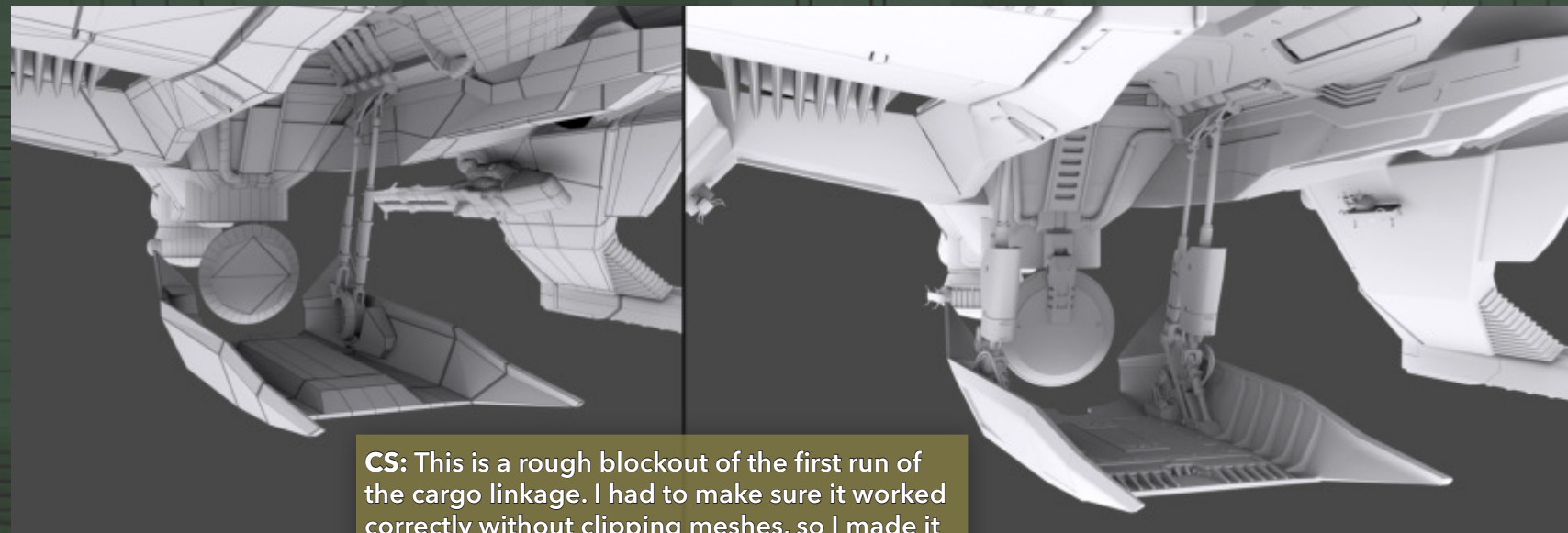
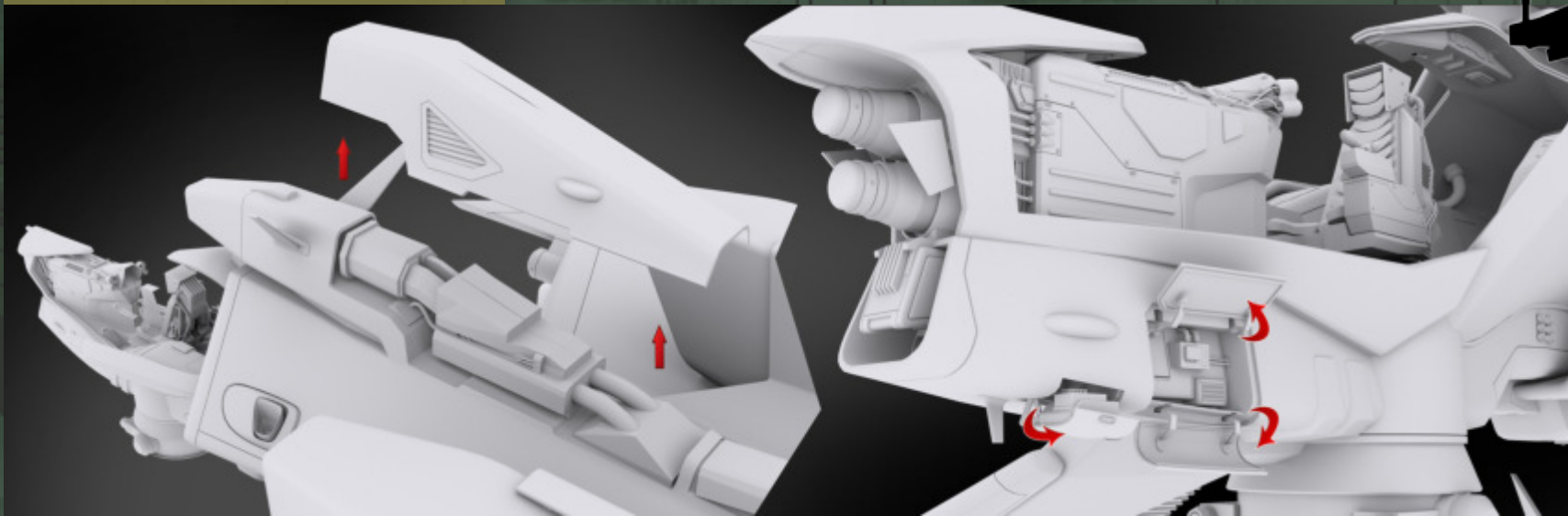
Transforming into the Game Engine

CS: The first thing I had to do after receiving the concept model was to re-topologize the ship in order to get a mesh that is efficient and light. This stage is what we call the 'whitebox' stage.

Once this step is completed we can get the ship into the engine and make sure proportions are correct.

The next step was getting the ship model to a higher detail level and include previz animations.

CS: Here, I started to include and build up items like the power plant and avionics packages, based on the ship specs sheet created by the designers.



CS: This is a rough blockout of the first run of the cargo linkage. I had to make sure it worked correctly without clipping meshes, so I made it very simple at first. Then you can see the final fleshed out result on the right. I wanted the linkage to seem lightweight, yet strong.



Final whiteroom shots
on next few pages



WORKING IN WHITEROOMS



WORK IN PROGRESS



WORKING IN PROGRESS



WORK IN PROGRESS



WORKING ON THE FRONTIERS



WORKING DRAFTER

We'll conclude with a few shots from the asteroid hangar.



WORKING IN PROGRESS



WORKING IN PROGRESS

MUSTANG ALPHA STATS

Builder: Consolidated Outland

Length/Beam/Height: 16/14/6 meters

Crew (max): 1

Mass (empty): 12,000 Kg

Role: Courier

STRUCTURE STATS

Cargo Capacity: 16 cargo units

Factory Power Plant: ACOM StarHeart III (S2)

Factory Engine: 2x Consolidated Outlands Magma Jet (TR1)

Factory Maneuvering Thrusters: 6x Hydra M1-16 (TR1)

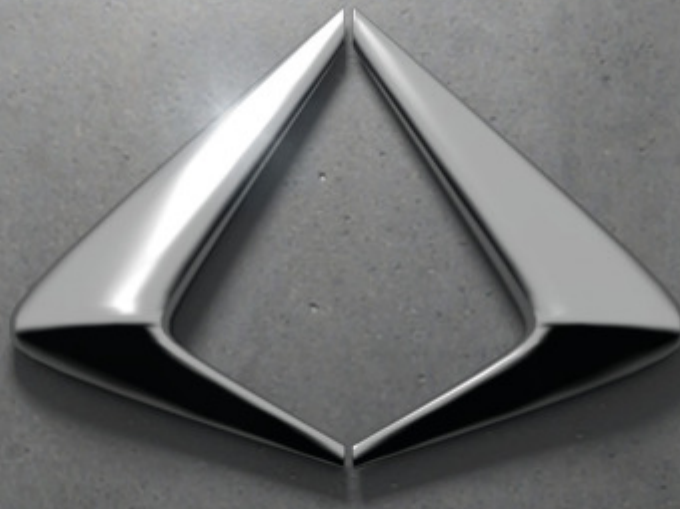
Factory Shield: Seal Corp INK-1 (1)

Cooling System: Consolidated Outland Icebox P

HARDPOINTS

2 x Class 2 (size 2; sides): 2x M3A Laser Cannon

1 x Class 4 (size 1; under cockpit): 2x M3A Laser Cannon
(twin-mounted turret)



CONSOLIDATED OUTLAND



History

Consolidated Outland and its fan-favorite Mustang spacecraft are the brainchildren of so-called "rebel trillionaire" Silas Koerner. Born a mere billionaire, Silas was the sole heir to a family fortune that was generated in the early days of the Bremen System's settlement. His several-times great grandfather was responsible for settling much of the planet's temperate regions and cashed in deeply when the newly-formed United Empire of Earth essentially chose the world to feed the Tevarin war effort.

Koerner has not been content to sit on his bank balance, doubling his fortune time and time again with his seemingly outrageous but always on-the-money investments. At age sixteen, he invested half his fortune in a small jump communications company that happened to then find UEE sponsorship and take off. Following that start, millions invested in fish farming immediately reaped a massive return when Earth-based seafood, which could be grown easily on Bremen, became all the rage on developing colonies. The pattern continued as he invested in electronics, mining, remote charting and even the increasingly faltering terraforming industry, always with great success.

His current interests are truly diverse: he can be aptly titled everything from a shipping magnate (full owner of Tri-Cross Lines, among others) to a news mogul (controlling interest in no fewer than nine text-cast and holo outlets). But even more outrageous than his investments is his seeming lack of a personal life: since his rise to fame, tabloids have stalked him at every turn for the slightest sign of anything prurient ... and have consistently come up empty.

In truth, Koerner's apparent sole love is astronautics. Since crossing the multi-billion mark at age 22, he has become a passionate space pilot and a collector of rare ship designs. His collection, which currently numbers some three-hundred-odd ships, is housed in a massive underground museum on Bremen and includes everything from a vintage Roberts Space Industries Zeus to the sole surviving Drake Lobster prototype (which remains unflown and still packed in its shipping foam).

Consolidated Outland is the end result of his lifelong interest, his attempt to build what he deems to be the 'perfect' spacecraft. Although the name (and associated corporate background) is strongly intended to imply an alliance of distant worlds toward a noble technological goal, in truth Koerner owns one hundred percent of Consolidated Outland. No Mustang variant takes shape without his input and he has been known to appear without ceremony on the factory floor, insisting that changes be made on the fly to in-production spacecraft.

Consolidated Outland is based on Koerner's homeworld of Bremen, and no corporate facilities are located offworld. Koerner's private property is also Bremen-specific, and he apparently leaves the planet only for pleasure (test flying a new spacecraft model on the fringes of Sharon's Nebula is a favorite pastime). He communicates with buyers and offworld interests exclusively via telepresence robot.

While Koerner refuses to comment on his personal life, he has been outspoken in his criticism of other manufacturers' spacecraft, seemingly finding vocal fault with every design from the Aurora ("flying trash can") to the Gladiator ("a

half-assed toy for full grown children to play fighter hero") to the Freelancer (unprintable).

Koerner is somewhat naturally an avid star racing fan. He owns a top tier racing team outright (The Blue Devils), and maintains luxury box seats at all Murray Cup events.

Conversion Kits

Consolidated Outland began life innocently enough, producing vanity spacecraft conversion kits. The conversion kit business was Koerner's attempt to stealthily enter the industry, to prove that he could marshal the resources needed to produce high quality aerospace parts before springing the Mustang on the galaxy.

The first range of conversion kits were high-quality "style" kits for common spacecraft: chrome trim for the Aurora CL, decorative spoiler attachments for the Freelancer and the like. No new craft based on these designs are available today, and existing ships fetch extraordinary sums on the secondary market. The reaction from specialists at the time was (and continues to be) that they were high quality attachment parts that served no practical purpose; seemingly Koerner's attempt to "fix" what he saw as visually broken spacecraft designs.

Consolidated finally hit it big with the more crowd-pleasing aftermarket F7A Hornet kit, which converts the appearance (but not the hardpoints) of civilian Anvil Hornet fighters to match their military counterparts. With the launch of the Mustang, manufacturing of F7A conversion kits has ceased (although the kits are still readily available). Whether this has to do with a desire to focus on Mustang development or to rumors that the conversion kits were in no way licensed through proper channels at Anvil is anyone's guess.



THE
MUSTANG
KIT

Mustang

The Mustang is the ship Koerner has always wanted to build, a stylish, fast and low-priced alternative to the RSI Aurora and Origin 300 series. The Mustang looks like nothing else in space and utilizes over fifty unique alloys in order to keep weight down and allow for its mass production on a less developed world. Internally, the vast majority of systems come from the company directly, from the Consolidated Outland Magma Jet engine to the Consolidated Outland Icebox P cooling system. (Some systems, such as weapons and shields, are still provided by outsources; Consolidated Outland maintains that they do not construct weapons, they simply allow weapons to be mounted on their ships for proper defense.)

While only the standard Mustang Alpha is currently available for sale, rumors claim that a series of variants are available in limited numbers to the proper buyers, such as outerworlds militia units, and that these are being developed with a likely eye towards eventual wide release. All that is known for sure is that none of these ships will be the 'Twin Mustang,' a makeshift long-range double fuselage variant developed early on by simply welding two incom-



plete Mustangs together. The Twin was naturally unstable and a resulting crash killed two test pilots. Koerner issued a rare quote to the press, saying that the Twin Mustang was a "terrible, terrible idea, which will not be revisited."

The Future

Speculating on the basis for Koerner's involvement in any business isn't done easily, although it does seem that Consolidated Outland is here to stay. With the discovery of additional metal resources on Bremen and the general success of the Mustang range, it seems safe to say that Consolidated is hard at work on their next big thing.





MAKING THE ASTEROID HANGAR

BEHIND THE SCENES

This month, we go behind the scenes to watch as the asteroid hangar is put together. The concept work is by Elijah McNeal (**EM**), and the subsequent work is by Behaviour (mainly Corentin Chevanne, with Nick Ferrand), working with Mark Skelton. The people who contributed comments here include:

Chris Olivia (**CO**) Chief Visual Officer

Nathaniel Blaisdell (**NB**) Senior Technical Designer

Corentin Chevanne (**CC**) BHVR Art Director

Chris Roberts (**CR**)

Eric 'Wingman' Peterson (**EP**) Studio Director

Harry Jarvis (**HJ**) Art Producer

Travis Day (**TD**) Associate Producer

Dave Haddock (**DH**) Lead Writer

Pedro Comacho (**PC**) freelance composer

Mark Skelton (**MS**), CIG Art Director

Dave Richard (**DR**) BHVR Lead Designer

Lee Amarakoon (**LA**) Senior VFX Artist

Forrest Stephan (**FS**) Technical Artist

Mathieu Beaulieu (**MB**) BHVR Producer

Paul Jones (**PJ**), F42 Art Director

Sean Tracy (**ST**) US Engine Business Development Mgr, CryTek



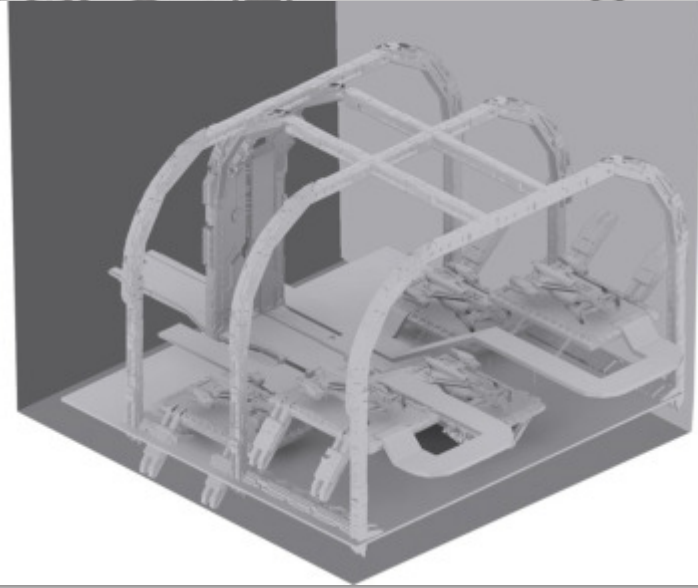
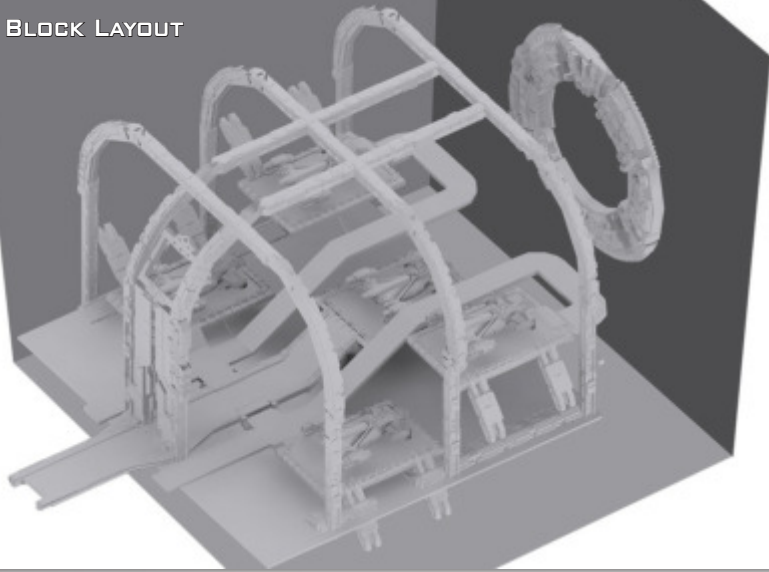
EM: Asteroid Base (Pirate) Hangar color study

FS: That is bad to the bone!

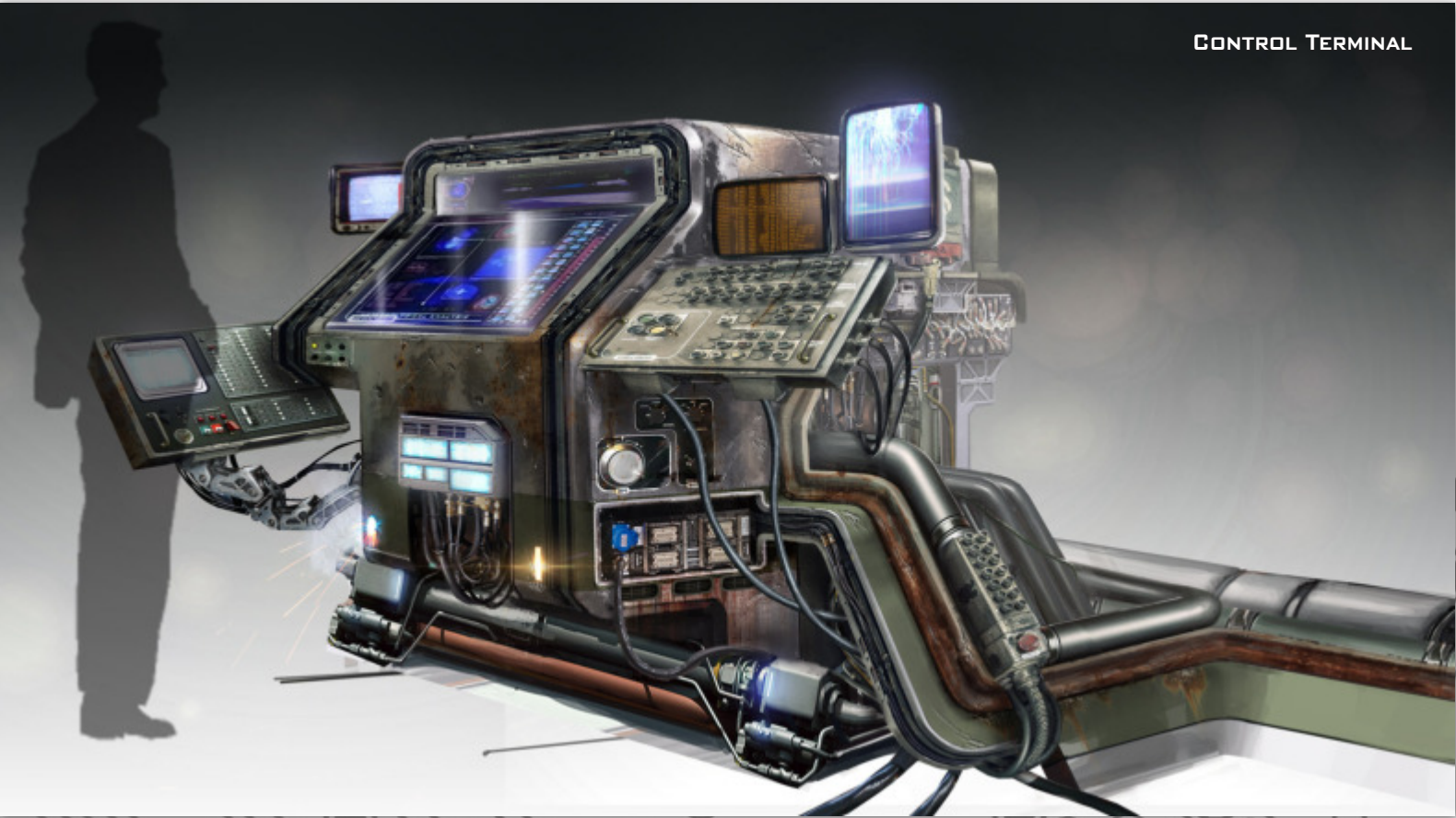


BEHIND THE SCENES

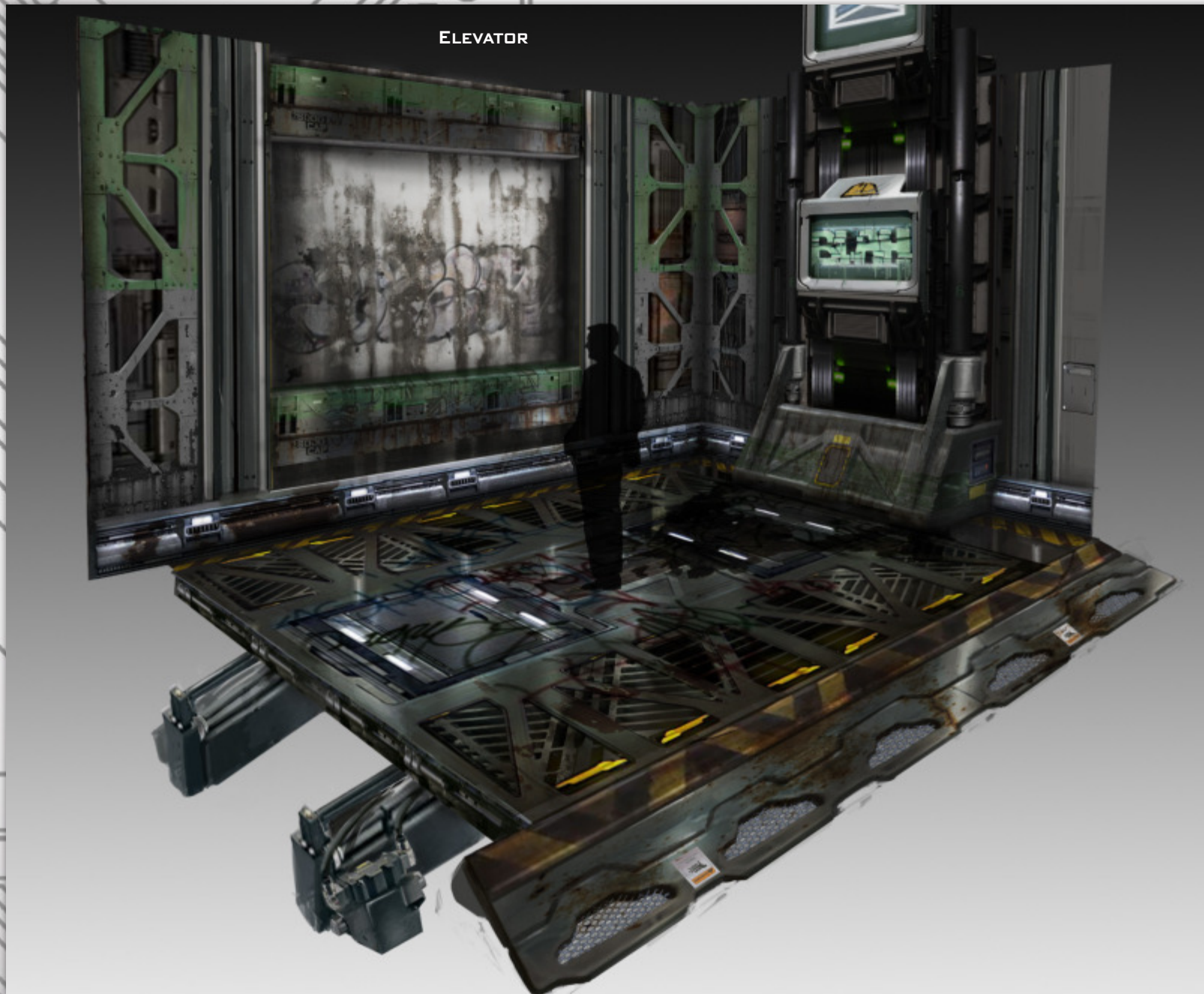
BLOCK LAYOUT



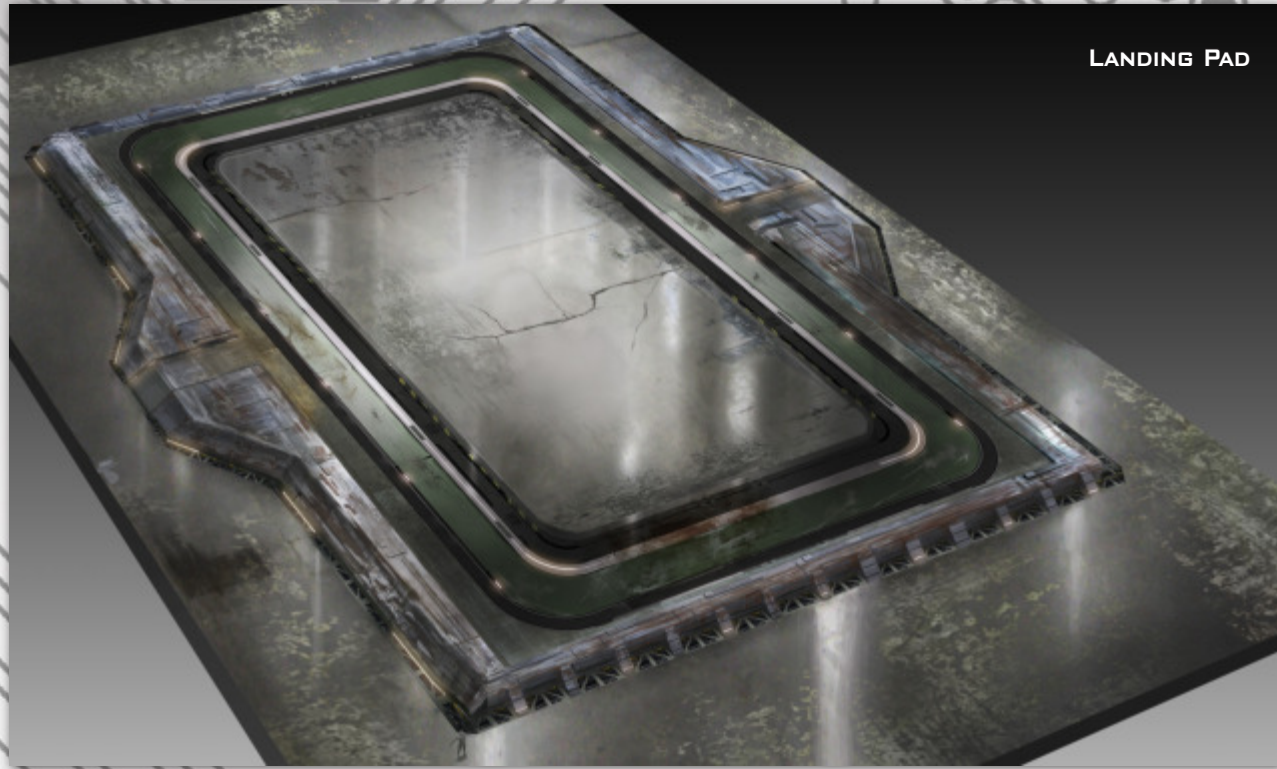
CONTROL TERMINAL



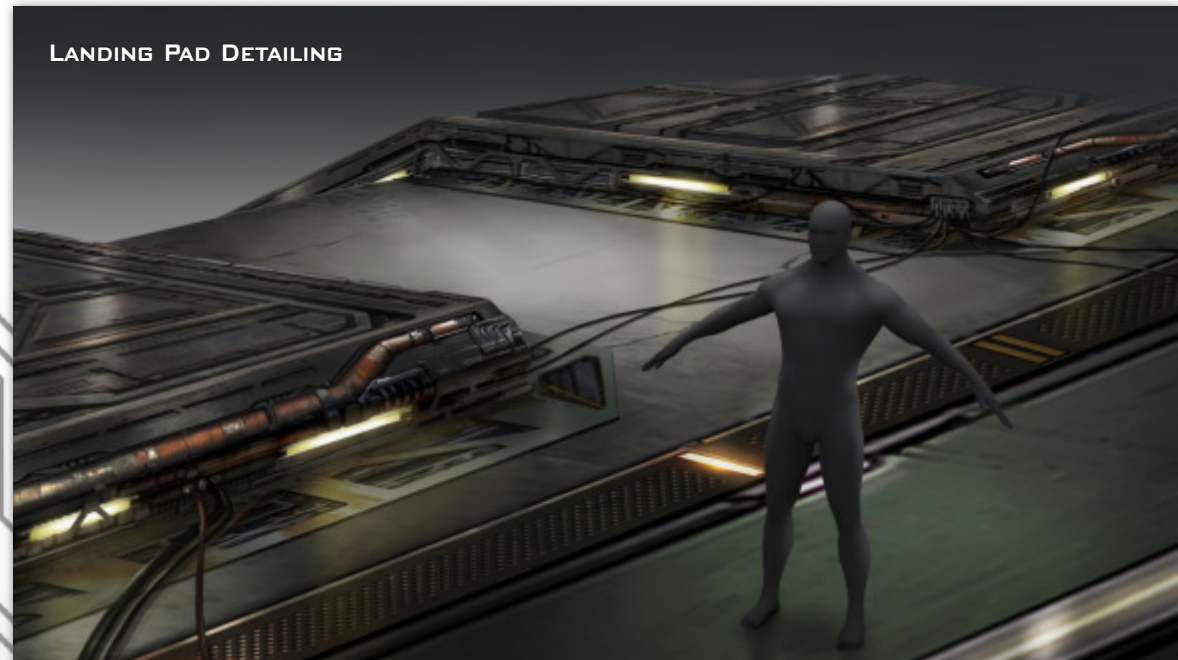
BEHIND THE SCENES



BEHIND THE SCENES



LANDING PAD

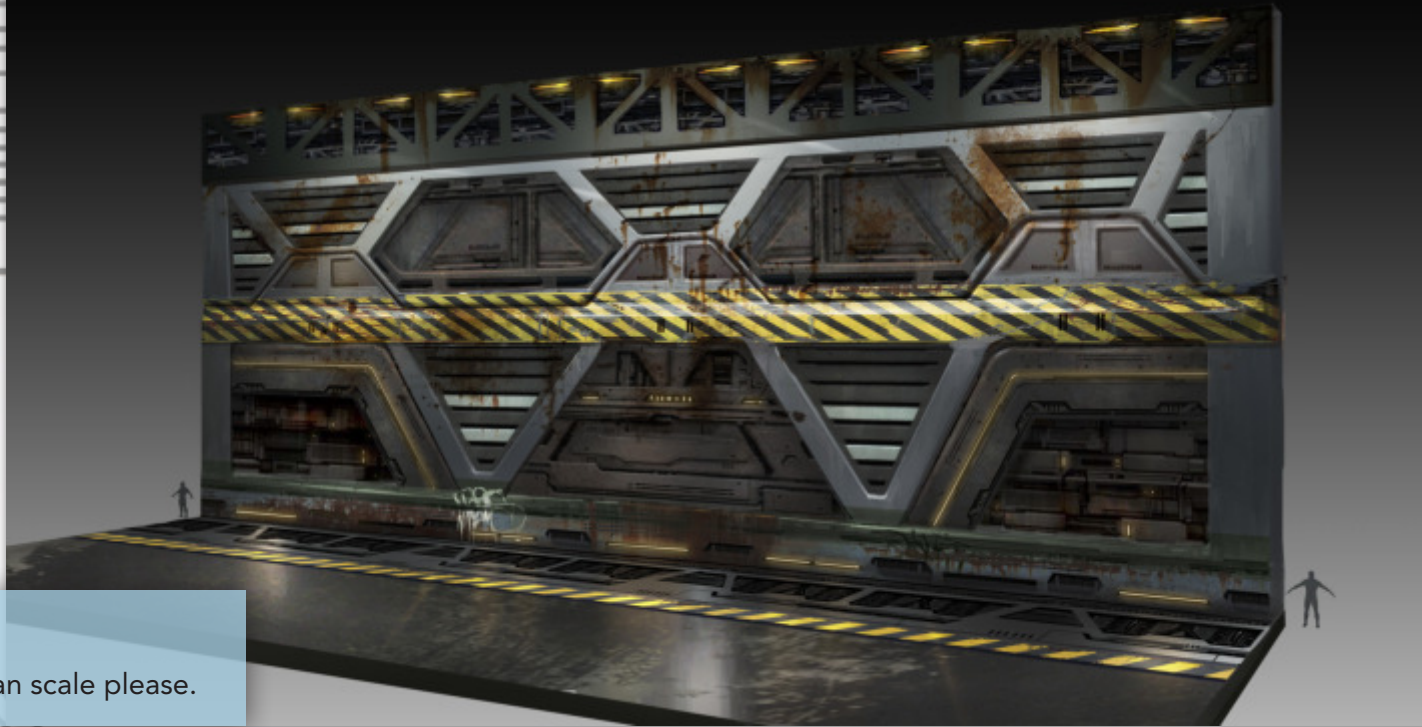


LANDING PAD DETAILING



BEHIND THE SCENES

HANGAR DOOR



CO: poifect!
ahem ... human scale please.

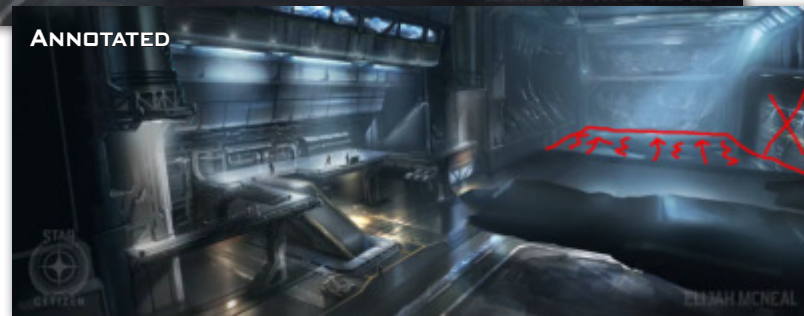
FILLER PROPS



BEHIND THE SCENES



BEHIND THE SCENES



HJ: That's a big hangar!

EP: Awesome work!

By the way, I noticed there's a hangar door on the right wall. Do we still want to have the hangar door on the ceiling instead?

MS: Probably yes. I would just mirror the other wall over and put the door on the ceiling. It's round, isn't it?

EM: Sorry, I didn't get that. I thought it was on the wall. As for the door being cylindrical; I don't think so. Unless it has changed.

MS: No problem. It's a general rough so it's all good.



CO: Add more natural rock / environment in general ... but looks cool.

NB: Looks really cool. I agree with Chris O. Also, I can't tell if lighting in upper right corner is supposed to be natural or not (i.e., exterior), but it should not be exterior light. We're too far into the asteroid for there to be any exterior windows. Catwalk pathways will probably extend further into the hangar, but this gets the idea across just fine.

EM: They're not exterior windows, they're overhead lights.

FS: Due to the tight deadline and limited engineering resources for hangar development, we will be eliminating the sunken floor (layer cake design) and have the same system for the existing hangars. East wall extends out as the hangar duplicates out.

EM: Mmmm ... fantastic. I completely agree with Mark. If we have to make things modular, we could push out the muscle to make things as special as possible within that framework.



BEHIND THE SCENES



BEHIND THE SCENES

Once the final comp was done, the work shifted to Behaviour (BHVR) and Corentin for modelling. His first examples fill the next page.

CC: I did a first pass on the asteroid hangar in 3D. It's not a beauty pass and the design of different elements will be set later. It's more like a conceptual layout. The purpose was to fit the tier system and have a good representation of what it could be, with a smaller scale (to feel more like an hideout) and with more opened spaces with rocks.

I kept the same visual look, with the two pillars, the cat-walk, the control room, etc.

We could also add a few more openings on the floor, but covered with grids to see the rocky ground through them.

MS: This looks great, man! Fantastic blockout.

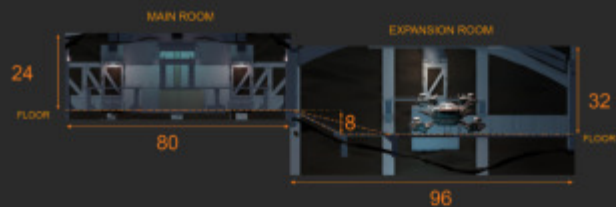
CO: Corentin, this is a perfect way to showcase this stuff. Thank you. If you can include a quick fly-through of the space with a focal length similar (but no wider) than you have here, that would be also very helpful. (Include even more human reference scattered about so we always know the scale of everything.) Also, go ahead and make the curved ribbed support side structures straight. Also I think that big center column breaks the space in a weird way. It would be better to utilize more natural rock formations throughout, especially around the initial center room (with maybe some deep crevices receding into darkness). I'm doing a quick paintover and will add it in a bit.

CC: Thanks, guys! I will do a quick fly through with more human ref. and post it soon.

CR: This looks really promising! Nice work!

ASTEROID HANGAR

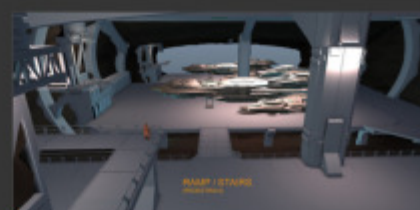
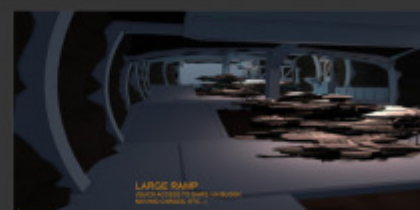
CONCEPT LAYOUT



MAIN ROOM



EXPANSION ROOM



EXPANSION ROOM



BEHIND THE SCENES



BEHIND THE SCENES

CC: Fly-through of the asteroid hangar (in Maya, sorry for the cam, it was a bit laggy). The Cutlass is at scale and the Constellation is scaled at the Caterpillar size.

EP: Very cool stuff, Corentin — loving it.



CC: This a quick mood/concept painted over the 3D we did earlier. It's an exploration of textures and mood, suggesting ideas here and there, but trying to keep the original feeling.

Concept done by Nicolas Ferrand.

CC: The scale of characters might be too small on this one, btw. The scale of the ship is correct, though.

HJ: I think the people are probably about 1/3 - 1/4 proper size, relative to the ship.

CC: Yes absolutely, the ship is 7 meter tall so we should be able to put like 4 people in its height.

CC: Updated !

HJ: Speed indeed!

CR: WOW. Just WOW. Love IT! Great stuff, Corentin!

CC: Thanks! Actually, the thanks goes to Nick Ferrand (our new concept artist) who did this paintover.:

CR: Let him know that I'm impressed!

TD: Nicolas Ferrand's got some skillz!

DH: Hello, new Desktop Background.

EM: I love the pockets of light with few obvious sources. Very nicely done.

PC: Just like David said, Hello new Desktop Background!

CC: I updated the file with a larger version he just gave me.:



BEHIND THE SCENES

CC: Here is a new flythrough in Maya of the asteroid hangar.

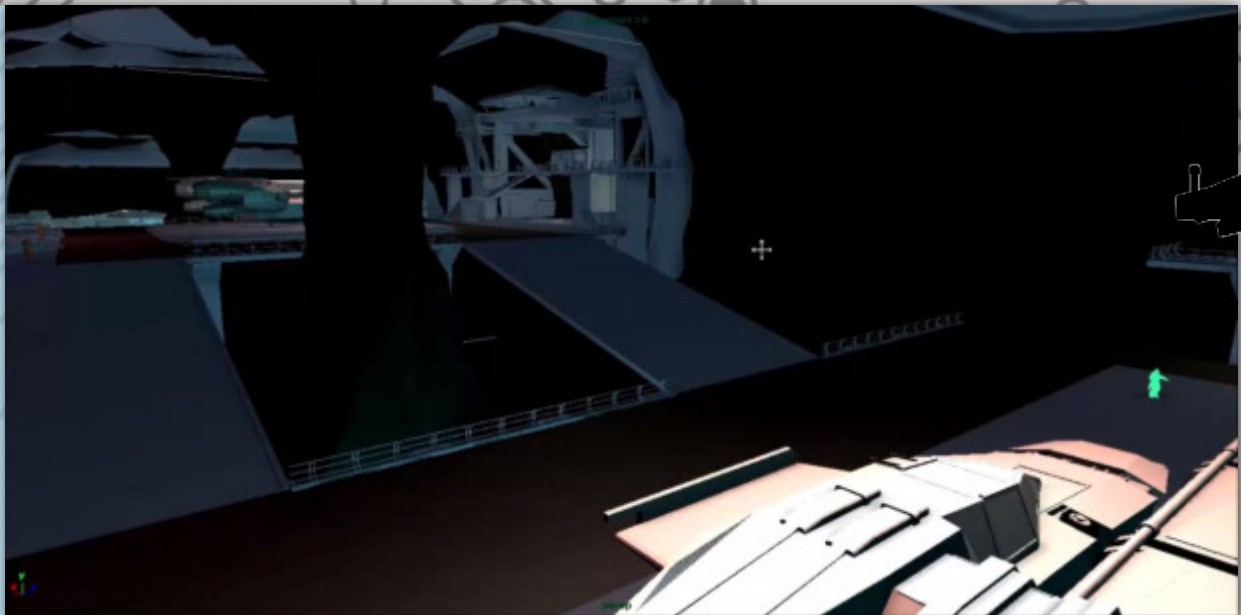
It's still more of a layout pass than a beauty pass, but I tried to apply most of the feedback I had from Chris O.

Whether or not we keep the rock pillar between the two large slopes is up to you. I personally prefer with the pillar; we still see our ship clearly from the control room or the catwalk, and it adds a good "cave" feeling to the scene.

The second video shows the way "rooms" would be tiled.

I worked closely with an LD to find a way to fit that in the room system and keeping the organic look. He is actually building the level in the engine (just with boxes) to be sure our proportions are correct.

The tricky part is where the Main Room has to fit with the Large Room while the Large Room still tiles to itself.

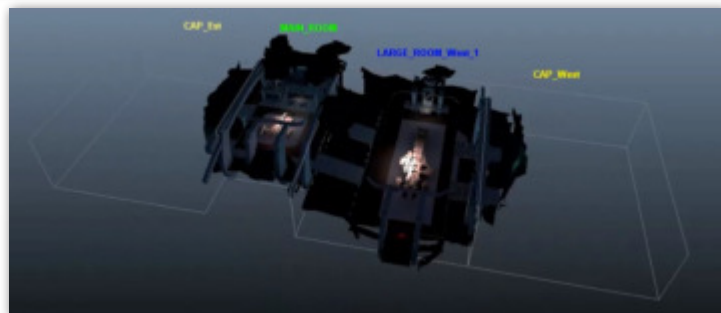


That's why we are a bit restricted in this area, artwise.

Otherwise if everything is correct, we can start designing different areas and props.

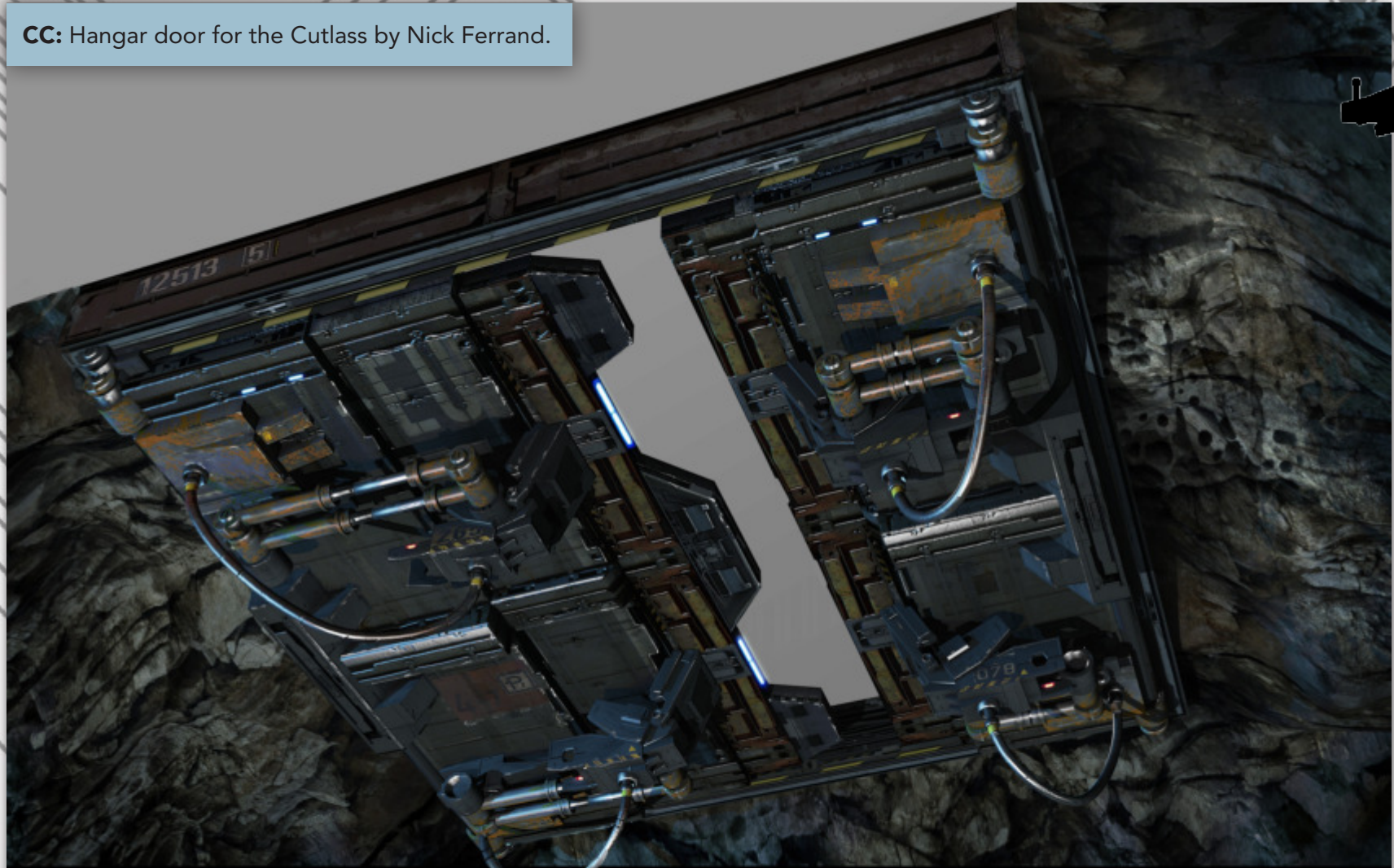
CO: Center pillar is cool with me. Yeah, it gives a nice frame to the additional rooms looking from the control room. Nice!

CC: Perfect!

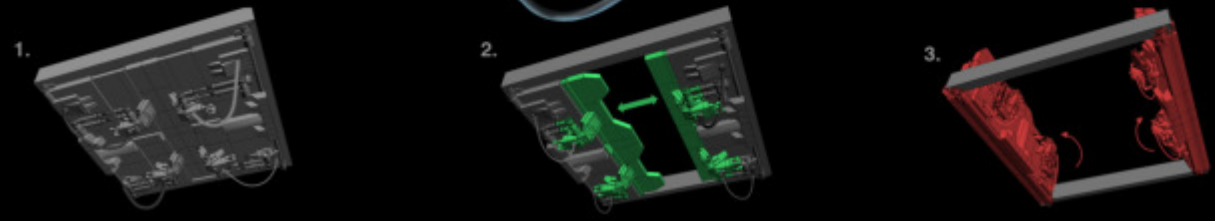


BEHIND THE SCENES

CC: Hangar door for the Cutlass by Nick Ferrand.



BEHIND THE SCENES



ASTEROID HANGAR DOOR



CC: Concepts for the asteroid hangar done by Nick Ferrand.

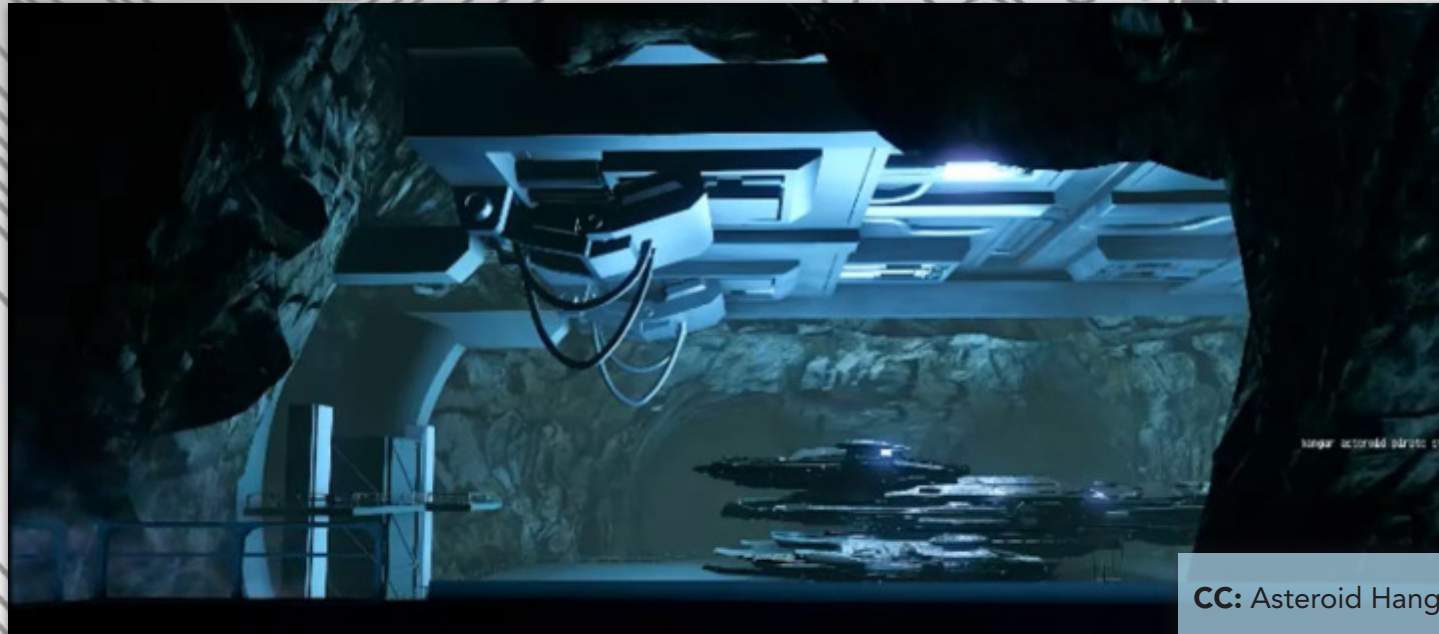
You have a shot from a bit above showing the catwalk, the control tower and some floor panels. Then, you have a closer look toward the small lift that leads to the control tower. Finally, there are the two doors, one for the future expansion rooms, the other one for the big lift that goes to other levels.

Overall it's a bit more of a "run down" feeling, I think it accentuates the pirate feel, like some parts have been gathered from some abandoned ships or places.

CR: Looks awesome!



BEHIND THE SCENES



CC: Asteroid Hangar:

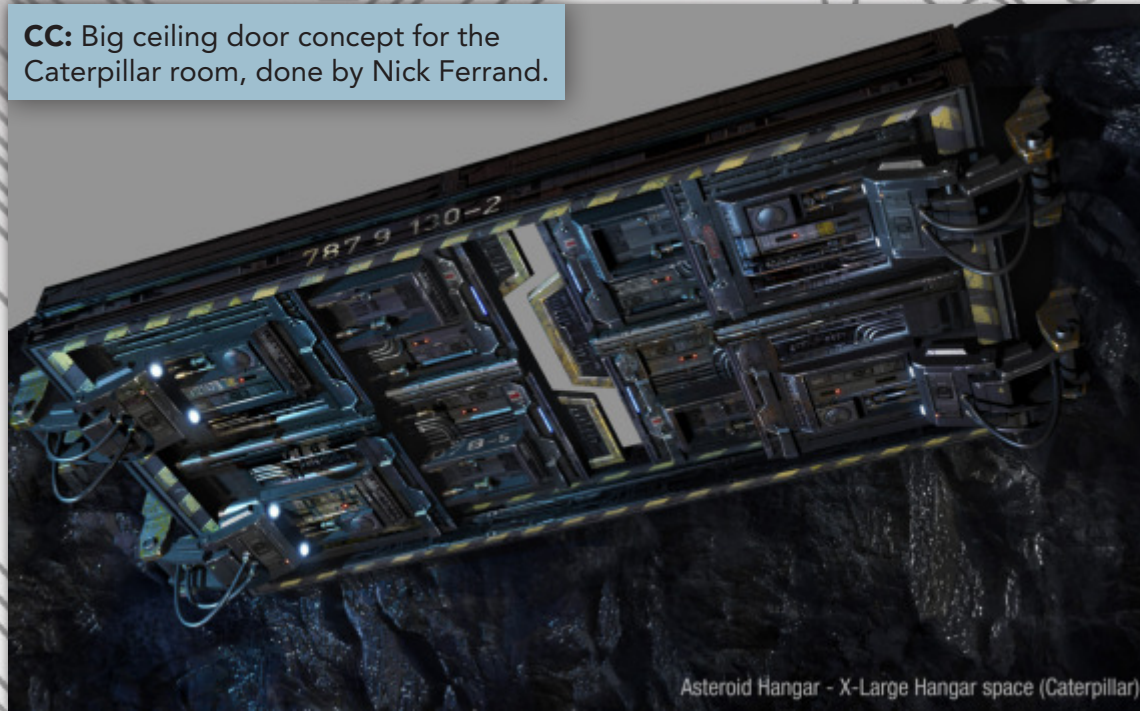
- 1) Basic mood only, with prefabs defined.
- 2) Rocks are only to show "rocks go here" and are not final.
- 3) Placement of lifts will probably need to be adjusted slightly, but layout is roughly final.
- 4) Doors show where expansion will be done via the room system (note: Room system obviously still not finished).
- 5) First pass only for ceiling doors.

CO: It would be great to have areas on the floor with metal grates, with light underneath showing through. And then once the particles and atmosphere and mist are in there, they will form really interesting upward shafts of light.

CC: Absolutely!

BEHIND THE SCENES

CC: Big ceiling door concept for the Caterpillar room, done by Nick Ferrand.

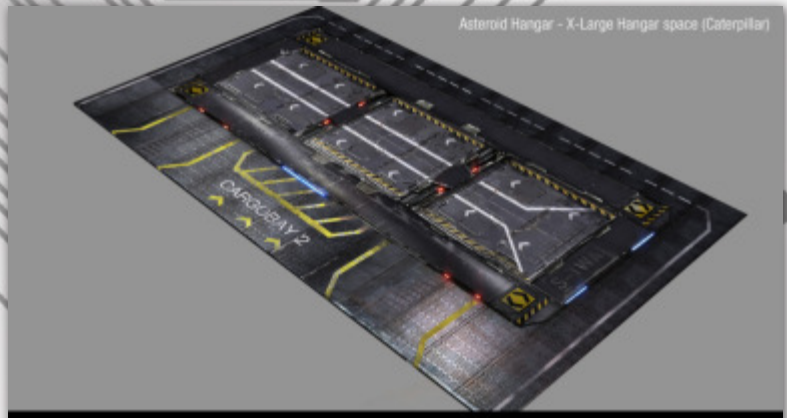


Asteroid Hangar - X-Large Hangar space (Caterpillar)

Asteroid Hangar control room — exterior.
Done by Nick Ferrand.



BEHIND THE SCENES



Asteroid Hangar - X-Large Hangar space (Caterpillar)



Asteroid Hangar - X-Medium Hangar space (Outlass)

CC: Asteroid hangar landing pads, done by N. Ferrand

MS: This looks great, Corentin. I would say for the pads we should think about how the ship get lit from the lights on the ground shining up. This is probably the main way the ships get lit in this hangar, so it's worth thinking about.



CC: shooting range for the asteroid hangar.



BEHIND THE SCENES



CC: Dressing the asteroid hangar for the Cutlass commercial. Concept by Mathieu Levert.

MS: Looks like what CR was wanting for the Cutlass commercial. CR, is this correct?

CR: Correct. Works for me!

DR: Bonus: This is a bar on Levski, a planetside location.

CR: Great!



BEHIND THE SCENES

CC: Asteroid Hangar Control room interior. Done by Nick Ferrand.

MS: Awesome sloppy feel! I like the mechanic's garage vibe.



LA: Asteroid Hangar, condensation material WIP. Environment mapping currently broken, but I think it will sell the overall effect a little more.

FS: Nice! You will need the env probe to really appreciate it. A material like this is great for PBR; just remember to keep your specular dark in the texture and gloss really bright in the texture.

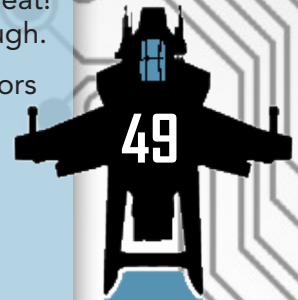
EP: Very nice, Lee.



MS: Hey, guys. Asteroid hangar is coming along great! Here are the notes from today's meeting walkthrough.

- Need follow through for wires on the hangar doors
- Floor tiles are scintillating and zizzy
 - Take the bump down, loosen them up a bit
 - Maybe the spec is a little too high
- Bring the gloss down
- Human scale lighting is good, not lighting the whole area at once is nice
- Model for the stabilizer is cool
- Animate the sway for hanging cables
- Loosen the big wire on the control room a bit
- Getting shadows on the stabilizer will help it
- Textures look good
- Break up the symmetry on the floor
- Paint stripes, grates, decals
- Rocks are looking too manmade
 - take them up a notch
 - Sharpen up the rocks
- BHVR looking into lighting issues
- Need to finalize the Ceiling door:
 - Make sure the opening is wide enough
 - Animation issues with exporting in engine. Need to slow down. Need to feel the weight more.
- Animate wires movement after the opening is complete
- Need to put a rock mesh outside the door to block the view

I think we're definitely getting closer!



BEHIND THE SCENES

MS: Here's BHVR's feedback, which is all good:

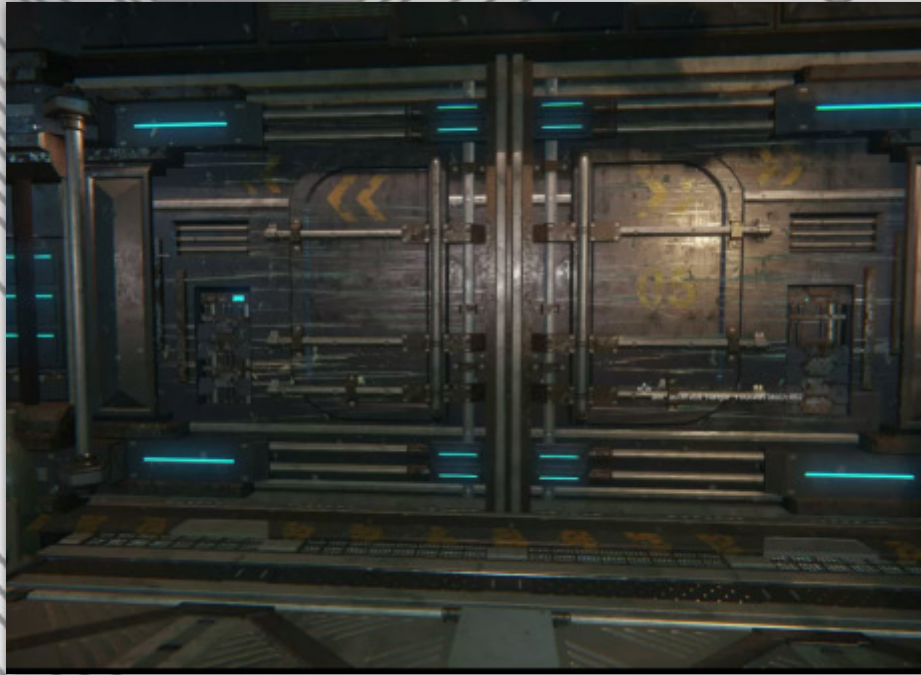
- Control Room Exterior — the pirate decal was removed
Need to tweak the glass shader and the decals for the dirt and leaks on it
Need to add more dirt/rust, stains, leaks, on the exterior panels
- Control Room interior — first pass (wall materials, glass windows, lighting)
Office chairs (work in progress, no shaders yet)
Man-made tables (first pass)
Some missing materials
Temp cylinder object in the middle (starting new asset tomorrow)

Here's some other feedback from our meeting:

- Light from the fan is kind of a weird place for a light
- Add a sheet of clear plastic so that we get some cool highlights
- Have it moving and blowing to give more life



BEHIND THE SCENES



[For first screen on this page]

MS: Asteroid Hangar WIP from BHVR

A: Here's BHVR's feedback, which I agree with:

Bay Area Door: Need to tone down the scratches going across the door, need to be less present as it gets closer of the middle.

Side walls for the slope in front of the Bay Area Door — first pass on the materials and modeling.

MS: The other thing was the lighting and the lack of shadows. It's throwing everything off for me.

* * * *

[For second screen on this page, and screen on next page]

MS: Good update. Generally the modeling textures look good. We need to work on lighting and reflection / AO issues which hopefully will be worked out with the next CryEngine release.

BHVR's notes-

Control Room interior: first pass (wall materials, lighting). Floor need some aging and decals.

Props: hanging chains and chains holding an engine.

Plastic Sheet covering an engine, first pass on mesh. Need a zbrush pass and a better plastic shader. R&D for the shader.

Stock Room: first lighting pass on the Stock Hangar section.

Props were added to populate the space (crates, pallets, containers).

(continued on next page)



BEHIND THE SCENES

Expansion: rough lighting pass.

New concept for the X-Large ceiling door.

General: flare was added on some of the lights.

New LightStyle animation around the landing pad.

The blue glow on stairs and bay area door were de-saturated a bit.

Ongoing: cylinder module that goes in the middle of the control room (work in progress).

Walls of the interior of the control room (almost done).

Decals (weldings, junk, dirt and more).

X-Large ceiling door will be started by the end of the week.

My notes from the meeting:

- Start messing around with ambient occlusion
- Aaron to see about 3.6 build for BHVR
- Make the lights around the ships look more like strips, similar to other areas
- Needs some thought on the mechanisms behind the door
- More mechanical bits showing what is sliding it
- Put some huge wires in there

CR: Looking good! When will this be ready for prime time?

MB: We are planning to be content lock in three weeks. I guess we'll need to work with ATX to bring it live and I expect to take 2 weeks for polish debug and hooking it up to the network. If we want the firing range with it, we should to add three more weeks to that schedule.



BEHIND THE SCENES

PJ: Looks pretty sweet! I had two questions. Would it be better if the ship were rotated 90 degrees so it presents a better shape when you come down the stairs? And secondly, I like the focal point you have created with the green sign, etc., but it feels a little like I'm going to the opera with the large swathes of cloth (just my two cents, Mark, and I can see the fans liking it!)

MS: The green sign and curtain are going away. That was for the commercial, but will not be in the final. 90 degrees might be cool. Let's try it!

DR: This is not a big deal, but the ship is placed like this for easy cargo access. The cargo lift leading to the warehouse is just behind. That said, in the end, the player can choose the orientation of his ship, as long as it can still fit in the landing footprint (and with the hangar door).



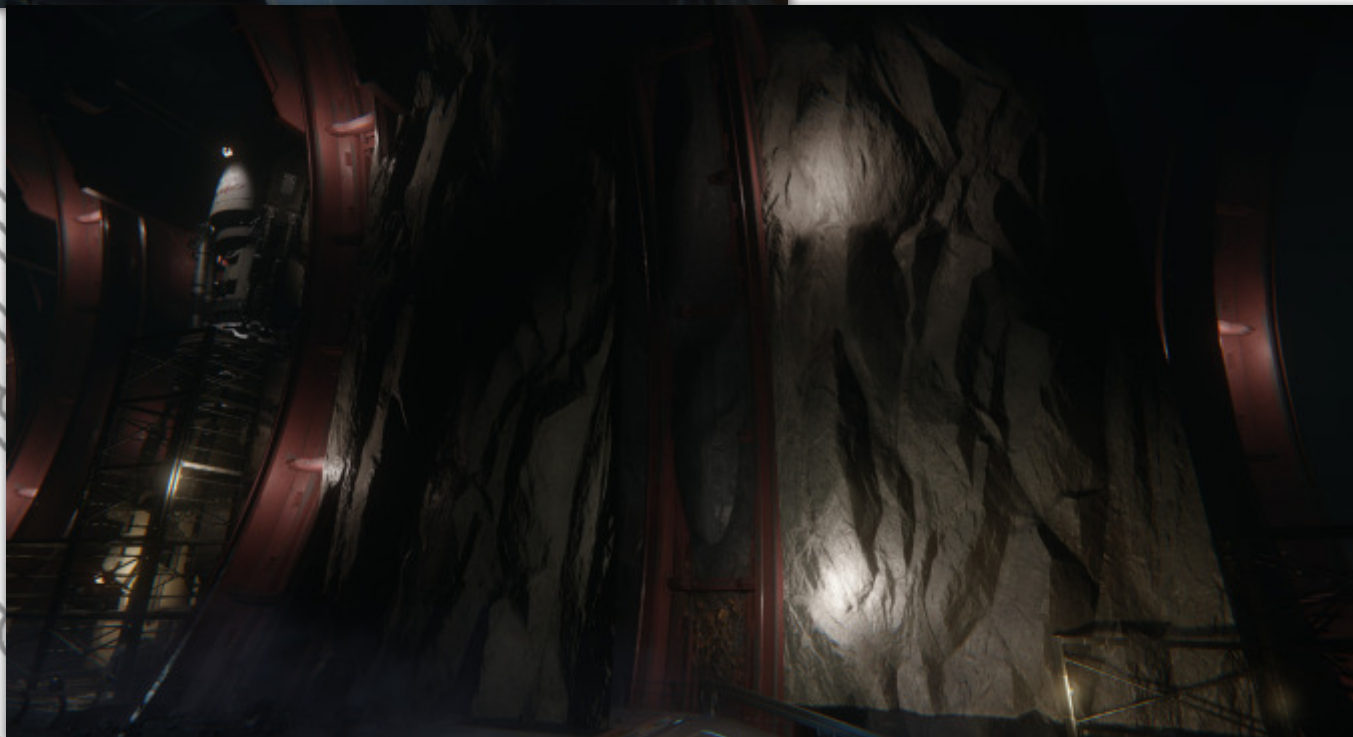
CC: Asteroid Hangar Update

CO: Sweeeeeet.



BEHIND THE SCENES

MS: Asteroid Hangar Update: rock test.





CONTROL ROOM EXTERIOR & BAY DOOR



CONTROL ROOM INTERIOR

[For screens on these three pages]

MS: Looking great, guys!

Here are my notes:

- Contrast might be too much, will wait and see
- Dark and moody is good
- Stabilizer needs a texture pass
- Make the smoke more subtle coming out of the stabilizer
- Different video streams on the monitors would be nice
- Glows inside the big cylinder thing in the control room should be added to make it alive
- Put some stress in the elevator door animation
- Break the mirroring texture up on the elevator door
- Make the grid of the floor go around the pillar so it is sitting flush to the ground
- Weathering looks good
- The more exposed mechanical bits, the better on the giant door to allow for animation
- Cloth bits are cool because they provide contrast

Here are BHVR's notes:

- Videos are not the latest; Perforce was locked down and we have been branching the artists on a different stream this week. It went well, but updates are missing in the level.

We should have that up to date for Friday.

Here are the notes for this week:

Control Room: animation and the model of the elevator door done.

Main Hangar: scaffolds have a new component: plastic sheets.

Metal pillars are now textured.

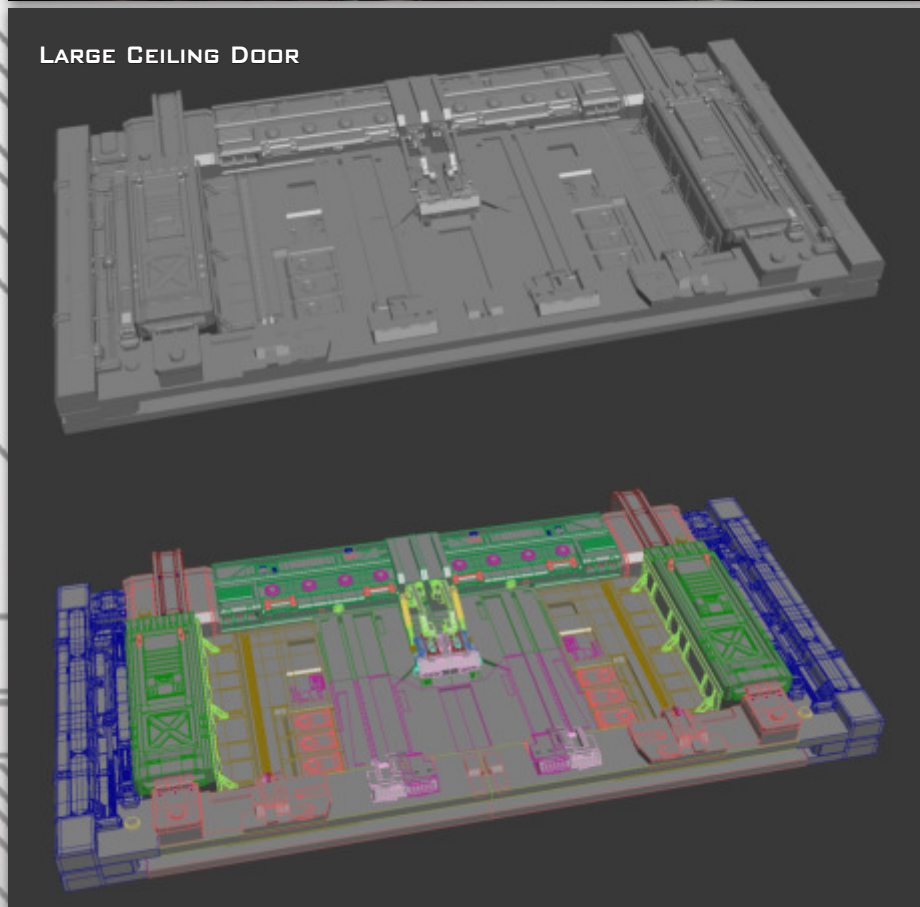
Expansion: X-Large ceiling door work in progress.

(continued on next page)





LANDING PAD & CARGO



LARGE CEILING DOOR

[For screens on these three pages]

Ongoing until Friday:

- Rock pillar detail pass in z-brush.
- Broken and open panels to add on the walls.
- Paper decals are being toned down.
- General shape of the rock cage.
- Floor tiles shaders are being tweaked to match the level of detail of the one in the control room.
- Digger marks decal on the wall.
- New texture on the railings, and beefing up the top part to make it less skinny.
- Need to add the flare objects for testing.

Also, for the next two weeks, we're going to polish the rest of the hangar and fix visual bugs.

Here is a list of what we plan to do (it's not prioritized yet). It's lots of small tasks, many already in process:

- Rocks: central pillar: decal pass
- Cave base: decal pass
- Global decal pass (wet, rust, etc.)
Add chipped off parts (decals?)
Place a few light fixtures, cables and metal plates
- Floor: texture 2nd pass: dirtier (ongoing)
More painted metal (it's actually almost some bare metal everywhere)
Decals: add more large scratches, oil stains, rust, etc.
Add large numbers and signage on the slope leading to the specialty door
Paper decals globally too bright: lower the value and add variation (in value/hue). Remove some tools/gears decal

(continued on next page)

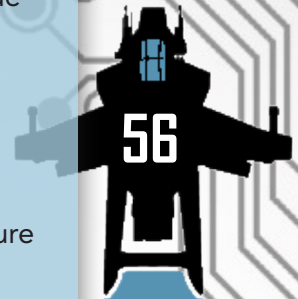


BEHIND THE SCENES

[For screens on these three pages]

- Landing pad: texture 2nd pass: dirtier
Large hatched yellow stripe need to be refined: paint more damaged, could be divided into two thinner stripes
Create a real light fixture for the small flashing blue lights
Need some columns that support the floor of the stock room (we can see that it's floating)
Scaffolds: break parts; break straight lines, add damage
Tarps
Hanging cables to make visual connection between platforms
- Large curved beam & ceiling beam: 2nd texture pass: material break up (break the overall red a bit, add some bare metal parts or other painted metal); decals (leaks, damages)
- Stabilizer: 2nd texture pass: dirtier, more leaks and damages
- Small ceiling door:
2nd pass on texture: larger scale detail, blending, dirtier
Decal: add signage, horizontal scratches, etc.
- X-large ceiling door:
1st pass of texture / material break up
2nd pass on texture: larger scale detail, blending, dirtier, horizontal scratches, etc.

- Control room interior:
Create light fixture for yellow neon (currently they are designer meshes)
Replace screens with updated version
Control board (it looks like some parts are missing)
Glass shader tweaking (dirtier on the edge)
Fan asset (from Dumper's) needs a second pass of texture
- Control room exterior:
Replace the "too-bright" beige texture with something darker (maybe the muted blue or something)
Glass shader tweaking (dirtier on the edge)
Add opened panel with hanging cable underneath
2nd texture pass (blending)
- Catwalk:
Texturing the railings
Animate elevator door
Blending metal panel + rocks
Ceiling brace that supports the control room
- Expansion room:
Ladder that leads to the catwalk
Lighting: polish



BEHIND THE SCENES

CC: X-large door for the Caterpillar in the asteroid hangar.



BEHIND THE SCENES

LA: I've been adding volumetric lights to the asteroid hangar to put icing on the cake. I discovered in my tests that we can also create some interesting effects with volumetric lights with light beam material and a projected texture applied. The texture controls how the volume animates, in my R&D.

ST: That's super cool!

A few questions and requests though. Can you please enable `r_stats=16` and let us know what the frametime for such an effect is? It will likely be in the deferred lighting group.

I notice a pretty significant frame drop when you turn it on.

I worry about a few things, but generally a very cool effect!

It looks like individual lighting is not affecting the volumetric effect, so the biggest thing that you'd want to get from something like this would be rays and light interactions.

- What happens when the light is culled out?
- What happens when the camera is outside of the radius of the light?
- Does the light still cast light into the world? This could be a major issue (use fake light if you can).

Right now you could do something similar with a fog + perlin noise (like a very large sized geometry beam shader).

Still very cool. I just have some typical performance qualms and concerns on the overall impact.

LA: I have 2 lights in the scene with different volumetric values.

ST: GREAT!! That's not nearly as bad as I expected. I assume you're running on a pretty beefy card, but even still! It's not bad at all — great work!

One quick performance save you could make is to enable the "fake light" so that the light itself doesn't do actual lighting on any objects in its radius. That way you save out on all the DPs that might cause.

Again, very cool. :)

LA: Thanks. :) It's a cool effect we can use. The only issue is that when the camera isn't facing the light, the effect gets turned off. This is probably something built into CryEngine for performance. If there's a way to disable it, this would be useful for atmospherics on a planet.

FS: That's pretty brilliant. Well done, sir.



MS: Ok, guys! Sooo close to putting this to bed. LOOKS FANTASTIC. Very impressive work. Here is some minor feedback:



Asteroid Hangar Feedback

1. The rubble color doesnt seem to match the rock color. Lighting maybe?
2. UV / Texture problem
3. Not sure about how floor is broken. Doesnt really make alot of sense. Can we just make a non broken border around it so it looks like the floor was just built around it with a small gap so you can see under the floor a bit?
4. The hoses terminate into a wall.
5. Can we have better transitions from the tubing into the wall?
6. God Rays look strange. Soften bring down strength.
7. UV / Texture problem
8. Strange red light on rocks here
9. Harsh straight line on the rocks where theyre being pushed together. Can we fix? Get a better transition?
10. same as #9
11. This Cover looks strange. Can we just lose it?
12. Better transition into the rock.
13. How do we get up here?



MS: Love the rocks!



BEHIND THE SCENES

MS: You guys are basically done! There are a few more small things.

- Metal is looking good
- Ridges in the rock are good, light plays off it better
- Put wires connecting the lights on the rock walls
- Lighting makes the giant door feel huge, that's good
- Landing pad detail looks good



Firing Range

MS: Beautiful. Here are some notes:

- Noise cancelling blocks on the wall look good, adjust spec a bit
- Push cartridges on the floor towards the sides of the room
- Need HUD for shooting range
- Flip the railing down so the gun can move out into space
- Need Josh Always to do a shader
- Need new weapon mount concept
- Need Photoshop mockup from Rob R for HUD



BEHIND THE SCENES



Final Version



BEHIND THE SCENES

BREMEN SYSTEM RYTIF



HISTORY

Bremen rightly claims to be “the smallest star system with the biggest impact on galactic affairs.” For just over five centuries, Bremen and its unassuming planet of Rytif have been a surprisingly important element in everything from intergalactic warfare to the overthrow of the Messer regime; today, it has surprised the galaxy again by becoming a wholly unexpected center for high-tech spacecraft industry.

A K-type main-sequence star located at the outer reaches of Sharon’s Nebula, Bremen was first visited by legendary for-profit explorer Bao Yun in 2441. Yun’s crew charted the star’s four worlds, identified the only green-band terraforming candidate as “unremarkable” and promptly sold his

spotter’s rights to the United Nations of Earth. The UNE expansion council marked Bremen for development and standard terraforming of Rytif soon followed. Within two decades, the system was ready for a slow influx of Human settlers. While most homesteaders were attracted to risky, resource-rich systems, Bremen was seen as a “safe” alternative by some.

Then, at the dawn of the 27th century, man found himself again making war on aliens. With the Second Tevarin War in full swing, the burgeoning United Empire of Earth was in great need of dependable resources to support the conflict against Corath’Thal’s armadas. With the core worlds focused on producing ships and weapons, the UEE reached out to its more distant colonies. Aiming to both incorporate these worlds in the war effort and to take some of the burden off the over-taxed planets closer to

E
D
I
H
H
H
H
H
V
V
V
H

home, planners were surprised to discover that Bremen II's ecosystem was uniquely capable of growing low-perishable foodstuffs.

In a matter of months, Bremen was outputting the majority of food provided to UEE military units on the front. The population skyrocketed as speculators arrived to purchase farmland, and many of the 'timid' original colonists found themselves millionaires several times over (including, notably, homesteader Arcturus Koerner, the planet's de-facto governor). For seven years of war and an ensuing two decades of peace, Bremen's farms, packagers and shipping facilities were an economic powerhouse like nowhere else in the industry.

By 2640, however, the system's population had again begun to dwindle. Humanity's fortune was on the rise, and the newly fortified Empire now craved more variety than Bremen's simple sustenance could offer. The planet seemed to be resigned to the dustbin of history, its part in a popular war nothing more than a footnote. Ultimately, it was exactly Bremen's return to its prior, unassuming status that led to its most important role yet. In 2792, anti-Messer activists began using Bremen as an operation hub to organize the overthrow of the regime. Revolutionary-minded expats who had previously escaped to the Xi'An Empire were smuggled back to launch their conspiracy from Bremen.

The extent of Bremen's role in the overthrow of the Messer government remained a secret to the general populace until the Senate released declassified communications between Resistance members within the government and the revolutionaries on the planet. It was this evidence that directly led to the planet's official recognition just five years ago (although some speculate that the discovery of previously unidentified valuable ores beneath the surface a year ago might have been the real or contributing reason).

Today, Bremen is home to a growing aerospace industry instigated by Silas Koerner — a descendent of the system's most wealthy original homesteader — and his

Consolidated Outland group. Bremen has become the first 'outer world' to produce a complete spacecraft, with thousands of Mustangs flying off the assembly lines every day. With a rich history and a variety of natural resources at hand, Bremen seems set to remain something of an unexpected powerhouse in the modern, post-Messer Empire.

BREMEN I

The first planet in the Bremen system was described in only four words in Bao Yun's survey: "a small, dead rock." The ensuing centuries have not added significantly to Bremen I's mystique, and there is no proliferation of minerals or other resources that make visiting the planet profitable. The rock has, however, become something of a legend among modern explorers leaving Bremen for parts unknown: it's now a tradition among many to 'tip your wings' towards Bremen I while within visual range of the planet for good luck before setting off on a long-distance run.



BREMEN II (RYTIF)

Breadbasket, forge of the revolution and high-tech headquarters: Bremen II, formally recognized as Rytif, is the planet that has worn so many hats. Rytif is currently home to Consolidated Outland's growing starship empire, and it is the personal home of the company's eccentric founder. The recent discovery of subsurface mineral deposits combined with the planet's long history of agriculture means that Rytif is a rare "self-sufficient" terraformed world that can theoretically exist without any interstellar commerce. In reality, Rytif is anything but an isolated world, with the popularity of the Mustang line bringing trade from around the galaxy.

Despite the planet's storied history and recent popularity, Rytif's settlements retain a 'small town' sensibility. Visitors are usually directed to Stalford, a mid-sized city located just north of the equator. Stalford has long been the farming headquarters of the planet, with water farms and commercial vivariums ringing its surrounding hills. A variety of

MARKET DEALS — RYTIF

BUY: UNREFINED ORE	+2
BUY: BASIC FOODSTUFFS	+1
SELL: BULK REPAIR COMPONENTS (MUSTANG)	+2
SELL: REFINED ORES	+2

tourist-centric monuments to the role of the planet in the fall of the Messers have sprung up in the past five years, and tourism also seems poised for a growth spurt.

BREMEN III

Bremen III is a coreless world located well outside the system's green band, beyond any reasonable hope of terraformation. Bremen III was home to a reasonable amount of mineral resources upon the system's discovery, but it was quickly strip mined clear to support the development of Bremen II (both the initial terraforming and the move to war footing). Today, there is little reason to approach Bremen III; though the same was said of Rytif itself in the years before its involvement in the overthrow!

BREMEN IV

Considered by locals (without a significant body of evidence) to be the star's "guardian planet" for its role in keeping comets clear of the inner worlds, Bremen IV is a massive ice giant. This swirling mass of hydrogen and other gasses is interspersed with variable fields of ice, making for a particularly beautiful planetscape. Unfortunately, raw refueling operations at Bremen IV are nigh-impossible, owing to the lack of clear gas fields. It is not uncommon to find the wreckage of stubborn Starfarers or Caterpillars that have attempted this, in decay orbits around the world.



THE
BREMEN
SYSTEM





Lost & Found

by Charles Duncan

Part 3

Oskar Gruber had little trouble tracking down one Zara Vencia. She was a relatively well known bounty hunter. Or at least, she had been. It just took one call to Serge Michaels to trace her whereabouts.

Gruber could see Michaels shaking his head through the viewscreen. “That’s the best information I can give you. She had quite the reputation as a bounty hunter a few years ago. From what I could dig up, she’s retired from active contracts. She’s built up a little consortium of operators, all working under the banner of Vencia Retrievals. They’re based out of Borea. Not a massive group, but enough to keep her relatively well off, at least from the tax records.

Which I should have in no way looked at.”

Gruber smiled at the screen. “I appreciate the help, Serge, I really do. “

“Well, I wish I could say I understand, Oskar. I know you’ve always been interested in ships, but this seems too much, even for you. I’m worried.”

Gruber thought about trying to explain the situation. It wasn’t just the ship anymore. Oh, the more he learned, the more he was convinced it couldn’t be a production model ship. It had to be custom. And he was intrigued by that. Who would bother making a custom version of a Cutlass, of all things? It wasn’t some luxury liner or billionaire’s space

yacht. And he had to admit to himself, the details were trivial, and almost certainly meaningless to anyone other than a collector or an obsessive. But Gruber couldn't let the import of the locket go. He felt driven, not by the ship, not by the locket, but by the need to find the owner, and get it back to him, or her. Logically, he knew it wouldn't change anything. Perhaps that would help get some of his questions about the ship answered, yet even if he didn't get those answers, he wanted to get that locket home. But he couldn't bring himself to tell Michaels about it; he was too likely to ridicule him even further.

"It's ok. You don't need to worry. I just . . . I've got time. And I want to find out more about the ship. It's a . . . technical . . . thing."

Serge shook his head again. "Just be careful, all right? First you wanted to talk to a jailed pirate, now you're going to a well-known bounty hunter." He laughed quietly, "And really, what makes you think she will even talk with you?"

"Because," Gruber replied in a carefully matter-of-fact tone, "I'll make an appointment."

* * *

Gruber knew that he shouldn't let Michaels get to him. It was annoying and frustrating, but Gruber knew that Michaels was just worried. Realistically, Gruber knew he should never have bought the ship, or he should at least have stayed working for Stark's crew. Gruber had drive, and he had tenacity, but he didn't have a lot of money, and he certainly didn't have a job. However, to quote the histories he had read so much as a child, the die had been cast. He had started on this journey and he was going to finish it. He couldn't let the notion of the locket just fade away. He charted a course to Borea and set about contacting the bounty hunter's consortium.

Gruber managed to get to Borea without incident. Once there, he didn't have to wait long before his meeting with

Zara Vencia. Gruber found himself being seated in a rather nice conference room. It wasn't flamboyant, but it spoke of the financial successes Vencia Retrievals Inc. had accomplished. He was seated in a comfortable chair, drumming his fingers on the tabletop when the door opened and a woman walked in. She was tall, taller than Gruber. He would have put her well past middle age, but she seemed fit and sharp-eyed. She quickly walked to the chair opposite Gruber and sat down.

"Mr. Gruber, I presume?"

"Yes ma'am. Ms. Vencia?"

She nodded curtly. "You will understand, of course, that I do not typically handle meetings with our prospective clients. However, my secretary informs me that you were quite insistent. And that you considered the matter you wished to be investigated of a personal interest to myself."

"Yes, that's correct. The matter is one I believe you'll already be personally aware of."

"Well, our fees are not insubstantial, but I think you will find them very reasonable given the quality of service our organization provides. Of course, there will be many factors, depending on whom you wish found, how many personnel it will take, things of that nature."

Gruber was confused. "I . . . fees?"

Vencia looked annoyed. "Yes, our fees for tracking the ship you are interested in."

"No, no. I don't need anyone to track the ship. I have the ship. I flew it here to Borea."

Vencia's expression grew cold. In that moment, Gruber knew why Quister had called her *cold hearted and stone faced, with nary a drop of compassion*. If looks could kill, he would be dead. "If you don't want to retain the services of my organization," she tersely inquired, "why are you wasting my time?"



CHRONICLES

"I think you know the ship. In fact, I think you used to own it. I just wanted to ask you some questions about it."

"And what precisely, Mr. Gruber, makes you think I would have any answers for you?"

"Because the ship was named the *Glorious Reach*."

For the briefest of moments, her face lost its stony demeanor and Gruber could see old pain flare up in her eyes. He knew that look. But the moment left as fast as it had arrived. She stood to lean over the conference table, staring directly at Gruber. He remembered that she was not some faceless corporate desk jockey. She had made a reputation as a premier bounty hunter, dragging back the scum of the sector to face justice, alive or dead.

"There's a name I've not heard in a long time."

She sat back down in her chair opposite Gruber. "So, Mr. Gruber, perhaps you would be good enough to tell me what you know about that ship."

* * *

Gruber finished telling Vencia what he had learned about the ship so far. She had listened intently as he related the story of the derelict craft, and his talk with Quister at Lorona.

"So, you actually went to see Quister in prison?"

"Yes, I did."

"That was incredibly stupid of you. He's still a dangerous man. The universe would be better off rid of him."

Gruber's face burned red. "That is not the first opinion of that nature I've heard, ma'am. But it did lead me to you."

She laughed, but there was no humor in it. "He would send you to me. He always was such a braggart. I've no doubt that he thought it would be quite charming to remind me that he is still alive."

"He did speak rather . . . highly of you."

"He's a miserable excuse for a human being. I felt it a solemn duty to ensure his capture. Unfortunately, the Empire saw fit to merely incarcerate him, rather than give him the punishment he so richly deserved. He was protected from on high, though of course I have no proof of any intervention on his behalf." She gave Gruber an intent look. "But you're not here to ask about my personal opinion of that piece of pirate filth. I believe you want to know more about my old ship, although for the life of me I can't imagine why."

"I've reason to believe there is something special about the ship, ma'am. My investigations have so far led me to believe it's a custom made ship. I was hoping you could provide me with some more information about it."

"Custom made? I should hardly think so. It's a Cutlass. Oh, a fine ship in its own limited way, but certainly nothing out of the ordinary."

Gruber's face went slack. "But . . . but, I mean, I've taken measurements. I've research the components, this is not an ordinary Cutlass. Even Quister said that he couldn't find standard parts for it." It sounded weak, even as he said it. But she sat there, composed and cold, and he didn't know what he could say without sounding even more inane.

Vencia gave a sly look. "Well, Mr. Gruber, if the ship is so special, and you've freely admitted it was my property, what's to stop me from reclaiming it?"

Gruber keyed up a display on his MobiGlas. "Because you filed, and accepted, an insurance claim for it. Legally, you have relinquished all rights regarding the ship. By Advocacy procedure, the impound claim filed for it cleared any ties of ownership by the insurance company. Admiralty law of salvage removed any claims from any relatives the former owner may have had. My subsequent purchase, and taxes paid, solidifies my ownership."



CHRONICLES

For the first time, she smiled. “I may have to revise my estimation of you, Mr. Gruber. You certainly seem to have your facts in order regarding title. But even so, rest assured, if I had any claim to the ship, I wouldn’t want it back.” Her smile turned to a smirk. “Every ship has its own quirks, Mr. Gruber. Based on your occupation, I would think you know that. Ships are like people; they change in ways you don’t always expect. Parts wear out and get replaced. Sometimes they take a new direction from what they were originally designed for.” She looked past Gruber, with that far-away look of old memories resurfacing. “Sometimes they’re lost before their time.” She turned her chair around, putting her back to Gruber. He didn’t know what to make of that. They both sat there in silence, until finally she spoke in a low voice.

“I haven’t seen the *Glorious Reach* in twenty years. I haven’t even thought about it in half that time.” She turned around to face Gruber again. “It was my partner’s idea to purchase the ship. At the time, my organization wasn’t nearly as large as it is today. Just five operatives, with barely enough income to keep our ledgers positive. The hardest problem we had in those early days wasn’t finding people; it was transporting them once we had them. This business,” she gestured around vaguely, “is not exactly a traditional one. Even today, outside of the Advocacy, there is little in the way of ships designed to transport an unwilling person. So we made do with what we had. Drake Interplanetary was just getting its start. The Cutlass didn’t have the reputation then that it does today. Drago, my partner, saw the Cutlass as an ideal vessel we could retrofit to transport our acquisitions back to law and order. I myself did not see that, but I did see the price was something we could afford. And so we found ourselves in the market for a Cutlass. I would say we were after a “base” model, but really that’s all any Cutlass is. I suppose, in its way, that’s a selling point. No frills, no fuss, just a working ship. I will admit using it to transport captures was certainly a step

up from the single-seater craft we were using before it. The ability to actually walk around the cargo hold made a tedious flight between systems a little less tedious.”

Gruber looked at her expectantly. “So you did customize the ship?”

“There is a far cry between customizing a ship and have one custom built.” She pursed her lips, “I should think you would understand that concept.”

“Oh, I mean, well, yes I understand you said it wasn’t custom built for you. But certainly, when you were modifying it, you must have noticed some of the differences.”

“Mr. Gruber, I am neither an engineer nor a technician. I am in charge of this company now, and I was in charge then. I certainly didn’t perform any modifications on the ship myself. As I said, Drago thought the Cutlass could be adapted for our purposes. Any of the changes to the ship were his domain. I was concerned with how to afford the modifications, not installing them.”

“Perhaps he mentioned something? Some detail that caused him problems or some part that he couldn’t seem to find?”

“Nothing like that comes to mind. And again, I assure you, there was nothing extraordinary about this ship.”

“Well . . . perhaps someone was trying to copy the Cutlass. A competitor, perhaps, and it wound up in your hands?”

“Impossible.”

“But how can you be sure?”

“Because, Mr. Gruber, I bought it directly from Drake Interplanetary.”

Oskar Gruber sat dejected. He knew the evidence was there, he knew that there had to be more. Zara Vencia must have sensed how he felt; her expression softened and she slowly shook her head. “I can understand,” she



said, “after the effort you have put into finding out the history of this ship, why you want to have something more. It’s remarkable you’ve gotten this far; you could have made quite a tracker yourself.”

Gruber looked back at Vencia. He was torn; he had one last piece of evidence. He hadn’t mentioned the locket to anyone else. Not to Stark, not to Michaels, certainly not to Quister. He hadn’t wanted to mention it to anyone until he was sure he had found its home. It was a secret he carried, a burden, but it was a goal, too. He wanted to get it back to its owner. Gruber remembered the look in her eyes when he first mentioned the name *Glorious Reach*. He hadn’t told Quister about the locket because he didn’t trust the pirate. He hadn’t told Stark or Michaels because he didn’t think they would understand. But looking at Zara Vencia, at the way she had held herself when talking about the ship, Gruber had the feeling she just might understand. He reached into a pocket and withdrew a small box. He placed on the table in front of the bounty hunter. “I found this,” he said, “hidden inside a junction box on the ship. I was hoping to return it to whomever placed it there. Do you know anything about it?”

Vencia reached out for the box. She opened it and stared inside. She withdrew the locket from the box, then slowly opened the clasp, examining the locket as though it were a piece of evidence.

“It’s very well made. Simple, but elegant. Quite the sentimental inscription on the inside.” She placed the locket back down inside its box. “Do you know what sentimentality gets you in my business, Mr. Gruber?” She looked at him, her gaze seeming to bore straight through. “It gets you killed.”

She stood up. “If you will excuse me, I have business to attend. I suggest you do the same.” She left the room, leaving Gruber sitting there.

* * *

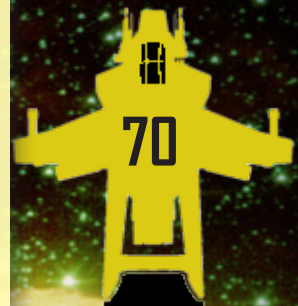
Gruber sat in the hold of the *Outbound Light*. He had remained at the spaceport on Borea for two days. He hadn’t called Michaels. The more he went over the ship, the more time he spent inside, the more convinced he became there was more to learn about the ship and its hidden locket. He thought half-heartedly about trying to contact Drake Interplanetary directly. Maybe they would have some records that could refute what the bounty hunter had said. Or possibly the ship was second-hand even then, and Vencia just didn’t know it. Clearly from what she had told him, it was one of the earliest models Drake produced. He spent some time researching the public archives. He saw the old commercials, he read about the creation of the Drake corporation. Nothing gave him any hope. He knew he would have to make a decision soon; he couldn’t just sit here. The idea of going back to Stark and asking for a job was thoroughly demeaning and almost certainly futile.

It wouldn’t have to be Stark, he told himself. I’m a good tech, and a good operator. There are other salvage operations. And I have a ship, he thought. I could start my own company. Head off exploring like Zharkov, or grab a few people and turn pirate like Quister. He laughed to himself, and yelled out to the empty hold, “Space is the limit!” He felt like a fool. He nearly jumped when his MobiGlas began beeping, indicating an incoming transmission. He activated the device, and was surprised to see the face of Zara Vencia looking back at him.

“Mr. Gruber.”

“Ms. Vencia. I wasn’t expecting this call.”

“Mr. Gruber, I am afraid I may have been a trifle harsh at our last meeting.” She looked off screen for a moment, and then turned her face back into view. “I was wondering if you cared to hear to a little more about your ship.”



CHRONICLES

Gruber was stunned. “Why, yes of course. Should I meet you at your office?”

“If it is all the same to you, I’d rather have the discussion right now. I’m standing outside.”

Gruber almost fell running to lower the cargo ramp.

He stood behind Vencia, considering the exterior of the *Outbound Light*. She ran her hand along the outer hull, then looked over her shoulder toward Gruber. “I wasn’t exaggerating when I said I haven’t seen the ship in twenty years. It’s a funny thing,” she said as she walked back from the hull, taking in the full view of the ship. “It looks so different, but the same.”

She gave Gruber the same hard look she had given him in the conference room. “When my contacts in the Advocacy told me they recovered the ship from Quister, I told them to scrap it. I always thought it had been cut to pieces. I didn’t want to be reminded.” She looked out across the dingy hangar where Gruber had landed the ship. “Seeing it now, it’s not as bad as I thought it would be.”

Gruber felt uncomfortable suddenly. “If you would like to come aboard, ma’am, I could offer you some tea.”

She nodded. “That would be most hospitable of you.”

As they walked up the ramp into the hold, her eyes darted back and forth across the room. Gruber busied himself making two cups of tea at the tiny kitchen area. As it brewed, Vencia made another comment. “I certainly wouldn’t recognize this part.”

“Ma’am?”

“Please stop calling me ‘ma’am.’ You’re making me feel old. With what I am here to tell you, you may call me Zara.”

“Yes ma— Zara. And please, call me Oskar.”

As she took the offered cup of tea, she gestured towards the living space set-up. “I take it from what you have told me, these are some of the changes Mr. Zharkov made.”

Gruber nodded.

“How very interesting. When I owned this ship, the cargo hold was used for the transportation of the fugitives we captured. Drago had installed several holding cells. He used to joke that it was the holding hold.”

“Your partner, he was in charge of the ship, I presume?”

“Yes. Drago handled what we considered the transport arm of our business. My job was to track down the fugitives and subdue them. Once we had them in custody, I would call Drago and he would transport them back to wherever they needed to go. The Cutlass is famed for its maneuverability, as I am sure you know, but Drago thought it had a potential for speed as well. It wasn’t going to outrun my Avenger, but I was surprised at the speed he could coax out of it. He spent almost a year modifying it, one part at a time.” She laughed morosely, “I was furious at the expense he incurred when he replaced the entire set of engines at once. But then, I always had trouble saying no to him.”

She looked around for a moment, and finally settled her gaze on one of the jump seats by the cockpit door. Gruber blushed at his lack of manners, ratcheted the seat down, and gestured at it. “Please, sit down.”

“Thank you.” She sat gracefully, and sipped her tea. “It was funny at the time, less so now, how much work Drago put into this ship. He had a wild idea that we could sub-contract the modifications with Drake. He thought his ideas could fill that niche role for others, just as they had for us. We could live off the royalties and stop tracking down criminals.” She smiled to herself. “I think he was always worried something would happen to me on the job.”



"I hope I'm not being too personal, but he was more than just your business partner?"

She looked at Gruber, her face sad and slightly strained. "He was. In another time, in another life, I suppose I would have married him. But we were young; we had a business to run. We both thought there would be time enough later." She sighed. "We were wrong."

She stared down into her cup, silent for a moment. "You've said that you found the ship out in space, the captain dead." When Gruber nodded, she continued. "He's not the first man to die on this ship."

Gruber tried to think of something to say, but any words he could come up with felt hollow. He stood quiet, and Vencia continued talking. "Sometimes, there are memories that I would prefer not to have." She gave him a glance. "I think perhaps you might understand me when I say that. I suppose that is why I was so harsh when I saw that locket. And no," she said before Gruber could ask, "it's not mine. Nor is it something that Drago would have had. It . . . it wasn't his style." She paused, lost in thought, before she spoke again. "We had been using this ship, oh, three or four years when Drago approached me about bringing a new hire into the business. Someone from his home planet. The man had a bit of a checkered past, but Drago had known him as a boy. I thought it was a bad idea, but Drago wanted to give him a second chance. He told me about how rough it had been, growing up as they did. How hard it was to get an opportunity for anything but a life of crime. And so, against my better judgment, I let Drago hire James Quister. A week later, Drago was dead and the ship was stolen." Her face took on that hard look Gruber recognized. "It took me six years, three months, and eight days to run that bastard to ground. But he was caught, and now sits living in that prison while Drago is still dead."

"I wish I knew what to say, Zara."

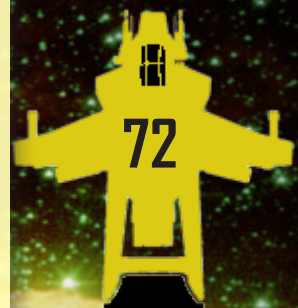
"There's nothing to say. Life changes," she gestured around her, "just like the ship changes. I don't care to remember a lot of what has happened, and I apologize for my earlier rudeness. But there is one thing I wanted to show you. Something I think might interest you."

She stood, activating her MobiGlas. She sorted through various screens, and finally brought up a display. She selected a picture, enlarging it so that Gruber could see it clearly.

It was a picture of a much younger Zara Vencia. She was smiling happily in a way that Gruber wouldn't have believed yesterday. She was making an attempt to look serious, but she clearly wasn't doing that great of a job. Looking at her now, through the intervening years, Gruber could see how much she had hardened and changed. The young woman in the picture, tall and beautiful, didn't have the cold look of the bounty hunter sitting across from him. Young Zara's eyes were the same blue, but bright and shining. It seemed naïve, but he almost could feel her hope for the future. He looked back to the older woman. *She's right*, he thought to himself. *People are like ships; they change.* He looked back to study the picture. Standing next to Zara was a handsome, dark-skinned man. Her arm was resting on his shoulder, and he was giving a "thumbs up" to the camera. His smile was even wider than hers, and he was not making any attempt to be serious at all. In the background of the picture was the hull of a ship. A rounded hull he knew well.

"We took this the day the ship was delivered. Drago thought it was important to immortalize the start of our new venture. I haven't looked at this picture in a long time, but our talk had me go back and find it. I thought you might be interested."

Gruber pointed to the picture. "Is there something written on the hull? It's . . . well, it looks like a name, but it's got to be hand painted on. I can't read what it says."



"I wasn't lying when I said I ordered the ship from Drake Interplanetary. But the Cutlass hadn't been available more than a year at the time. It was already building quite a reputation, and Drake was scurrying to fill their orders. I had ordered a new one, but when we went to pick it up there had been a misshipment. No new ships were available. All they had were some castoffs that were due to be given to local militias as a promotion. Drake wanted a sale, and I wanted a ship. I couldn't say no to the deal."

"So what was written on the side of the hull?"

"It said, *The Pride of Kingsport.*"

"*Pride of Kingsport?* What does that mean? Is that the name of the ship? What's Kingsport?"

"I have no idea. You were right, someone hand-painted it on the side of the ship. Both sides, in fact. But I haven't the faintest idea what it means. "

"Maybe it's some place I never heard of. Maybe it's where they built the ship. Or who built the ship."

"As I said, Oskar, I don't know. We were never concerned with where the ship came from, just what we were going to do with it."

"Well, there has to be some way to track that down. Someone has to know."

"I'm sure someone does. I know who I would start asking."

"Who?"

"You're already on Borea. Ask Drake Interplanetary. They sold it."

To be continued



CHRONICLES